MPD02: BACKGROUND AND CONTEXT

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Background within the IOTC

At the Commission meetings in 2012 and 2013, two key Resolutions were adopted which form the basis of the Management Strategy Evaluation (MSE) process:

1) Resolution 12/01 *On the implementation of the precautionary approach*;
2) Resolution 13/10 *On interim target and limit reference points and a decision framework*.

Resolution 12/01 incorporated key elements of the precautionary approach to fisheries management. The key points of this resolution covered the following tenets [*Paragraphs extracted text from Resolution 13/10*]:

1. To apply the precautionary approach, in accordance with relevant internationally agreed standards, in particular with the guidelines set forth in the UNFSA, and to ensure the sustainable utilisation of fisheries resources as set forth in Article V of the IOTC Agreement.

2. In applying the precautionary approach, the Commission shall adopt, after due consideration of the advice supplied by the IOTC Scientific Committee,

a) stock-specific reference points (including, but not necessarily limited to, target and limit reference points[1]), relative to fishing mortality and biomass, and

b) associated harvest control rules[2], that is, management actions to be taken as the reference points for stock status are approached or if they are breached.

Reference points and harvest control rules shall be determined so that, according to the best available science, the risk of a negative impact on the sustainability of Indian Ocean resources of tuna and tuna-like species is minimised.

Resolution 13/10 incorporated the following key components as a starting point for an MSE process [*Paragraphs extracted text from Resolution 13/10*]:

*1. When assessing stock status and providing recommendations to the Commission, the IOTC Scientific Committee should apply the following interim target and limit reference points for the species of tuna and tuna-like species listed in **Table 1**. B_{MSY} refers to the biomass level for the stock that would produce the Maximum Sustainable Yield; F_{MSY} refers to the level of fishing mortality that produces the Maximum Sustainable Yield.*

***Table 1**. Interim target and limit reference points.*

Stock	*Target Reference Point*	*Limit Reference Point*
Albacore	B_{MSY}; F_{MSY}	$B_{LIM} = 0.40\ B_{MSY}$; $F_{LIM} = 1.40\ F_{MSY}$
Bigeye tuna	B_{MSY}; F_{MSY}	$B_{LIM} = 0.50\ B_{MSY}$; $F_{LIM} = 1.30\ F_{MSY}$
Skipjack tuna	B_{MSY}; F_{MSY}	$B_{LIM} = 0.40\ B_{MSY}$; $F_{LIM} = 1.50\ F_{MSY}$
Yellowfin tuna	B_{MSY}; F_{MSY}	$B_{LIM} = 0.40\ B_{MSY}$; $F_{LIM} = 1.40\ F_{MSY}$

[1] Target Reference Points corresponds to a state of a fishery and / or a resource which is considered desirable; Limit Reference Points indicates the limit beyond which the state of a fishery and / or a resource is not considered desirable. Source: http://www.fao.org/fi/glossary (accessed 25 April 2012).

[2] Harvest Control Rule: A rule that describes how harvest is intended to be controlled by management in relation to the state of some indicator of stock status. Source: http://www.fao.org/fi/glossary (accessed 25 April 2012).

Swordfish	B_{MSY}; F_{MSY}	$B_{LIM} = 0.40\ B_{MSY}$; $F_{LIM} = 1.40\ F_{MSY}$

2. *These interim target and limit reference points shall be assessed and further reviewed by the IOTC Scientific Committee and the results shall be presented to the Commission for adoption of species-specific reference points. If applicable, the IOTC Scientific Committee should endeavour to apply the interim reference points in the provision of advice on the status of stocks and on recommendations for management measures.*

3. *The IOTC Scientific Committee shall assess, as soon as possible and more particularly through the management strategy evaluation process (MSE) process, the robustness and the performance of the interim reference points, specified under paragraph 1 and other reference points based on the guidelines of International agreements taking into account: i) the nature of these reference points – target or limits, ii) the best scientific knowledge on population dynamics and on life-history parameters, iii) the fisheries exploiting them, and iv) the various sources uncertainty.*

4. *In addition the IOTC Scientific Committee shall develop and assess potential harvest control rules (HCRs) to be applied, considering the status of the stocks against the reference points assessed in paragraph 3 for albacore, bigeye tuna, skipjack tuna, yellowfin tuna and swordfish. Based on the results of the MSE and considering the guidelines set forth in the UNFSA and in Article V of the IOTC Agreement, the IOTC Scientific Committee will recommend to the Commission HCRs for these tuna and tuna-like species, which among other factors, taking account of the following objectives:*

   a) *For stocks which assessed status will match with the lower right (green) quadrant of the Kobe Plot, aim at maintaining the stocks in a high probability within this quadrant;*

   b) *For stocks which assessed status will match with the upper right (orange) quadrant of the Kobe Plot, aim at ending overfishing with a high probability in as short a period as possible;*

   c) *For stocks which assessed status will match with the lower left (yellow) quadrant of the Kobe plot, aim at rebuilding these stocks in as short a period as possible;*

   d) *For stocks which assessed status will match with the upper left quadrant (red), aim at ending overfishing with a high probability and at rebuilding the biomass of these stocks in as short a period as possible.*

Rationale for the IOTC Management Strategy Evaluation (MSE) process:

The IOTC has embarked on an exercise to conduct an evaluation of management procedures, which are analogous to MSE, using harvest control rules in view of the management objectives identified. Many of the IOTC CPC's have indicated that they are still unfamiliar with what a harvest control rule is and what the Management Objective/s for IOTC fisheries are.

To clarify these points, a series of workshops with the IOTC CPCs are being held prior to each annual Session of the Commission. Through these workshops, IOTC is embarking on an exercise similar to those already undertaken, or currently underway in other tRFMOs. The process will entail a series of workshops (dialogues) and consultations with IOTC CPC's to develop common understanding of and approaches to best achieve the Commission's Management Objectives.

Harvest control rules in association with limit and target reference points which consider the uncertainties in stock condition and dynamics, and the Commission's tolerable risks of failure in achieving its Management Objectives within acceptable time-frames using tiered and feedback based approaches, will be examined.