

# STATUS OF THE WORK ON MANAGEMENT STRATEGY EVALUATION FOR IOTC STOCKS

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## **1 PURPOSE**

To inform the Scientific Committee (SC) of the progress of the work being carried out by the MSE group of the Working Party on Methods on the development of Management Strategy Evaluation for Indian Ocean tuna stocks.

## **2 BACKGROUND**

The Scientific Committee of IOTC, in its 15th session, tasked the Working Party on Methods with carrying out work for the development and testing through simulation of management plans for Indian Ocean stocks (IOTC-2012-SC15-R). The SC agreed with the view of WPM (IOTC-2012-WPM04-R) that a formal session of WPM was not needed in 2013 and that two workshops on MSE would instead take place to help progressing the work SC had asked WPM to carry.

## **3 DISCUSSION**

The Working Party Methods intersessional work on MSE was centered around two workshops, that took place in April and October 2013, respectively. These meetings were complemented by a number of inter-sessional activities, focused on development and evaluation of operating models, set

up of the necessary computational infrastructure, and organization of the work around an open online repository.

### **3.1 1st Workshop on MSE, IOTC WPM. 16-19 April 2013, EC JRC, Ispra, Italy.**

The first Workshop on Management Strategy Evaluation of WPM took place at the premises of the European Community Joint Research Centre (EC-JRC) in Ispra, Italy, between the 16 and 19 of April 2013. A total of nine scientists from various CPCs and IOTC Secretariat were able to attend.

Progress was made in developing an Operating Model for Indian Ocean albacore, the initial design of an Operating Model 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.

### **3.2 2nd Workshop on MSE, IOTC WPM. 23 October 2013, San Sebastian, Spain.**

A second workshop on Management Strategy Evaluation 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 Operating Models for Indian Ocean Skipjack, interaction with researchers working on the development of similar analyses for Atlantic albacore tuna, 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.

### 3.3 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 manpower 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:

- ALB OM: A draft set of operating models for albacore tuna has been assembled, but a number of issues have been identified that still require further work. In line with the difficulties encountered by 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 meantime proceeded with an interim OM for development purposes.
- ALB MPs: A draft set of Harvest Control Rules and management objectives and limits has been assembled (See Appendix B, IOTC-2013-SC16-08). Initial implementation of these two HCRs is progressing at the moment.
- SKJ OM: The proposed structure and scale of an OM for skipjack tuna was presented and discussed during the 2nd workshop of MSE of WPM 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 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.

### **3.4 Future work**

A tentative workplan for MSE work in 2014 can be found in Appendix 1.

## **4 RECOMMENDATIONS**

That the Scientific Committee NOTE paper IOTC-2013-SC16-11 which outlined the main outcomes and recommendations from the workshops and intersessional work on MSE of the Working Party on Methods.

## **5 APPENDICES**

### **5.1 WPM MSE workplan for 2014**

## **6 OTHER RELEVANT DPCUMENTS**

- IOTC-2013-SC16-INF07: Report of the First Workshop on Management Strategy Evaluation
- IOTC-2013-SC16-INF08: Report of the Second Workshop on Management Strategy Evaluation