

INTER-AMERICAN TROPICAL TUNA COMMISSION

**EXTERNAL REVIEW OF MODELLING ASPECTS FOR STOCK
ASSESSMENTS OF TROPICAL TUNA IN THE EASTERN PACIFIC OCEAN**

La Jolla, California (USA)
6-10 November, 2023
(by videoconference)

TERMS OF REFERENCE

1. GOALS AND OBJECTIVES

The purpose of the external review of modeling aspects for stock assessments of tropical tuna in the eastern Pacific Ocean is to provide information that will improve the stock assessments and consequently the management advice.

To this end, the goals and objectives of this review are to:

- a. identify the best available science for the EPO tropical tuna stock assessments;
- b. provide an independent review of the stock assessment approach;
- c. provide advice on future research and data collection that will improve the assessments and the provision of management advice.

2. REVIEW PANEL RESPONSIBILITIES

The main responsibility of the Review Panel is to perform an adequate technical review of the stock assessment approach. To ensure the greatest objectivity in this exercise, the members of the Panel should disclose any conflicts of interest they may have, including, but not limited to, personal financial interests and investments, employer affiliations, and consulting arrangements, grants, or contracts, etc.

The specific responsibilities of the Panel are to:

- a. be familiar with the Terms of Reference;
- b. review background documents, data, and analytical methods, along with other pertinent information (*e.g.*, previous documents and Review Panel reports);
- c. discuss the technical merits and deficiencies of the stock assessment approach, work with the IATTC staff to correct deficiencies, and, when possible, suggest new tools, analyses, and data collection methods to improve future assessments; and
- d. draft a report of the meeting, to document the discussions and recommendations.

It is the Panel Chair's responsibility to coordinate the discussions so that the review is completed in the time available.

3. PUBLIC COMMENT

During the meeting, time will be set aside for public comment. The Panel will take these comments into consideration, as appropriate, when developing its report.

4. REQUESTS FOR ADDITIONAL ANALYSES

Since the purpose of the meeting is to conduct a technical review of the stock assessment approach, it may be beneficial to conduct analyses during the course of the meeting. The Panel may also request additional details on the data and methods presented, further analyses of alternative assumptions, or additional model runs. However, any such requests must be clear, explicit, and be presented in writing, and be practical in terms of the time available. Such requests should be listed individually in the Panel's report, along with their rationale and the response. To the extent possible, analyses requested by the Panel should be completed during the meeting by the assessment team.

5. PANEL REPORT

The Panel's report should be drafted and approved shortly after the meeting. The report writing process will follow these steps:

- a. Panel outlines report at meeting;
- b. Panel writes and agrees draft report;
- c. Panel provides draft report to IATTC staff for comment on technical accuracy; and
- d. Panel reviews staff comments, and modifies report as necessary.

The report will include:

- a. Names and affiliations of Panel members;
- b. Brief overview of the meeting (location, agenda, main recommendations by Panel, *etc.*);
- c. Brief summary of current methods used in the assessment;
- d. List of analyses requested by the Panel, rationale for each request, and brief summary of the response;
- e. Comments on technical merits and/or deficiencies in the assessment approach and recommendations for remedies;
- f. Unresolved problems and major uncertainties, *e.g.*, any special issues that complicate the use of the data or the analyses conducted;
- g. Data, fishery or analysis related issues raised by the public; and
- h. Prioritized recommendations for research and data collection for the subsequent assessments.

The Panel and the IATTC staff will strive to resolve any differences of opinion that may arise regarding the contents of the report. Any unresolved differences of opinion must be documented and reflected in the report, which will be published as an IATTC Special Report.

Appendix: Topics covered

Model structure: Time step, number of age classes, sex structure, start year, initial conditions
Spatial structure (stock structure, areas as fleets – fishery definitions)

Growth

Natural mortality

Selectivity

Recruitment

Data weighting

Diagnostics:

Risk assessment (Model weighting)