

Best Scientific Information Available

Using the best available science to set harvest specifications

National Standard 2 of the Magnuson-Stevens Act requires fishery conservation and management measures to be based on the best scientific information available (BSIA). This includes biological as well as ecological, environmental, economic, and socioecological scientific information. The MSA also establishes a role for Council Scientific and Statistical Committees (SSCs) in reviewing scientific information and providing scientific advice, and requires Councils and the Secretary of Commerce to establish peer-review processes for scientific information used to advise Councils.

“Best available” is not just aspirational. The National Standard 2 guidelines establish criteria and guidance for determining what constitutes the best scientific information available, and the Council has developed an Alaska-specific framework for applying those principles to the harvest specifications process.

The meaning of “best available” is constantly evolving with the state of knowledge and the resources available. Best doesn’t mean perfect. It also includes recognizing uncertainty, limitations, and gaps, and identifying opportunities for improvement.

Scientific peer review

From the National Standard 2 Guidelines: Peer review is a process used to ensure that the quality and credibility of scientific information and scientific methods meet the standards of the scientific and technical community. Peer review helps ensure objectivity, reliability, and integrity of scientific information.

The scientific information used in the harvest specifications process undergoes several levels of review.

- **Plan team review:** Stock assessment products are first reviewed internally at NMFS and then during the public Plan Team meetings. These meetings provide targeted scientific and technical expertise for each of the Council’s Fishery Management Plans (FMPs).
- **Independent review:** Every year, a selection of stock assessments are reviewed by the Center for Independent Experts, which provides an external process for independent expert reviews of NMFS’ scientific products and programs.
- **SSC recommendations:** SSC members include government and academic scientists. The SSC’s recommendations to the Council for the Overfishing Limit (OFL) and Acceptable Biological Catch (ABC) for each stock are based on scientific information that the SSC determines to meet the guidelines for best scientific information available.
- **NMFS rulemaking:** NMFS reviews the Council’s recommendations and publishes final harvest specifications through federal rulemaking. In approving and publishing the final harvest specifications, the agency certifies that such recommendations are consistent with the MSA including National Standard 2.

SAFE Reports: BSIA for Harvest Specifications

Stock Assessment and Fishery Evaluation (SAFE) reports are updated on a regular schedule for federally-managed fish stocks. They summarize the best available scientific information concerning the past, present, and possible future condition of the stocks, marine ecosystems, and fisheries that are managed under Federal regulation.

SAFE reports support transparency of BSIA. They are made available to the public in advance of meetings at which they will be reviewed. The public has an opportunity to provide written and/or oral comment during all Council-hosted meetings (Plan Teams, SSC, Advisory Panel, Council). Past and archived SAFE reports are available on the Library tab at npfmc.org and eAgendas for December meetings.

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SAFE reports may include several components:

- **Assessment products** (assessments, harvest projections, and/or catch reports), and Plan Team recommendations for OFL and ABC.
- **Ecosystem Status Reports (ESRs)** provide information on ecosystem status and trends on a regional scale.
- **Ecosystem and Socioeconomic Profiles (ESPs)** are prepared for a subset of stocks. They compile and evaluate relevant stock-specific ecosystem and socioeconomic indicators.
- **Economic SAFE reports** provide information about economic aspects of the groundfish and crab fisheries.
- **Risk tables** are a tool used to document concerns that are not explicitly addressed by stock assessment models. They are currently used for groundfish and are being incorporated into the crab harvest specifications process.

Stock Assessment Prioritization

Providing the best available scientific information also involves making informed tradeoffs about the best use of time and resources. Not every stock can be assessed every year. For groundfish and crab stocks, assessment products of varying complexity and detail are prepared for Plan Team and SSC peer review based on a stock prioritization schedule developed through a collaborative process involving NMFS AFSC, the Council, and SSC. Groundfish stocks are assigned to 1-, 2-, or 4-year assessment cycles, with the type of product varying by cycle and tier. Crab stocks are assigned to 1, 3, or 4-year assessment cycles. This schedule takes into account factors such as when new survey information will become available for each stock, the life history of the species, and the amount of harvest relative to Acceptable Biological Catch (ABC).

Information on stock assessment frequency and scheduled updates is available in the introductions to the Groundfish and Crab SAFE reports.

Stock assessment products include the following:

- **Full assessments** comprehensively consider all available data and may include substantial changes to the assessment model
- **Update assessments** update an existing stock assessment model with new data and/or relatively limited model changes.
- **Harvest projections** are generated by updating stock assessment model projections with recent catch data. Depending on timing and availability, recent survey abundance index estimates may be included as supplemental information, although the model is not re-run.
- **Catch reports** summarize the amount of catch that has occurred in recent years relative to TAC, ABC, and OFL levels, and can help identify changes in a fishery or stock in years when other assessment products are not produced.