



**SCIENTIFIC COMMITTEE  
TENTH REGULAR SESSION**

Majuro, Republic of the Marshall Islands  
6-14 August 2014

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**Draft conservation and management measure on establishing a harvest strategy  
for key tuna species in the WCPO**

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**WCPFC-SC10-2014/ MI-WP-08**

**AUSTRALIA**

## SCIENTIFIC COMMITTEE TENTH REGULAR SESSION

Majuro, Republic of the Marshall Islands 6-14 August 2014

**Theme: Management Issues**

**Title: *Draft conservation and management measure on establishing a harvest strategy for key tuna species in the WCPO***

**Author: Australia**

**Abstract:** This paper comprises a draft conservation and management measure (CMM) on establishing a harvest strategy approach for key tuna species to the WCPFC. The draft CMM will seek the Commission's agreement to formally develop a harvest strategy approach to fisheries for the major tuna stocks under the Commission's purview. It is envisaged that individual harvest strategies for specific fisheries would subsequently be developed in accordance with this CMM and these will set out the management actions necessary to achieve defined biological, economic, and social objectives for the fishery. The CMM proposes that individual harvest strategies will contain a process for monitoring and conducting independent assessments of the biological and economic conditions of the fishery and pre-defined rules that control the intensity of fishing activity according to these assessments. The draft CMM sets out the broad principles of the approach including decision rules, proposed indicative timelines for the development of a harvest strategy for albacore and provision for the allocation of resources to achieve these timelines. Australia is seeking the Scientific Committee's comments and recommendations, from a scientific perspective, on the priorities to be accorded to each species, the feasibility of the indicative timeframe proposed for albacore, and the resourcing requirements for science provision (including for modelling and management strategy evaluations).



# Draft conservation and management measure on establishing a harvest strategy for key tuna species in the WCPO

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## Executive Summary

Building on the work of the Scientific Committee and the Management Options Workshop process, the draft conservation and management measure accompanying this paper (Attachment 1) seeks the Commission's agreement to formally develop harvest strategies for each of the major tuna stocks under the Commission's purview.

The draft CMM sets out some key harvest strategy principles to guide individual harvest strategies as well as the main elements to be included in individual harvest strategies to be adopted.

This paper seeks the Scientific Committee's comments and recommendations, from a scientific perspective, on the feasibility of the indicative timelines proposed for albacore and the resourcing requirements for science provision (including for modelling and management strategy evaluations). In addition, this paper seeks the Scientific Committee's endorsement that:

- Harvest strategies are considered to represent a best-practice approach to fisheries management decision making.
- Harvest strategies are proactive and provide a consistent framework for taking the available information about a stock or fishery and applying an evidence and risk-based approach to setting harvest levels.
- The seven elements of a harvest strategy identified in the CMM, in particular the requirement for reference points, are essential components for the development of effective harvest strategies.
- The indicative timeframes proposed for albacore are feasible.
- The Commission should agree timeframes to adopt harvest strategies for other WCPO tuna species as a priority.

## The importance of harvest strategies

The Western and Central Pacific Fisheries Commission (WCPFC) has started a process to determine agreed management objectives for key fish stocks with a view to translating these objectives into effective management frameworks and harvest strategies.

This CMM seeks the Commission's endorsement of an approach whereby pre-agreed rules or actions will be used for determining a management action response to changes in indicators of stock status with respect to reference points. The aim is to ensure that scientific outcomes and findings are

incorporated into the management process as part of the Commission's evidence-based decision making processes.

This is the first opportunity that WCPFC Members, Cooperating Non-Members and Participating Territories (CCMs) have had to consider the draft CMM. This is a preliminary draft to begin discussions. Australia welcomes comments and suggestions from CCM scientists and fisheries managers as it works to refine this measure before introducing it at WCPFC11 for Commission consideration.

## Australian context

In 2007, the Australian Commonwealth Government introduced the *Commonwealth Fisheries Harvest Strategy Policy and Guidelines* with the aim of delivering long-term sustainability and economic profitability for Commonwealth fish stocks, while providing the fishing industry with a more predictable operating environment. The policy achieves this by applying a transparent, evidence-based precautionary approach, informed by the best scientific information available.

Harvest strategies developed under the policy set out the management actions necessary to achieve defined biological and economic objectives in a fishery. They contain a process for monitoring and conducting independent assessments of the biological and economic conditions of the fishery and pre-defined rules that control the intensity of fishing activity according to these assessments. In March 2014, the Australian Fisheries Research and Development Corporation released *National Guidelines to Develop Fishery Harvest Strategies*<sup>1</sup> (National Guidelines) which seek to provide a harmonised approach to harvest strategy development across Australian fisheries jurisdictions.

## References

The draft CMM put forward by Australia draws on the *Technical Guidelines for Responsible Fisheries: Indicators for Sustainable Fisheries Development of Marine Capture Fisheries*<sup>2</sup>, the *Commonwealth Fisheries Harvest Strategy Policy and Guidelines* and the National Guidelines in setting out the key elements of a harvest strategy.

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<sup>1</sup> Sloan, S. R., Smith, A.D.M., Gardner, C., Crosthwaite, K., Triantafillos, L., Jeffries, B. and Kimber, N (2014) *National Guidelines to Develop Fishery Harvest Strategies*. FRDC Report – Project 2010/061. Primary Industries and Regions, South Australia, Adelaide, March. CC BY 3.0, available at [http://frdc.com.au/research/Documents/Final\\_reports/2010-061-DLD.pdf](http://frdc.com.au/research/Documents/Final_reports/2010-061-DLD.pdf)

<sup>2</sup> Food and Agriculture Organization of the United Nations Fishery Resources Division, 'Indicators for sustainable development of marine capture fisheries, *FAO Technical Guidelines for Responsible Fisheries*'. No. 8. Rome, FAO. 1999. 68p, available at <http://www.fao.org/docrep/004/x3307e/x3307e00.htm>.

## Attachment 1

### CONSERVATION AND MANAGEMENT MEASURE ON ESTABLISHING A HARVEST STRATEGY FOR KEY TUNA SPECIES IN THE WESTERN AND CENTRAL PACIFIC OCEAN

#### Conservation and Management Measure 2014-xx

*The Western and Central Pacific Fisheries Commission (WCPFC):*

**Noting** that the objective of the *Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean* (the Convention) is to ensure through effective management, the long-term conservation and sustainable use of the highly migratory fish stocks of the Western and Central Pacific Ocean in accordance with the *United Nations Convention on the Law of the Sea* (the 1982 Convention) and the *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (the UN Fish Stocks Agreement);

**Recalling** Article 6 (3) of the UN Fish Stocks Agreement and Article 6 of the Convention, which call for the establishment of precautionary stock-specific reference points to implement the precautionary approach, as well as action to be taken if such points are exceeded;

**Further recalling** that Annex II of UN Fish Stocks Agreement provides guidelines for the application of precautionary reference points in the conservation and management of straddling fish stocks and highly migratory fish stocks, including the adoption of provisional reference points when information for establishing reference points is absent or poor;

**Noting** that Article 7.5.3 of the *FAO Code of Conduct for Responsible Fisheries* also recommends the implementation of stock specific target and limit reference points, inter alia, on the basis of the precautionary approach;

**Concerned** that catches for a number of tuna species in the Western and Central Pacific Ocean are in excess of the range of maximum sustainable yield levels and are not being managed sustainably;

**Recalling** the recommendations from the Performance Review of the WCPFC on the Precautionary Approach and Limit Reference Points, which the Commission considers to be a high priority;

**Adopts**, in accordance with Article 10 of the Convention, the following conservation and management measure with respect to establishing harvest strategies for key tuna fisheries in the Western and Central Pacific Ocean:

#### **Objective of this measure**

1. To agree that the Commission shall develop and implement a harvest strategy approach for each of the fisheries under the purview of the Commission, according to the process and indicative schedule set out in this conservation and management measure (CMM).

#### **General provisions**

2. A harvest strategy is a framework that specifies the pre-determined management actions in a fishery for defined species (at the stock or management unit level) necessary to achieve agreed biological, economic and/or social management objectives.

3. The Commission agrees that harvest strategies established pursuant to this CMM may be developed for multi-species fisheries, where a particular fishery targets or catches a number of species (including as incidental catch).

### **Harvest Strategy Principles**

4. The Commission agrees that harvest strategies are considered to represent a best-practice approach to fisheries management decision making. Harvest strategies are proactive and provide a consistent framework for taking the available information about a stock or fishery and applying an evidence and risk-based approach to setting harvest levels. They provide a more certain operating environment where management decisions around the fishery or species are more consistent, predictable and transparent.
5. Harvest strategies for specific fisheries developed in accordance with this CMM shall set out the management actions necessary to achieve defined biological, economic and/or social objectives in the fishery. Each harvest strategy shall contain a tailored process for monitoring and conducting assessments of the biological, economic and social conditions of the fishery and pre-defined rules that control the intensity of fishing activity according to the assessed conditions of the fishery.
6. In developing individual harvest strategies for fisheries within the Western and Central Pacific Ocean, the Commission shall have regard to the following principles:
  - a. Fisheries shall be managed to meet the Convention's objective
  - b. Fisheries are more efficient, profitable, stable and sustainable, when stocks are larger than the stock size that produces the maximum sustainable yield (referred to as 'B<sub>MSY</sub>'), where maximum sustainable yield is a theoretical maximum that can be taken from a stock in perpetuity, and
  - c. Future productivity is at greater risk when stocks are reduced to a level where the recruitment of young fish relative to the portion of the stock subject to fishing declines precipitously (referred to as 'recruitment failure').

### **Elements of a harvest strategy**

7. Harvest strategies developed in accordance with this CMM shall contain the following elements:
  - a. Defined operational objectives for the fishery ('operational management objectives')
  - b. Indicators of fishery performance related to the objectives ('performance indicators')
  - c. Reference points for performance indicators ('reference points')
  - d. A statement defining acceptable levels of risk to meeting objectives ('acceptable levels of risk')
  - e. A monitoring strategy to collect relevant data to assess fishery performance ('monitoring strategy')
  - f. Decision rules that control the intensity of fishing activity and/or catch ('harvest control rules'), and

- g. An evaluation of the performance of the proposed harvest strategy against management objectives ('management strategy evaluation'), and
8. Further detail on each of these elements is set out in Annex 1 of this CMM.

### **Disproportionate burden**

- 9. This CMM places obligations on the Commission itself and not on individual Members, Cooperating Non-Members and Participating Territories (CCMs). Accordingly, there is no transfer, direct or indirect, of a disproportionate burden of conservation action onto developing States Parties or on Territories or Possessions, except as set out and accounted for in paragraph 10.
- 10. In recognition of the special requirements of developing States Parties to this Convention, in particular Small Island Developing States and of Territories and Possessions, in relation to conservation and management of highly migratory fish stocks in the Western and Central Pacific Ocean, the Commission will facilitate the effective participation of these States and Territories in Commission meetings and those of its subsidiary bodies undertaking work on harvest strategies.
- 11. Disproportionate burden shall be considered in the development of individual harvest strategies.

### **Timelines for the adoption of harvest strategies for specific fisheries**

- 12. Harvest strategies for specific fisheries in the Western and Central Pacific Ocean shall be developed and adopted by the Commission in accordance with the timeframes set out in Annex 2 of this CMM.
- 13. The Commission shall agree timeframes to adopt harvest strategies for other tuna species (including for skipjack, bigeye, and yellowfin by no later than the twelfth meeting of the Commission in 2015). These agreed timeframes shall be incorporated into Annex 2 of this CMM.

### **Resources**

- 14. In formulating their budget and work programme, the Commission, Scientific Committee and any relevant WCPFC sub-committees shall ensure that the tasks listed in this measure are sufficiently resourced in terms of time and budget to achieve the agreed timeframes.
- 15. In the interests of efficiency and ensuring full participation by all CCMs, the Commission may decide to use existing WCPFC meetings to undertake the work set out in this CMM.



**Additional detail on the elements of a harvest strategy**

Management objectives

1. The Commission shall determine agreed conceptual management objectives based on biological, economic, social and/or ecosystem indicators for key fisheries in the Western and Central Pacific Ocean.
2. The Scientific Committee shall translate these conceptual management objectives into objectives that have a direct and practical interpretation in the context of the fishery and against which performance can be evaluated ('operational management objectives').

Performance indicators

3. The Scientific Committee shall establish a set of specific performance indicators to measure progress against the agreed operational management objectives for each fishery. The performance indicators shall be selected to measure where an indicator sits in relation to a reference point. The indicator may be a direct observation (such as catch per unit effort) or may be estimated using a stock assessment model (such as biomass).
4. In selecting appropriate indicators, the Scientific Committee may have regard to relevant international standards and guidelines, including the Food and Agriculture Organization of the United Nations *Technical Guidelines for Responsible Fisheries: Indicators for Sustainable Fisheries Development of Marine Capture Fisheries* (FAO, 1999).

Reference points

5. For each fishery, to achieve the agreed operational management objectives, the Commission shall, taking into account relevant advice from the Scientific Committee, establish reference points that identify:
  - i. targets to be achieved on average ('target reference points'),
  - ii. if considered necessary, triggers to initiate specific management responses ('trigger reference points'), and
  - iii. limits to be avoided ('limit reference points').
6. Where the Commission has already adopted target, trigger or limit reference points for particular tuna species, those agreed reference points shall be incorporated into the harvest strategy for that species, unless the Commission decides otherwise.

Acceptable levels of risk

7. Across all harvest strategies, the Commission shall define acceptable levels of risk associated with breaching limit reference points, taking into account advice from the Scientific Committee. The Commission shall ensure that the risk of exceeding limit reference points is very low.
8. Unless the Commission decides otherwise, target reference points shall be conservative and separated from limit reference points with an appropriate buffer, with a view to ensuring that the target reference points are not so close to the limit reference points that the chance that the limits are exceeded is greater than the agreed level of risk.

### Monitoring strategy

9. The Commission shall ensure that for each fishery, sufficient data shall be collected to assess the fishery's performance.
10. The Commission may adopt a monitoring strategy for a fishery (where necessary data is not already required to be provided to the Secretariat) or rely on data required to be provided under existing Commission CMMs and the *Scientific Data to be Provided to the Commission* standard.
11. For each fishery with an established harvest strategy, the Scientific Committee shall evaluate the performance of the fishery against the agreed operational management objectives (as specified through the performance indicators and reference points). The Scientific Committee shall report its findings and advice to the Commission.

### Harvest control rules

12. For each fishery, the Commission shall decide on a set of clear, pre-agreed rules or actions used for determining a management action response to changes in indicators of stock status with respect to reference points ('harvest control rules').
13. In particular, individual harvest strategies shall be used to determine the overall level of exploitation for a fishery using a pre-agreed formula and mechanisms for determining individual Member allocations.
14. Notwithstanding paragraph 17 of this Annex, the Commission may decide to implement interim harvest control rules prior to a full management strategy evaluation being completed by the Scientific Committee.

### Management strategy evaluation

15. Prior to implementation of a harvest strategy, an evaluation of the likely performance of any proposed harvest strategy in achieving the operational objectives should be undertaken by the Scientific Committee. These harvest strategy evaluations may be performed through simulation modelling.
16. As part of this process, the Scientific Committee shall estimate or describe key management system uncertainties including with respect to stock assessments.

**Timelines for adoption of harvest strategy CMMs****1. South Pacific Albacore**

<b>Actions:</b>	<b>Agreement on management objectives</b>	<b>Identification and testing of candidate reference points</b>  <b>Prepare progress report</b>	<b>Consider progress report from Scientific Committee</b>  <b>Identify possible harvest control rules</b>	<b>Management strategy evaluation with implications of various targets on harvest control rules</b>  <b>Provide advice on outcomes to Commission</b>	<b>Adoption of harvest strategy CMM (including all harvest strategy elements)</b>
<b>WCPFC body responsible:</b>	<b>Commission</b>	<b>Scientific Committee</b>	<b>Commission</b>	<b>Scientific Committee</b>	<b>Commission</b>
<b>Timeframe:</b>	By no later than WCPFC12 (2015)	By no later than SC12 (2016)	By no later than WCPFC13 (2016)	By no later than SC13 (2017)	By no later than WCPFC14 (2017)