

## **Terms of Reference: Coastal Pelagic Species Stock Assessment Methodology Review - DRAFT**

### **Introduction**

The purpose of this document is to outline the guidelines and procedures for conducting methodology reviews related to coastal pelagic species (CPS) stock assessments and management for the Pacific Fishery Management Council, and to clarify the expectations and responsibilities of the various participants.

The methodology review process provides for peer review as referenced in the 2006 Reauthorization of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA), which states that “the Secretary and each Regional Fishery Management Council may establish a peer review process for that Regional Fishery Management Council for scientific information used to advise the Regional Fishery Management Council about the conservation and management of the fishery” (MSRA section 302(g)(1)(E)). If a peer review process is established, it should investigate the technical merits of stock assessments and other scientific information used by the Council’s Scientific and Statistical Committee (SSC). The peer review process is not a substitute for the SSC and should work in conjunction with the SSC. This document will be included in the Council’s Statement of Organization, Practices and Procedures as documentation of the review process that will underpin the scientific advice from the SSC.

Parties involved in implementing the peer review process described here are the Pacific Fishery Management Council members (Council); Council staff; members of Council Advisory Bodies, including the SSC, the Coastal Pelagic Species Management Team (CPSMT), and the Coastal Pelagic Species Advisory Subpanel (CPSAS); the National Marine Fisheries Service (NMFS); state agencies; and interested persons (including external reviewers).

Unlike Stock Assessment Review (STAR) Panels and assessment update review panels, methodology review panels do not occur on a regular timetable, but are instead established by the Council to provide peer and in-depth review of major changes to the methodology on which CPS stock assessments are based. Consequently, the outcomes from a methodology review do not include stock assessment results, but rather recommendations regarding whether a particular methodology can be applied in future stock assessments, along perhaps with recommendations on how it should be modified if it is to be used in future stock assessments. Existing methodologies could also be reviewed especially if they are key to CPS stock assessments and have not been reviewed for many years (particularly if incremental changes in how the methodology is applied have occurred).

There are no explicit guidelines for what topics can be covered during a methodology review, but typical examples would be evaluation of: (a) proposed major new data types which if included in an assessment could change its outcomes markedly (e.g. the aerial survey for Pacific sardine), (b) proposed changes to the design of existing surveys, (c) proposed changes to stock assessment models, (d) existing data inputs to assessments which have not been reviewed in depth by a Council-sponsored peer-review Panel for many years (e.g. the egg production method for Pacific sardine), and (e) data or model results that contribute to ecosystem-based management of CPS stocks.

This current edition of the terms of reference reflects how previous methodology reviews have been undertaken. Nevertheless, no set of guidelines can be expected to deal with every

contingency, and all participants should anticipate the need to be flexible and address new issues as they arise.

## **Review Panel Goals and Objectives**

The goals and objectives for the methodology review process are to:

1. Ensure that research surveys, data collection, data analyses and other scientific techniques in support of CPS stock assessments are the best available scientific information and facilitate the use of this information by the Council.
2. Provide recommendations regarding whether, and if so, how a particular methodology can be applied in future stock assessments.
3. Meet the MSRA and other legal requirements.
4. Follow a detailed calendar and explicit responsibilities for all participants to produce required outcomes and reports.
5. Provide an independent external review of survey and analytical methods used to develop data to inform CPS stock assessment models.
6. Increase understanding and acceptance of CPS research methodologies and review work by all members of the Council family.
7. Identify research needed to improve assessments, reviews, surveys, analyses, and fishery management in the future.

## **Responsibilities**

### ***Shared Responsibilities***

All parties have a stake in ensuring adequate technical review of stock assessments and the information on which they are based. The National Marine Fisheries Service (NMFS), as the designee of the Secretary of Commerce, must determine that the best scientific advice has been used when it approves fishery management recommendations made by the Council. The Council uses statements from the SSC to determine whether the information on which it will base its recommendation represents the "best available" science. Fishery managers and scientists providing technical documents to the Council for use in management need to ensure the work is technically correct.

The Council, NMFS, and the Secretary of Commerce share primary responsibility to create and foster a successful peer review process. The Council will oversee the process and involve its standing advisory committees, especially the SSC. The chair of the SSC CPS subcommittee will coordinate, oversee, and facilitate the process for CPS. Together, NMFS and the Council will consult with all interested parties to plan, prepare terms of reference, and develop a calendar of events for each methodology review and a list of deliverables for final approval by the Council. NMFS and the Council will share fiscal and logistical responsibilities and both should ensure that there are no conflicts of interest in the process<sup>1</sup>.

---

1 The proposed NS2 guidelines state: "Peer reviewers who are federal employees must comply with all applicable federal ethics requirements. Peer reviewers who are not federal employees must comply with the following provisions. Peer reviewers must not have any real or perceived conflicts of interest with the scientific information, subject matter, or work product under review, or any aspect of the statement of work for the peer review. For purposes of this section, a conflict of interest is any financial or other interest which conflicts with the service of the individual on a review Panel because it: (A) Could significantly impair the reviewer's objectivity; or (B) Could create an unfair competitive advantage for a person or organization. (C) Except for those situations in which a conflict of interest is unavoidable, and the conflict is promptly and publicly disclosed, no individual can be appointed to a review Panel if that individual has a conflict of interest that is relevant to the functions to be performed. Conflicts of interest include, but are not limited to, the personal financial interests and investments, employer affiliations, and consulting arrangements, grants, or contracts of the individual and of others with whom the individual has substantial common financial interests, if these

The CPS peer-review process is sponsored by the Council, because the Federal Advisory Committee Act (FACA) limits the ability of NMFS to establish advisory committees. FACA specifies a procedure for convening advisory committees that provide consensus recommendations to the federal government. The intent of FACA was to limit the number of advisory committees; ensure that advisory committees fairly represent affected parties; and ensure that advisory committee meetings, discussions, and reports are carried out and prepared in full public view. Under FACA, advisory committees must be chartered by the Department of Commerce through a rather cumbersome process. However, the Sustainable Fisheries Act exempts the Council from FACA per se, but requires public notice and open meetings similar to those under FACA.

### ***Coordination of CPS Review Panels***

The SSC CPS subcommittee chair will work with the Council, Council staff, other agencies, groups or interested persons that carry out data collection, management, and assessment work to coordinate and organize methodology reviews. The objective is to make sure that work is carried out in a timely fashion according to an agreed schedule and these terms of reference.

The SSC CPS subcommittee chair will develop terms of reference for methodology reviews, in consultation with the SSC, the Council and those whose work is being reviewed. The SSC CPS subcommittee chair, in consultation with the SSC and the Southwest Fisheries Science Center (SWFSC), will also coordinate the selection (including number) of external reviewers. Criteria for reviewer qualifications, nomination, and selection will be established by the SWFSC in consultation with the SSC, and will be based principally on a candidate's knowledge of the topic being reviewed and ideally West Coast CPS fisheries. The public is welcome to nominate qualified reviewers. It is, however, recognized that the pool of qualified reviewers is limited, and that staffing of Methodology Panels is subject to constraints that may make it difficult to achieve the ideal.

Individuals that provide information to the review are responsible for ensuring their work is technically sound and complete.

### ***CPSMT Responsibilities***

The CPSMT is responsible for identifying and evaluating potential management actions based on the best available scientific information. In particular, the CPSMT makes Annual Catch Limit (ACL) and Annual Catch Target (ACT) recommendations to the Council based on Overfishing Limit (OFL), Acceptable Biological Catch (ABC) and Harvest Guideline (HG) control rules.

A representative of the CPSMT may be appointed by the CPSMT chair and, if appointed, will serve as a liaison to the methodology review meeting, and will participate in review discussions. The CPSMT representative will not serve as a member of the Panel. The CPSMT representative should be prepared to advise the Panel on fishing regulations or practices that may influence data used in assessment and the nature of the fishery in the future (this will be more relevant for some of the topics which are considered by methodology reviews than others).

---

interests are relevant to the functions to be performed. Potential reviewers must be screened for conflicts of interest in accordance with the procedures set forth in the NOAA Policy on Conflicts of Interest for Peer Review subject to OMB's Peer Review Bulletin."

## ***CPSAS Responsibilities***

It is the responsibility of the CPSAS representative to ensure that CPSAS concerns regarding the issue being reviewed are conveyed to the Panel. The chair of the CPSAS may appoint a representative to participate at a methodology review. The CPSAS representative will serve as an advisor to the review meeting. The CPSAS representative will participate in review discussions as an advisor to the Panel, in the same capacity as the CPSMT advisor. The CPSAS representative may provide appropriate data and advice to the review meeting, and will report to the CPSAS on the meeting.

## ***SSC Responsibilities***

The SSC will assign at least one member from its CPS subcommittee to each methodology review. This member will chair the review meeting, and attend the Council meetings when the outcomes from the review meeting are discussed. The SSC representative on the review Panel will present the report of the meeting at SSC and Council meetings. The SSC will review any additional analytical work arising from the review meeting, will serve as arbitrator to resolve disagreements that arose during the review meeting, and will make recommendations to the Council (e.g. that the methodology that was reviewed provides the “best available science” and hence could be used during the next full assessment).

## ***Council Staff Responsibilities***

A Council staff officer will be assigned to coordinate, monitor and document the review process. The Council staff officer will be responsible for timely issuance of meeting notices and distribution of appropriate documents. The Council staff officer will monitor compliance with the most recent version of the terms of reference for methodology reviews adopted by the Council. The Council staff officer will coordinate materials and presentations for Council meetings relevant to Council decision making. Council staff will also collect and maintain file copies of reports from each methodology review, the documents considered during the review, SSC, CPSMT, and CPSAS comments and reports, letters from the public, and any other relevant information.

A primary role for the Council staff officer assigned to each methodology review will be to monitor review meetings and SSC activities to ensure compliance with these terms of reference. The Council staff officer will attend the review meeting to ensure continuity and adherence to these terms of reference. The Council staff officer will identify inconsistencies with the terms of reference that occur during review meetings and work with the Panel chair to develop solutions and to correct them. The Council staff officer will coordinate with the Panel chair and NMFS to assure that all documents are received on time, and are complete.

## ***National Marine Fisheries Service Responsibilities***

NMFS Southwest Fisheries Science Center (SWFSC) will provide staff to work with the Council, other agencies, groups, or interested persons that carry out assessment work to assist in organizing methodology reviews. The SWFSC will identify independent panellists following criteria for reviewer qualifications. The costs associated with these reviewers will be borne by NMFS. The SWFSC will coordinate with those whose work is being reviewed to facilitate delivery of materials by scheduled deadlines and in compliance with other requirements of these terms of reference, to the extent possible and with the assistance of the assigned Council staff officer and the Panel chair.

## Terms of Reference for Methodology Reviews and Meetings

The objective of a methodology review is to complete a detailed evaluation of a topic selected by the Council and which could have a major impact on stock assessments for CPS and make a recommendation regarding whether the methodology represents the best available scientific information for the Council. The responsibilities of the Panel include:

1. review documents pertinent to the topic under consideration;
2. discuss the technical merits and deficiencies of the proposed method(s) during the Panel meeting and work with the proponents to correct deficiencies;
3. provide recommendations for alternative methods or modifications to proposed methods, or both, as appropriate during the Panel meeting;
4. provide recommendations on future application of collected information to the stock assessment and/or management process;
5. document meeting discussions; and
6. provide complete Panel reports.

The Panel chair has, in addition, the responsibility to:

7. review revised documents and Panel reports before they are forwarded to the SSC.

Methodology review panels normally include a chair (who is a member of the SSC CPS subcommittee), at least one "external" member (i.e., outside the Council family and not involved in management or assessment of West Coast CPS, typically designated by the Center for Independent Experts [CIE]), and two additional members. Selection of the external and independent panelists should aim for balance between outside expertise of the topic being reviewed, in-depth knowledge of CPS fisheries, data sets available for those fisheries, and modeling approaches applied to CPS. Reviewers should not have financial or personal conflicts of interest, either current to the meeting, within the previous year (at minimum), or anticipated. Panelists should be knowledgeable about the specific approaches being reviewed. In addition to Panel members, methodology review meetings will include a Council staff member to help advise the Panel and assist in recording meeting discussions and results and may include CPSMT and CPSAS advisory representatives with responsibilities as laid out in their terms of reference. The length of a methodology review meeting will be selected by the SSC and could range one to five days and the meeting may occur at the same time as a CPS STAR Panel meeting.

The Panel chair is responsible for: 1) developing an agenda, 2) ensuring that the Panel follows the terms of reference, 3) participating in the review of the methodology, 4) guiding the participants in the review (proponents and Panel) to mutually agreeable solutions, 5) coordinating review of documents, and 6) providing Council staff with a camera ready and suitable electronic version of the Panel's report. The Panel, those proposing the methodology, the CPSMT and CPSAS representatives, and the public are legitimate meeting participants that should be accommodated during discussions. It is the Panel chair's responsibility to manage discussions and public comment so that work can be completed.

The Panel's terms of reference solely concern technical aspects. It is therefore important that the Panel strive for a risk neutral perspective in its reports and deliberations. Methods or results that have a flawed technical basis, or are questionable on other grounds, should be identified by the Panel and a recommendation made that they should be excluded from consideration in developing management advice. The Panel should comment on the degree to which the uncertainty associated with the method being reviewed is quantified (e.g. through confidence intervals) because uncertainty is taken into account during the management process.

Recommendations and requests to the proponents for additional or revised analyses must be clear, explicit, and in writing. Panel recommendations and requests to the proponents should reflect the consensus opinion of the entire Panel and not the minority view of a single individual or individuals on the Panel. A written summary of discussion on significant technical points and lists of all Panel requests and recommendations and requests to the proponents are required in the Panel's report, which should be completed (at least in draft form) prior to the end of the review meeting. It is the chair and Panel's responsibility to carry out any follow-up review of work that is required.

The Panel's primary duty is to conduct a peer review of the proposed methodology. Methodology Panel meetings are not workshops, although the involvement of the Panel in shaping the methodology is greater during methodology reviews than during STAR Panels. This is particularly the case when the outside reviewers have considerably more experience with a given methodology than the proponents and the reviewers from within the Council family. In the course of this review, the Panel may ask for a reasonable number of additional analyses, as well as for additional details of the proposed methodology. It would not be unusual for this evaluation to result in a change to the initial methodology, provided both the Panel and the proponents agree. Panels are expected to be judicious in their requests of the proponents, recognizing that some issues uncovered during a review are best flagged as research priorities (and use of the methodology deferred until those issues are resolved). The Panel should not impose as a requirement their preferred methodologies when such is a matter of professional opinion. Rather, if the Panel finds that a method is inadequate, it should document and report that opinion.

Panels and proponents are required to make an honest attempt to resolve any areas of disagreement during the review meeting. Occasionally, fundamental differences of opinion remain between the Panel and the proponents that cannot be resolved by discussion. In such cases, the Panel must document the areas of disagreement in its report. In exceptional circumstances, the proponents may choose to submit a supplemental report supporting its view, but in the event that such a step is taken, an opportunity must be given to the Panel to prepare a rebuttal. These documents will then be appended to Panel report as part of the record of the review meeting. Panel members may have fundamental disagreements that cannot be resolved during the meeting. In such cases, Panel members may prepare a minority report that will become part of the record of the review meeting. The SSC will then review all information pertaining to Panel or Panel/proponent disputes, and issue a recommendation.

Additional analyses required by the Panel should be completed by the proponents during the review meeting. It is the obligation of the Panel chair, in consultation with other Panel members, to prioritize requests for additional analyses. If follow-up work by the proponents is required after the review meeting, then it is the Panel's responsibility to track progress. In particular, the chair is responsible for communicating with proponents (by phone, e-mail, or any convenient means) to determine if the revised analyses and documents are complete and ready to be presented to the SSC.

## **Suggested Template for Methodology Panel Report**

- Summary of the Methodology Panel meeting, containing:
  - names and affiliations of Panel members;
  - topic(s) being reviewed; and
  - list of analyses requested by the Panel, the rationale for each request, and a brief summary the responses to each request.
- Comments on the technical merits and/or deficiencies of the methodology and recommendations for remedies.

- Areas of disagreement regarding Panel recommendations:
  - among Panel members (including concerns raised by the CPSMT and CPSAS representatives); and
  - between the Panel and proponents.
- Unresolved problems and major uncertainties, e.g., any issues that could preclude use of the methodology.
- Management, data or fishery issues raised by the public and CPSMT and CPSAS representatives during the Panel.
- Prioritized recommendations for future research and data collection.

## **Terms of Reference for Proponents of Methodology**

The proponents will appoint a representative to coordinate work with the Panel and attend the Panel meeting. A representative of the proponents should attend the SSC meeting at which the outcomes from the Panel are discussed.

The proponents are responsible for preparing two versions of the methodology review document:

- 1) a "draft", including an executive summary, for discussion during the review meeting; and
- 2) a "final" version for presentation to the SSC, the Council, the CPSMT, and the CPSAS.

The proponents will distribute "draft" documents outlining the methodology to the Panel, Council staff, and the CPSMT and CPSAS representatives at least two weeks prior to the review meeting. The proponents are responsible for bringing analysis methods and relevant data (in digital format) to the review meeting so that data can be analyzed on site and sensitivity analyses conducted. In most cases, the proponents should produce a revised document outlining the methodology (and preliminary results / responses to the Panel recommendations) three weeks after the end of the Panel meeting (including any internal agency review).

The proponents and the Panel may disagree on technical issues, but "final" documents must include a point-by-point response by the proponents to each of the Panel recommendations. Where time allows, the Panel and proponents should be provided the opportunity to prepare rebuttals.

PFMC  
08/26/10