

Process for the Independent Review of ISC Stock Assessments

The International Scientific Committee for Tuna and Tuna-Like Species in the North Pacific Ocean (ISC),

RECOGNIZING the importance of sound scientific advice as the central piece for the conservation and management of tuna and tuna-like species in the North Pacific Ocean;

AWARE that the availability of adequate scientific information is fundamental to carrying out the purpose of the ISC, which is:

1. *To enhance scientific research and cooperation for conservation and rational utilization of the species of tuna and tuna-like fishes which inhabit the North Pacific Ocean during a part or all of their life cycle; and*
2. *To establish the scientific groundwork for the conservation and rational utilization of these species in this region.*

NOTING the role of the ISC as the science provider for the WCPFC Northern Committee;

ACKNOWLEDGING the need to ensure that relevant, professionally independent and objective scientific advice, based on the best available and peer-reviewed scientific analysis, be provided by the ISC;

Implements the following processes for the independent review of stock assessments conducted by the ISC:

Working Group recommendations to the ISC

1. The Working Groups (Pacific Albacore Working Group; Pacific Bluefin Working Group; Billfish Working Group; and Shark Working Group) should recommend a multi-year schedule for independent peer review of stock assessments, as appropriate.
2. The Working Groups will recommend to the ISC a specific independent peer review for a stock assessment, with an associated proposed budget (including travel costs to attend assessment review workshop, peer review chair's attendance to report at the following ISC Plenary, etc.).

ISC approval of the peer review

3. The ISC Plenary will consider recommendations (Para 2. above) from the Working Groups for an independent peer review of a stock assessment and the associated budget. ISC Plenary may also recommend an independent peer review of a stock assessment.
4. Subject to ISC approval, the Working Groups will be tasked to develop Terms of Reference for the upcoming peer review and the peer review process.

Selection of the independent peer review panel

5. The peer review panel will comprise of three individuals, including at least two independent experts from outside of the ISC (i.e. not involved in ISC stock assessments).

6. The ISC Vice Chair, in consultation with the Chair, is responsible for administering the selection and timely contracting of the independent peer reviewer(s).

- a) The ISC Vice Chair will distribute communications seeking Member nominations of candidate experts¹.
- b) Each Member may recommend a maximum of two candidates.
- c) Subject to the availability of the recommended experts and agreement with the terms of reference, the ISC Chair, ISC Vice Chair, and Working Group Chairs will jointly select candidates for short listing, and circulate the shortlist with their curriculum vitae to all Members.
- d) Each member will rank the candidates, with 1 being the most preferred, and submit these rankings to the ISC Vice Chair.
- e) The ISC Vice Chair will finalize the list of the peer review panel and contract with the expert(s). If any of the selected individuals are unable to undertake the review, the shortlisted candidate next in rank will be invited to join the peer review panel.

Panel's review process

7. At the start of the review process, the Working Group will prepare a procedural plan including detailed schedules, activities, provision of assessment results (possibly including all the input data, modeling software, output of basic runs as well as all the sensitivity runs) and provide these to the panel for advanced reviewing.

8. Once the review process is finished, a draft review report will be provided to the Working Group for their review and response. If time permits, this step may be concluded towards the end of the peer review workshop.

9. The final panel report, incorporated with the Working Group response(s) and the panel's feedback to the Working Group if needed, shall be submitted to the ISC Chair, in advance of the following ISC Plenary meeting as scheduled in the contract.

10. The Chair of the independent peer review panel will be expected to present the results of the review to the following ISC Plenary meeting.

11. In preparing and conducting the review process, due considerations will be devoted to the following elements.

a) Scheduling

Timing of the review will be dependent upon existing schedules of the Working Groups and will generally be held during a year in which the Working Group is not scheduled to conduct an assessment. The Chair of the peer review panel will present the review to the following ISC Plenary.

b) Location

¹ The nomination may be for an individual external expert, an ISC stock assessment scientist not directly involved in the assessment, or to approach an organization (e.g. ICCAT, IATTC) to provide an appropriate expert.

Peer reviews of stock assessments will be conducted in the planned location of the following Working Group workshop.

c) Duration

Subject to species, a five (5) day workshop is proposed, comprising a two (2) day period for peer reviewing the stock assessment, and a further three (3) day period for iteratively reviewing and advising on various aspects of subsequent assessment runs developed in light of the first two days.

d) Composition

The peer review panel should comprise independent scientists that have significant expertise and experience in all aspects of stock assessments, preferably in relation to the stock assessment under review; one of whom will be assigned the role of Chair. At least one of the reviewers should not be directly involved with current ISC stock assessments.

Attendance to the peer review workshop will be limited to the peer review panel members, scientists directly involved in the relevant assessments, and the ISC Vice Chair as a coordinator of the whole process.

12. It is intended that advice provided by the peer review panel will be taken into account in future stock assessments in order to improve the assessment process.

Financial contributions to fund the independent peer review process

13. ISC plenary will consider and approve the associated budget for an independent peer review of a stock assessment as well as a plan for ISC members to fund the review.

14. As the ISC is the Science Provider for the WCPFC Northern Committee, and subject to approval by the WCPFC Northern Committee and the Commission, an independent peer review may be funded by the WCPFC Northern Committee. If funding is provided by the WCPFC Northern Committee, the ISC Vice Chair will work directly with the WCPFC Secretariat to administer the selection and timely contracting of the independent peer reviewer(s) (Para. 5 above).

General Terms of Reference for the Review of ISC Stock Assessments

Introduction

These Terms of Reference (TORs) are intended to provide a guideline for Working Groups to define the role of the independent peer review panel contracted to review the outputs of the assessment Working Group. These TORs can and should be modified as appropriate to cover the diverse requirements of the individual assessment. It is intended that advice provided by the review panel will be taken into account in future stock assessments in order to improve the assessment process. It is envisioned that the review panel will provide a detailed peer review report as well as a summary of the peer review report to be included in the detailed report of the stock assessment, for presentation to the ISC Plenary.

The role of the independent peer review panel is to:

- 1) Evaluate the adequacy, appropriateness, and application of data used in the assessment.
- 2) Evaluate the adequacy, appropriateness, and application of methods used to assess the stock and if appropriate recommend alternative approaches to be accomplished in the future.
- 3) Evaluate the methods used to estimate population benchmarks and stock status (e.g., MSY , F_{MSY} , B_{MSY} , or their proxies).
- 4) Evaluate the adequacy, appropriateness, and application of the methods used to evaluate future population status.
- 5) Evaluate the adequacy, appropriateness, and application of methods used to characterize the uncertainty in estimated parameters. Comment on whether the implications of uncertainty in technical conclusions are clearly stated.
- 6) Comment on whether the stock assessment results are clearly and accurately presented in the detailed report of the stock assessment.
- 7) Comment on potential improvements on the stock assessment process (working group participation, transparency, objectivity, documentation, uncertainty characterization, etc.) as applied to the reviewed assessments.
- 8) Comment on the adequacy of the workplan for the assessment and whether it was adequately addressed by the data or assessment working groups.
- 9) Consider the research recommendations provided by the working group and suggest any additional recommendations or prioritizations warranted. Clearly denote research and monitoring needs that could improve the reliability of future assessments. Recommend an appropriate interval for the next assessment considering control rules or management strategy in effect.
- 10) Prepare a Peer Review Report which should specifically address each TOR. Complete and submit this Peer Review Report along with a summary no later than the four weeks after completion of the assessment meeting.