

TERMS OF REFERENCE

For the 2028 ASMFC Atlantic Sturgeon Benchmark Assessment

Board Approved June 2026

1. Define population structure based on available genetic and tagging data. If alternative population structures are used in models (e.g., DPS, coastwide, river system), justify use of each population structure.
2. Identify relevant ecosystem and environmental influences on the stock. Characterize the uncertainty in the relevant sources of data and their link to stock dynamics. Consider findings, as appropriate, in addressing other TORs. Report how the findings were considered under impacted TORs.
3. Characterize the precision and reliability of fishery-dependent and fishery-independent data, including tagging data, that are used in the assessment, including the following but not limited to:
 - a. Provide descriptions of each data source (e.g., geographic location, sampling methodology, and potential explanation of anomalous data).
 - b. Describe calculation and standardization (if performed) of abundance indices and other statistics including measures of uncertainty.
 - c. Discuss trends and associated estimates of uncertainty (e.g., standard errors).
 - d. Justify inclusion or elimination of available data sources.
 - e. Discuss the effects of data strengths and weaknesses (e.g., temporal and spatial scale, gear selectivities, ageing consistency and accuracy, and sample size) on model inputs and outputs.
4. Review existing estimates of Atlantic sturgeon bycatch (retained and discarded) and other anthropogenic sources of mortality (e.g., vessel strikes) and, if possible, develop a time-series of these removals.
5. If possible, develop models to estimate population parameters (e.g., F or Z , biomass, and abundance) and analyze model performance and stability.
6. Develop biological reference points for Atlantic sturgeon populations. Compare reference points derived in this assessment with what is known about the general life history of the population unit.
7. State assumptions made for models and for calculations of indices and other statistics. Explain the likely effects of assumption violations on synthesis of input data and model outputs.
8. Characterize uncertainty of model estimates and biological or empirical reference points.
9. Recommend stock status as related to reference points, if available. If biological reference points are not determined, recommend stock status based on biological

characteristics including, but not limited to, trends in age and size structure and trends in indicators of abundance.

10. If a minority report has been filed, explain majority reasoning against adopting approach suggested in that report. The minority report should explain reasoning against adopting approach suggested by the majority.
11. Develop detailed short and long-term prioritized lists of recommendations for future research, data collection, and assessment methodology. Highlight improvements to be made by next benchmark review. Recommend timing of next benchmark assessment and intermediate updates, if necessary, relative to biology and current management of the species.