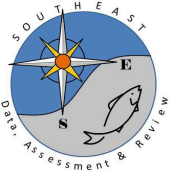




SCIENCE INFORMING MANAGEMENT



STOCK ASSESSMENTS

NOAA Fisheries, with coordination from the **Southeast Data Assessment and Review (SEDAR)** conducts stock assessments for fish managed by the South Atlantic Fishery Management Council. These stock assessments examine the effect of fishing and other factors to characterize the temporal dynamics. Stock assessments help to determine stock size, and how a stock will respond to current and future management actions. **The Magnuson Stevens Reauthorization Act** requires management decisions to be made based on the best scientific information available, and stock assessments often serve as that scientific determination. To view underway, completed, and upcoming stock assessments, visit sedar.org. Stock assessments use computer models to provide projections on current and future stock conditions. Models require three primary categories of information: **catch, abundance, and biology**.

CATCH DATA or Fishery Dependent Data

Catch data comes from a variety of commercial and recreational fishery sources for the South Atlantic. Those include:

- **Dockside Monitoring:** dockside samplers collect information from commercial catch on the number, length, weight, and sex, of fish as well as biological samples used for determining age, genetics, and diet. This is often done in partnership with state agencies.
- **Logbooks:** When commercial fishermen provide information on their location, gear, and catch.
- **Observers:** Biologists who observe operations on a certain proportion of fishing vessels and collect data on the amount of catch and discards.
- **Recreational Sampling:** mail surveys and dockside sampling that is used to estimate the level of catch and effort by the recreational sector. The **Marine Recreational Information Program (MRIP)** conducts that mail survey, called the **Fishing Effort Survey (FES)**. To learn more about this program visit <https://www.fisheries.noaa.gov/feature-story/fishing-effort-survey-calibrating-recreational-catch-estimates>
- **Southeast Regional Headboat Survey (SRHS):** surveys, logbooks, and observer data collected onboard recreational headboats.

ABUNDANCE DATA or Fishery Independent Data

Abundance data includes a measure or relative index of the number and weight of fish in the population. There are several different programs collecting abundance data within the Southeast:

- **Reef Fish Survey (RFS)** - The overall mission of the RFS is to determine distribution, relative abundance, and critical habitat of economically and ecologically important fishes in Atlantic waters off the Southeastern United States. There are two main RFS programs:
 - **Marine Resources Monitoring, Assessment and Prediction Program (MARMAP):** Trap and video survey.
 - **Southeast Area Monitoring and Assessment Program (SEAMAP):** trawl survey in more shallow water.
- **Southeast Fisheries Independent Survey (SEFIS):** Conducted by the National Marine Fisheries Service (NMFS) in conjunction with MARMAP.
- **South Atlantic Deepwater Longline Survey (SADLS):** The SADL survey was developed to survey deep-water species inhabiting the continental shelf and upper slope habitats of the Southeastern US, particularly in depths ranging from 75-366 m (246-1,200 ft).

BIOLOGICAL DATA

Biological data includes information on the size, age, reproductive attributes/rates, genetics, and movement of a certain species.

This information is particularly important for the south Atlantic region because many of the south Atlantic species have complicated life histories such as those that are **protogynous hermaphrodites**. This life history characteristic means that fish change sex as they age, typically being born female and transitioning to male. This switch takes place at different lengths and/or ages for different species but knowing information about this switch is crucial when developing certain management measures such as size limits. One of the main sources of biological data are **otoliths**, which are the inner ear bones. Otoliths provide age information which can be used to determine length-age relationships.

STOCK ASSESSMENT COMPONENTS

STAGE 1

Stock ID: A series of webinars where the boundaries of the biological stock and assessment stock are determined. Not all stock assessments involve a Stock ID stage.

STAGE 2

Data Workshop: A workshop where datasets are compiled, analyzed, and reviewed for inclusion into the stock assessment. Data presented during the workshop comes from a variety of state and federal partners, academic institutions, and stakeholders.

STAGE 3

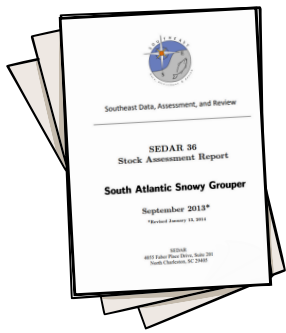
Assessment: A series of webinars where quantitative population analyses are developed and refined and population parameters are estimated. An assessment technical team is appointed to review the progress made during the assessment phase.

STAGE 4

Review: A panel or group of independent experts and SSC members reviews the data and assessment to determine if the methods applied are scientifically sound.

SCIENTIFIC AND STATISTICAL COMMITTEE (SSC)

The Scientific and Statistical Committee (SSC) comprised of members appointed by the Council that assist the Council in development, evaluation, and peer review of scientific information and stock assessments. The SSC typically meets in-person two times a year with various ad-hoc webinars as needed. These meetings are open to the public and can be assessed remotely via a webinar link. Typically, the SSC reviews assessments prior to them being presented to the Council. During this review, the SSC will approve the stock assessment, identify uncertainties in the model, [JC1] and provide **catch level recommendations** for that stock to the Council, known as the Acceptable Biological Catch (ABC). If the Council disagrees or has questions about the SSC's findings or recommendations they may ask the SSC to review the topic again or answer specific questions related to the assessment or catch level recommendations. When thinking about where the SSC and Council fit within the grand fisheries management process, the SSC reviews the science and considers **scientific uncertainties** when **recommending catch levels** whereas the Council considers **management risks** when **implementing management changes or setting catch level buffers**. To learn more about the SSC or find out when the next meeting will be held, visit safmc.net and click on Meetings, and then Scientific and Statistical Committee.



GETTING INVOLVED IN THE STOCK ASSESSMENT PROCESS

You can get involved in the SEDAR assessment process in several ways: by taking part in a SEDAR panel, attending a SEDAR meeting, submitting a written comment to SEDAR, or by submitting a comment to a Cooperator. To learn more about these options and how to get involved visit

www.sedarweb.org/how-to-get-involved/.



SOCIAL AND ECONOMIC ANALYSIS



Implementing management changes has an effect on more than just the stock, people and business may also be affected. Part of the analysis stage of developing any management changes is looking into the specific social and economic effects that management actions will have. The social analysis examines specific communities that may be dependent on that fishery, trip satisfaction, access to the resources, and other important social factors. The economic analysis looks at profitability, efficiency, and other important economic factors. The Council reviews these analyses before making final decisions on management actions.

MANAGEMENT STRATEGY EVALUATIONS (MSE)



Management strategy evaluations (MSE) can seem complicated at first, but they can be important tools in the management process. An MSE is a simulation approach that tests different management options with diverse fishery dynamics applied, giving managers an idea of how different changes will affect different aspects of both the stock or fishery before implementing any action. MSEs can pick and choose different options to test within a simulation. Another important input for an MSE is fishermen input. This input can help to better inform simulation and allow scientists working on MSEs to make sure the inputs are practical or

the results of the simulation would be acceptable for the fishery. Think of an MSE as a pilot learning to fly a plane. The pilot needs to be confident to fly a plane in multiple different weather conditions, so they use a flight simulator (MSE). Through the simulator the pilot is confident in any condition.

HAVE A QUESTION?

Find additional info at safmc.net

or give us a call:

843-571-4366

