

Framework for Determining that Stock Status Determinations and Harvest Specifications are Based on the Best Scientific Information Available

Purpose: The purpose of this document is to provide clarity and increase transparency in how best scientific information available (BSIA) determinations are made and documented.

Background: Stock status determinations and harvest specifications (e.g., annual catch limits – ACLs as based on acceptable biological catch –ABC) must be based on the BSIA¹ (MSA 301(a)(2)). In general, stock status determinations made by NOAA Fisheries and harvest recommendations by the Fishery Management Councils’ Scientific and Statistical Committees (SSCs) lead to a Council’s harvest specifications, which are reviewed by NOAA Fisheries for approval. Although it is ultimately the responsibility of NOAA Fisheries to make stock status determinations, approve harvest specifications, and certify that these decisions are based on BSIA², the agency relies on input and advice from the SSCs and peer review processes. In fact, the 2007 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) established a more prominent role for the SSCs in providing management advice to the Councils. The National Standard 2 (NS2) Guidelines explain that the “SSC scientific advice and recommendations to its Council are based on scientific information that the SSC determines to meet the guidelines for [BSIA] as described in 50 CFR 600.315(a).”³

These interwoven agency/SSC responsibilities, differences in how each Regional Office-Science Center-Council group (hence, Region) works together, time lags between the science and management processes, and the inherent uncertainty of assessments make establishing a consistent and sequential BSIA determination process challenging. However, effective communication and coordination provides transparency and helps establish a common understanding of stock assessment results so they can be used to make status determinations and set harvest specifications that will ultimately be approved by the agency as based on BSIA.

NOAA Fisheries’ Stock Assessment Improvement Plan⁴ provides guidance for how to achieve well-organized, well-documented, peer-reviewed stock assessments and thus is critical to improving the BSIA process. However, further clarity in defining and documenting roles and processes is needed to ensure that the stock assessment process that informs fishery management proceeds smoothly and transparently in each Region and that management advice is based on a common understanding of BSIA.

Recommendation: NOAA Fisheries recommends that each Region develop a document that describes how they apply the framework below to ensure that management decisions are based on BSIA. These documents should include a general timeline and identify roles for each partner. This document could be an appendix to a Regional Operating Agreement or provided through some other mechanism. This

¹ The scope of this document is federal FMPs developed by Fishery Management Councils with SSCs. The same general considerations and principles described below also apply to stocks that are under direct Secretarial management that do not have an SSC and to stocks managed by various international Regional Fishery Management Organizations. In these cases, NOAA Fisheries will follow the process outlined below for determining the BSIA, to the extent practicable.

² MSA/National Standard 2 Guidelines provide legislative and policy context for the scientific basis of fish stock status determinations and harvest recommendations/specifications, etc. Relevant excerpts are provided in Appendix A.

³ See 50 CFR 600.315(c)(1).

⁴ <https://www.st.nmfs.noaa.gov/stock-assessment/future-of-stock-assessment>

will complement the description of the peer review processes, summarized in the *Federal Register* (81 FR 54561; August 16, 2016).

BSIA Framework: While there are differences in how each Region work together, the general framework outlined below describes a coordinated process by which BSIA is considered in each relevant management action.

- 1) **Stock assessment.** Based on each Region's assessment prioritization process and schedule⁵, a draft stock assessment is prepared to provide technical information to inform fishery management.
- 2) **Peer review.** The stock assessment is peer-reviewed according to an NS2 compliant process⁶ (e.g., SEDAR, SAW/SARC, STAR, WPSAR, or SSC) or equivalent international process.
 - a) The peer review evaluates the entirety of the assessment and explicitly and separately considers whether the assessment provides a good scientific basis for the four subsequent management actions outlined below. The review is of the scientific information, not of the subsequent determination:⁷
 - i) Stock status relative to the overfishing status determination criteria (SDC) specified in the FMP;
 - ii) Stock status relative to the overfished SDC specified in the FMP;
 - iii) Implementation of established harvest control rules;
 - iv) Any proposed revisions to SDCs, harvest control rules, or other management actions.
- 3) **Assessment revision.** As appropriate, assessment authors revise and finalize the assessment based on peer review findings and recommendations.
- 4) **SSC and NOAA Fisheries steps:**
 - a. The revised, peer-reviewed assessment is delivered to the SSC.
 - b. The SSC considers the final peer reviewed assessment and makes harvest recommendations⁸ (OFL and ABC) to their Council after determining the information in the assessment meets the NS2 Guidelines for BSIA⁹. SSC deliberations regarding SDC and other aspects of stock status will be considered by the agency when making stock status determination.
 - i. Per the NS2 Guidelines¹⁰, the SSC is not expected to make a duplicative technical review of the assessment, but it should sufficiently understand the assessment's uncertainties before making its recommendations.
 - ii. A NOAA Fisheries representative should be available during these SSC deliberations to alert the SSC to potential science or management concerns.

⁵ NMFS 2015. Prioritizing Fish Stock Assessments. NMFS Technical Memorandum NMFS-F/SPO-152

⁶ Described in the *Federal Register* (81 FR 54561; August 16, 2016). Some features include: the scale of the review is tailored to the complexity and importance of the assessment; and at least one SSC member typically participates in a peer review to provide regional expertise, and in some cases, the SSC or other council committee constitutes the peer review body.

⁷ Not all assessments attempt to address all elements. The elements that are addressed should be identified in the terms of reference for the assessment and its review, especially in the case of data-limited assessments.

⁸ The exact SSC recommendation varies slightly by Council. For example, the Pacific Fishery Management Council's SSC only specifies ABCs for salmon, while they provide OFLs and other numerical recommendations for other stocks enabling the Council to formulaically calculate the ABC.

⁹ See 50 CFR 600.315(a) and (c)(1).

¹⁰ See 50 CFR 600.315(c)(4).

- iii. If an SSC disagrees with the findings or conclusions of a peer review, in whole or in part, the SSC must prepare a report outlining the areas of disagreement, and the rationale and information used by the SSC for making its determination. This report must be made publicly available¹¹.
 - iv. In the unusual case of significant ambiguity or disagreement, NOAA Fisheries will consult with and consider any additional input provided by the SSC prior to finalizing the assessment results. The goal is to achieve status determinations and ABC determinations that are based on the same interpretation of the uncertain science.
 - c. After this review and subsequent revision, NOAA Fisheries records the assessment results into a centralized repository (currently the NOAA Fisheries Species Information System (SIS)). When the record is locked in SIS, NOAA Fisheries is asserting that the assessment provides information that is consistent with the BSIA process. A BSIA determination memo from the Science Center may be provided at this point.
 - d. NOAA Fisheries makes a stock status determination based on the final assessment results.¹²
 - i. NOAA Fisheries will follow the guidance in Procedural Directive 01-101-09 (Procedures to Determine Stock Status and Adequate Progress¹³) to make stock status determinations.
 - ii. NOAA Fisheries strives to make stock status determinations as soon as possible after SSC deliberation on the assessment. Only in rare cases¹⁴ will NOAA Fisheries make a stock status determination before the SSC has deliberated on the assessment.
 - iii. NOAA Fisheries documents a rationale for stock status determinations in a decision memo¹⁵ signed by the agency's Assistant Administrator.
 - iv. NOAA Fisheries notifies the Council in writing when a stock is subject to overfishing, overfished, or approaching an overfished condition. The correspondence will include a rationale for the decision, particularly in cases where there is significant ambiguity in the assessment results, or when there is disagreement between the SSC and NOAA Fisheries on the status of a stock.
- 5) **Harvest specifications.** The Council develops harvest specifications, including ACLs that cannot exceed the ABC recommended by the SSC. In cases where the Council's recommendation may not be approvable as BSIA, NOAA Fisheries will strive to inform the Council in time for the Council to amend their recommendation.
- 6) **NOAA Fisheries approval.** NOAA Fisheries reviews Council actions and through approval, certifies that actions are consistent with national standards (including NS2's BSIA requirement), other

¹¹ See 50 CFR 600.315(c)(5).

¹² Overfishing status determinations for some stocks are based on a comparison of catch to the OFL, and therefore are not directly based on the results of a stock assessment, although the OFL is typically based on a previous stock assessment, which was determined BSIA. These catch/OFL decisions would only need additional BSIA certification if the catch monitoring process and the OFL determination was not previously certified as BSIA, or if clarity on BSIA is needed for a particular catch estimate.

¹³ Available at: <http://www.NOAA Fisheries.noaa.gov/op/pds/documents/01/101/01-101-09.pdf>.

¹⁴ This could occur for example if there is a fishery emergency or if there is going to be a significant time lag between when the assessment is peer reviewed and when the appropriate SSC will review the assessment.

¹⁵ Stock status decision memos are completed when there is a change in stock status and when an overfished, overfishing, or approaching an overfished condition is maintained. Stock status decision memos are not required in cases when there is no change in stock status and the status is not subject to overfishing and not overfished.

provisions of the MSA, and other applicable laws. This final approval provides certification that the actions are based on the BSIA.

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Appendix A: Key excerpts from the MSA and NS2

MSA

Secretary of Commerce responsibilities

MSA section 304(e):

- (1) The Secretary shall report annually to the Congress and the Councils on the status of fisheries within each Council's geographical area of authority and identify those fisheries that are overfished or are approaching a condition of being overfished....
- (2) If the Secretary determines at any time that a fishery is overfished, the Secretary shall immediately notify the appropriate Council and request that action be taken...

MSA section 304(a)(1)(A):

(a) REVIEW OF PLANS.—

(1) Upon transmittal by the Council to the Secretary of a fishery management plan or plan amendment, the Secretary shall—

(A) immediately commence a review of the plan or amendment to determine whether it is consistent with the national standards, the other provisions of this Act, and any other applicable law; and...

FMP/regulatory requirements

MSA section 301(a) – Any fishery management plan prepared, and any regulation promulgated to implement any such plan...shall be consistent with the following national standards for fishery conservation and management:

- (1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.
- (2) Conservation and management measures shall be based upon the best scientific information available.

MSA section 303(a) – Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall --

(10) Specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;...

Council responsibilities

MSA section 302(h)(6):

[Each Council shall...] develop annual catch limits for each of its managed fisheries that may not exceed the fishing level recommendations of its scientific and statistical committee or the peer review established under [section 302(g)];

Scientific and Statistical Committee responsibilities

MSA section 302(g)(1)(B):

Each scientific and statistical committee shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch, preventing overfishing, maximum sustainable yield, and achieving rebuilding targets, and reports on stock status and health, bycatch, habitat status, social and economic impacts of management measures, and sustainability of fishing practices.

NS2 Guidelines

50 CFR 600.315(a)(6): Criteria to consider when evaluating best scientific information are relevance, inclusiveness, objectivity, transparency and openness, timeliness, verification and validation, and peer review, as appropriate.

50 CFR 600.315(c)(1): SSC scientific advice and recommendations to its Council are based on scientific information that the SSC determines to meet the guidelines for best scientific information available as described in paragraph (a) of this section. SSCs may conduct peer reviews or evaluate peer reviews to provide clear scientific advice to the Council. Such scientific advice should attempt to resolve conflicting scientific information, so that the Council will not need to engage in debate on technical merits. Debate and evaluation of scientific information is the role of the SSC.

50 CFR 600.315(c)(4): The SSC's evaluation of a peer review conducted by a body other than the SSC should consider the extent and quality of peer review that has already taken place. For Councils with extensive and detailed peer review processes (e.g., a process established pursuant to Magnuson-Stevens Act section 302(g)(1)(E)), the evaluation by the SSC of the peer reviewed information should not repeat the previously conducted and detailed technical peer review. However, SSCs must maintain their role as advisors to the Council about scientific information that comes from a peer review process. Therefore, the peer review of scientific information used to advise the Council, including a peer review process established by the Secretary and the Council under Magnuson-Stevens Act section 302(g)(1)(E), should be conducted early in the scientific evaluation process in order to provide the SSC with reasonable opportunity to consider the peer review report and make recommendations to the Council as required under Magnuson-Stevens Act section 302(g)(1)(B).

50 CFR 600.315(c)(5): If an SSC disagrees with the findings or conclusions of a peer review, in whole or in part, the SSC must prepare a report outlining the areas of disagreement, and the rationale and information used by the SSC for making its determination. This report must be made publicly available.