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## **UPDATE ON THE INTER-SESSIONAL WORK OF THE WPM SMALL WORKING GROUP ON MANAGEMENT STRATEGY EVALUATION**

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### **PURPOSE**

To update the Scientific Committee (SC) on the outcomes and progress of the Working Party on Methods (WPM) Management Strategy Evaluation (MSE) small working group meetings held in 2013, and to propose a work plan for 2014, for the consideration and potential endorsement by the SC.

### **BACKGROUND**

The WPM was tasked with developing an MSE framework for evaluating reference points with respect to fishing conditions at or below target reference points. Clear objectives were not provided to the WPM, and as such, the WPM small working group has started to develop draft objectives, draft harvest control rules (HCR) and an Operating Model (OM) for albacore and to evaluate its performance. After finishing work on albacore, the WPM will focus on the key tropical species (bigeye tuna, skipjack tuna and yellowfin tuna).

### **DISCUSSION**

Two meetings were held in 2013; i) ISPRA, Italy from April 16<sup>th</sup>–19<sup>th</sup> and ii) San Sebastian, Spain 23<sup>rd</sup>, October, 2013. The small working group met to develop OM's for albacore and review the work of a consultant working on an MSE approach for skipjack tuna (N. Bentley). The working group has so far developed an OM for albacore, reviewed a framework OM for skipjack tuna and is in the process of developing HCR's for both species and evaluating how they perform with respect to certain management objectives.

Contained in Appendix I is a summary of the work undertaken in 2013, as well as a draft work plan for the WPM and the small working group for 2014.

### **RECOMMENDATION/S**

That the Scientific Committee **NOTE** paper IOTC–2013–SC16–11, as well as the two reports of the WPM small working groups provided in paper IOTC–2013–SC16–INF07 and IOTC–2013–SC16–INF08, which outline the main outcomes and recommendations from the two meetings on MSE work undertaken by the WPM small working group in 2013.

### **APPENDICES**

**Appendix I:** MSE current status and work plan for the Working Party on Methods in 2013 and 2014

## APPENDIX I

### MSE CURRENT STATUS AND WORK PLAN FOR THE WORKING PARTY ON METHODS IN 2013 AND 2014

Two meetings were held in 2013 to progress and develop work on an albacore Operating Model (OM) and to evaluate work being developed by a consultant on skipjack tuna. The outcomes of each meeting are outlined below:

#### **1<sup>st</sup> Workshop on MSE, 16–19 April 2013, EC JRC, Ispra, Italy.**

The 1<sup>st</sup> workshop on Management Strategy Evaluation took place at the premises of the European Community Joint Research Centre (EC-JRC) in Ispra, Italy, 16–19 April 2013. A total of nine scientists from various CPCs and the IOTC Secretariat were in attendance.

Progress was made in developing an OM for Indian Ocean albacore, the initial design of an OM for skipjack tuna, the structure and content of a demonstration session on MSE, and some initial draft management procedures for albacore tuna.

Document IOTC–2013–SC16–INF07 contains a more detailed report of the work carried out and the discussions that took place during this workshop. Relevant material can also be found at the WPM online repository for MSE.

#### **2<sup>nd</sup> Workshop on MSE, 23 October 2013, San Sebastian, Spain.**

The 2<sup>nd</sup> workshop on MSE took place coinciding with the 2013 session of the Working Party on Tropical Tunas, held in San Sebastian, Spain, on 23 October 2013. This shorter workshop provided an opportunity for review of ongoing work, the presentation of the initial work on OMs for Indian Ocean skipjack tuna, interaction with researchers working on the development of similar analyses for Atlantic albacore, and an update on work carried out within the remit of the tuna-RFMO working group on MSE.

Document IOTC–2013–SC16–INF08 contains a more detailed report of the presentations made and the discussions that took place during this workshop. Relevant material, including all presentations, can be found at the WPM MSE repository.

#### **Progress and current status of work**

Work on the development of MSE simulations for IOTC stocks has progressed well, albeit at a slower pace that would be desirable. This is mostly due to the limitations in time and personnel given that this work is being carried out by a limited number of researchers, already active in other Working Parties and RFMOs.

The following offers a brief overview of the current status of work and the major difficulties encountered so far:

- **Albacore Operating Models (OM):** A draft set of operating models for albacore has been assembled, but a number of issues have been identified that still require further work. In line with the difficulties encountered by the Working Party on Temperate Tunas (WPTmT) in running stock assessments for this stock, the population and fishery models applied are very sensitive to a range of input values that the OM is treating as uncertain. The information content of the available dataset severely constrains the ability of the estimation model (SS3) to provide accurate calculations of the likelihood of different model options. WPM will work further on evaluating different options to overcome this problem, but has in the meantime proceeded with an interim OM for development purposes.
- **Albacore Management Procedures (MP):** A draft set of Harvest Control Rules (HCR) and management objectives and limits has been assembled. Initial implementation of these two HCRs is progressing at the moment.
- **Skipjack tuna Operating Model (OM):** The proposed structure and scale of an OM for skipjack tuna was presented and discussed during the 2<sup>nd</sup> workshop of MSE of the WPM small working group as well as during the plenary of WPTT. Initial design of the model has been tentatively implemented. Work is available at an online repository and will soon be integrated with the WPM one.
- **Demonstration session on MSE:** Material for a demonstration session on MSE has been put together by members of WPM to be used freely at different IOTC fora. Presentations and hands-on

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demonstrations are used to explain the essential concepts behind the evaluation of management plans through stochastic simulation, the elements included in the operating models, the form and function of management procedures, and the kind of output these exercise usually generate. WPM will run this demonstration during the current session of the SC.

### **MSE Draft work plan for 2014**

Two inter-sessional meetings between SC16 and SC17 to do the following:

- a) Finalise the OM for albacore with HCR's. Implement a simpler estimation model and evaluate performance. Having clear performance criteria to evaluate the performance over time (April 2014).
- b) Review the albacore OM and HCR performance with some demonstrative/draft objectives (Nov 2014).
- c) Review skipjack tuna OM and HCR performance with some demonstrative/draft objectives (Nov 2014).
- d) Set up the framework for the bigeye tuna and yellowfin tuna MSE with some preliminary work on simple single species OM (Nov 2014)
- e) Developing a common framework for evaluating all three tropical tuna species MSE for the IO (2015).

Timing of the workshops/meetings in 2014:

- 1) Prior to the Commission meeting, possibly at the end of April to review/finalise the OM for albacore.
- 2) Prior to SC17 for presenting results of MSE on albacore and progress on the tropical tunas.