Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien
iotc ctoi

TO STANDARDISE THE PRESENTATION OF SCIENTIFIC INFORMATION IN THE ANNUAL SCIENTIFIC COMMITTEE REPORT AND IN WORKING GROUP DETAILED REPORT

SUBMITTED BY: EUROPEAN UNION, 30 APRIL 2014

Explanatory Memorandum

The IOT Commission has repeatedly stressed the importance of using best available scientific information, in conjunction with sound and clear scientific advice in support of the IOTC decision making process for the conservation and management of tuna and tuna-like species in the Indian Ocean and adjacent seas.

It is therefore essential to provide the Commission with clear, transparent, and standardised formats for scientific advice in order to facilitate easy use of scientific information.

Moreover, during the Kobe process (Joint Meeting of Tuna RFMOs), it was agreed that stock assessment results be presented in a standardised "four quadrant, red-yellow-green" format that is now referred as the "Kobe Plot" which is widely acknowledged as a practical, user-friendly method to present stock status information.

The Kobe plot evolved into a "Strategy Matrix" to provide fisheries managers with the statistical probability of meeting management targets, including ending overfishing and rebuilding overfished stocks, in a standardised manner as a result of potential management actions.

The Strategy Matrix is in fact a harmonised format for RFMO science bodies to convey advice. This format for presenting stock assessment results facilitates the application of the precautionary approach by providing decision making bodies with the basis to evaluate and adopt management options at various levels of probability of success.

Furthermore, the Kobe process also calls for developing research activities to better quantify uncertainty and understand how this is reflected in the risk assessment under the Kobe strategy matrix. Additionally, IOTC adopted Resolutions (12/01 and 13/10) have made it possible to implement the precautionary approach thanks to the adoption of interim target and limit reference points.

In this context and in order to support scientific advice made available by the IOTC Scientific Committee, the executive summaries of the annual IOTC Scientific Committee report which present the stock assessment results will include, when possible as defined in this proposal, clearer:

- Stock status;
- Model outlooks;
- Data quality and limitations of the assessment models;
- Alternative approach (data poor stocks).

It will also include additional information and review of the structure and templates of the executive summaries.

RESOLUTION 14/XX

TO STANDARDISE THE PRESENTATION OF SCIENTIFIC INFORMATION IN THE ANNUAL SCIENTIFIC COMMITTEE REPORT AND IN WORKING GROUP DETAILED REPORT

The Indian Ocean Tuna Commission (IOTC),

RECOGNISING the importance of sound scientific advice as the centre piece for the conservation and management of tuna and tuna-like species in the Indian Ocean and adjacent seas in line with international law and the information needs of the Commission;

NOTING that participants of the first Global Summit of Tuna RFMOs in 2007 in Kobe, Japan agreed that stock assessment results be presented in a standardised "four quadrant, red-yellow-green" format that is now referred as the "Kobe Plot" which is widely embraced as a practical, user-friendly method to present stock status information;

FURTHER NOTING that, at the Second Joint Meeting of Tuna RFMOs in June 2009 in San Sebastian, Spain, a "Strategy Matrix" was adopted to provide fisheries managers with the statistical probability of meeting management targets, including ending overfishing and rebuilding overfished stocks, in a standardised manner as a result of potential management actions;

AKNOWLEDGING that the Strategy Matrix is a harmonised format for RFMO science bodies to convey advice, and that this format for presenting stock assessment results facilitates the application of the precautionary approach by providing Commissions with the basis to evaluate and adopt management options at various levels of probability of success;

RECALLING recommendations of the Kobe II Workshop of Experts to Share Best Practices on the Provision of Scientific Advice and of the Kobe III recommendations, in particular on development on research activities to better quantify the uncertainty and understand how this uncertainty is reflected in the risk assessment inherent in the Kobe II strategy matrix;

FURTHER RECALLING provisions of the Recommendation 12/15 on the provision of clear, transparent, and standardised formats for scientific advice delivered to the Commission;

TAKING INTO ACCOUNT that Resolutions 12/01 and 13/10 make possible the implementation of the precautionary approach thanks to the adoption of interim target and limit reference points;

NOTING that the presentation of scientific information in the Annual Scientific Committee report can vary by stock;

STRESSING the importance of standardising the presentation of scientific information to facilitate an easier appropriation and utilisation by the Commission;

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

1. In support of the scientific advice made available by the IOTC Scientific Committee, the Executive Summaries within the annual IOTC Scientific Committee Report which present the stock assessment results will include, when possible:

Stock status

a) A Kobe plot chart showing:

i. Interim target and limit reference points, F_{MSY} and F_{LIM}, B_{MSY} and B_{LIM}, or proxies where available;

ii. The stock estimates, expressed as $F_{CURRENT}$ on F_{MSY} (or a proxy) and as $B_{CURRENT}$ on B_{MSY} (or a proxy);

iii. The estimated uncertainty around stock estimates, provided that statistical methods to do so have been agreed upon the Scientific Committee and that sufficient data exist;

iv. The stock status trajectory.

b) A pie chart summarising the stock status showing the proportion of model outputs that are within the green quadrant of the Kobe plot chart (not overfished, no overfishing), the yellow and orange quadrants (overfished or overfishing) and the red quadrant (overfished and overfishing)

Model outlooks

c) Two Kobe II strategy matrices

i. A first one indicating the probability of $B>B_{LIM}$ and $F<F_{LIM}$ for different level of catch across multiple years

ii. A second one indicating the probability of $B>B_{MSY}$ and $F<F_{MSY}$ for different level of catch across multiple years

iii. When the Commission agrees on acceptable probability levels associated to the target and limit reference points on a stock by stock basis and communicates them to the Scientific Committee, the Scientific Committee should prepare and include, in the annual report, the Kobe II strategy matrices using colour coding corresponding to these thresholds

Data quality and limitations of the assessment models

d) A statement qualifying the quality, the reliability and where relevant the representativeness of input data to stock assessments, such as, but not limited to

i. fisheries statistics and fisheries indicators (e.g. catch and effort, catch-at size and catch at age matrices by sex and, when applicable, fisheries dependent indices of abundance;

ii. biological information (e.g. growth parameters, natural mortality, maturity and fecundity, migration patterns and stock structure, fisheries independent indices of abundance);

iii. complementary information (e.g. consistencies among available abundance indices, influence of the environmental factors on the dynamic of the stock, changes in fishing effort distribution, selectivity and fishing power, changes in target species).

e) A statement qualifying the limits of the assessment model with respect to the type and the quality of the input data and expressing the possible biases in the assessment results associated with uncertainties of the input data.

f) A statement concerning the reliability of long term projections period.

Alternative approach (data poor stocks)

2. When, due to data or modelling limitations, the IOTC Scientific Committee is unable to develop Kobe II strategy matrices and associated charts or other estimates of current status relative to benchmarks, the IOTC scientific Committee will develop its scientific advice on available fisheries-dependant and fisheries-independent indicators.

Additional information and review of the structure and templates of the executive summaries

3. The Commission encourages the IOTC Scientific Committee to include either in its annual report or in the detailed reports, where possible and if considered as relevant and useful, any other tables and/or graphics supporting scientific advice and management recommendations. In particular, the IOTC scientific committee will include, where possible, information on the recruitment trajectories, on the stock-recruitment relationship and some ratio as yield per recruit or biomass per recruit.

4. As far as needed, the IOTC Scientific Committee shall review recommendations and templates for the Kobe II strategy matrices, plot and pie charts as laid down in this resolution and will advise the Commission on possible improvements.