**SC12 - MANAGEMENT ISSUES THEME**

**DRAFT RECOMMENDATIONS FOR THE COMMISSON**

As of conclusion of Tuesday MI-theme Session

**Agenda 5.1: Development of a Harvest Strategy Framework**

Item 5.1.1 Management Objectives

1. SC12 noted that the Commission is scheduled to ‘record’ the management objectives for each fishery or stock (south-Pacific albacore, skipjack, yellowfin and bigeye) in 2016. Noting the direct relationship between management objectives, and the need to identify performance indicators within the Management Strategy Evaluation (MSE) currently being developed, SC12 encourage WCPFC13 to provide additional clarity on the management objectives for skipjack and south-Pacific albacore. {ADOPTED}

Item 5.1.2 South Pacific Albacore

1. SC12 reviewed information related to the biological and economic consequences of alternative catch trajectories to achieve a candidate south Pacific albacore target reference point (WCPFC-SC12-2016/MI-WP-01) and provided a number of suggestions to clarify aspects of the paper before a revised version is forwarded to WCPFC13. SC12 recommends that WCPFC13 note the biological and economic consequences of the various trajectory options modelled in this paper in making a decision on an appropriate target reference point for south Pacific albacore. In particular, SC12 draws the attention of WCPFC13 to the importance of assumptions on key bycatch species catch levels for economic estimates; and the need to include additional economic losses due to the exit of vessels from the fishery. {ADOPTED}

Item 5.1.2 Bigeye Tuna

1. SC12 reviewed information related to biologically reasonable rebuilding timeframes for bigeye tuna (WCPFC-SC12-2016/MI-WP-02) and provided a number of suggestions to clarify aspects of the paper before a revised version is forwarded to WCPFC13. SC12 recommends that WCPFC13 note the various options modelled in this paper in making a decision on an appropriate rebuilding timeframe for bigeye tuna. In particular, SC12 draws the attention of WCPFC13 to i) the estimated bigeye generation time of 4 years, and minimum rebuilding time in the absence of fishing of 2-4 years, ii) that consideration of acceptable risk for the bigeye stock falling below the limit reference point will influence the findings, and iii) it will be important to examine not only the timeframe but also the stock trajectory of rebuilding. {ADOPTED}

Item 5.1.3 Implications of alternative levels of acceptable risk

1. SC12 reviewed a proposal for adopting interim acceptable levels of risk for breaching limit reference points in the WCPO (WCPFC-SC12-2016/MI-WP-03) and provided a number of suggestions to clarify aspects of the rationale within the paper before a revised version is forwarded to WCPFC13. Noting that WCPFC13 is scheduled to agree levels of risk for the four key tuna species, SC12 recommends that WCPFC13 take into consideration the rationale outlined in this paper for identifying acceptable levels of risk and again notes that the UN Fish Stocks Agreement states that the risk of exceeding LRPs should be very low. SC12 also recommends that adopted risk levels be seen as interim and be reviewed in light of the outcomes of the Management Strategy Evaluation work-plan. SC12 recommends that WCPFC13 notes that levels of risk for breaching LRP should be considered coupled with the corresponding conservative or liberal nature of the LRP. For example, the bigeye tuna LRP (20% of unfished spawning biomass) is very close to the depletion expected to occur (0.21) if the fishery attained the spawning biomass at MSY. Therefore the bigeye tuna LRP is viewed as conservative and could have associated higher levels of risk for breaching the LRP. {ADOPTED}

Item 5.1.4 & 5.1.5 Performance Indicators and Monitoring Strategy

1. SC12 reviewed candidate performance indicators and monitoring strategies for skipjack and South Pacific albacore commensurate with candidate management objectives for the tropical purse seine and southern longline fisheries (WCPFC-SC12-2016/MI-WP-04) and provided a number of suggestions to clarify aspects of the paper and expand on the list of performance indicators before a revised version is forwarded to WCPFC13. SC12 recommends that WCPFC13 note the candidate performance indicators and monitoring strategies listed in this paper, and noting that the number of key performance indicators should be kept to a tractable level, provide advice on what performance indicators and monitoring strategies should be included for the development of harvest strategies under CMM 2014-06. {ADOPTED}

Item 5.1.6 Harvest Control Rules and Management Strategy Evaluation

1. SC12 reviewed the report of the expert consultation held at SPC in June 2016 on the development of a management strategy evaluation framework for WCPFC tuna stocks (WCPFC-SC12-2016/MI-WP-05). SC12 endorsed the scope of the work to be undertaken as outlined in this report and recommends that i) while a model-based management strategy may be appropriate for skipjack, the concern of the workshop was on the future availability of abundance indices and tagging data for skipjack and WCPFC13 should consider how these necessary data can continue to be provided to support the assessment and MSE, and ii) that both empirical and model-based management strategies could be tested for South Pacific albacore but that CPUE based methods may be dependent on access to operational longline logbook data. {ADOPTED}

SC12 also recommends that WCPFC13 support the recommendation of the MSE workshop for the continued involvement of experts to provide technical advice on the MSE work as well as a process for ongoing science and management dialogue to facilitate stakeholder involvement in the development of harvest strategies. The SC12 considers both of these additional processes are essential for completion of the harvest strategies work-plan under CMM 2014-06, with separate consideration required for each of the species included in this work-plan. SC12 recommends that expert technical advice to the Scientific Service Provider be facilitated via informal meetings and/or workshops similar to the arrangements for the annual Pre-Assessment Workshop. With respect to science and management dialogue, SC12 recommends that stakeholder involvement should be undertaken via in-country stakeholder engagement with the Scientific Service Provider together with a higher-level meeting or workshop for broader stakeholder engagement (to be held as needed) to finalise input to the MSE analyses (e.g. performance indicators and harvest control rules) as well as subsequent refinements and feedback based on preliminary and ongoing results. WCPFC13 is encouraged to explore mechanisms and options for facilitating and funding these arrangements. [PARKED FOR FURTHER CONSIDERATION]

1. SC12 reviewed an evaluation of candidate harvest control rules for the tropical skipjack purse seine fishery (WCPFC-SC12-2016/MI-WP-06). SC12 recommends that WCPC13 note i) the utility of the approach taken for evaluating harvest control rules, ii) the associated need to develop appropriate performance indicators to adequately track effort creep in this and other fisheries in the WCPO, and iii) the need to identify an appropriate time-frame for evaluating the effectiveness of a harvest control rule. {ADOPTED}
2. SC12 was informed about the work undertaken by the Northern Committee and the ISC on the development of harvest control rules and Management Strategy Evaluation for Pacific bluefin and North Pacific albacore stocks (WCPFC-SC12-2016/MI-WP-07). SC12 recommends that WCPFC13 note these developments and consider the need to facilitate discussion on Management Strategy Evaluation between those groups undertaking such work within the WCPO (i.e. the Scientific Service Provider and ISC) and across all t-RFMOs. {ADOPTED}

**Agenda 5.2 Limit Reference Points (LRPs) for the WCPFC**

1. Based on a request from WCPFC12, SC12 developed a scope of work to progress development of limit reference points for sharks within the budget allocated for 2016 (Paras 69-70, FAC9 Summary Report). The proposed scope of this project is outlined in Appendix X. WCPFC13 is requested to note this project scope ~~and, if needed, re-approve funding for this project if the project has not been completed during 2016~~. [delete? Revisit tomorrow—note, proposed scope of project is appended at the end of this list of recommendations]

**Agenda 5.3 Implementation of CMM-2015-01**

Item 5.3.1 Yellowfin tuna catch limit

1. SC12 discussed the request from WCPFC12 to provide comments and/or recommendations to the Commission on how to further develop catch limit options for yellowfin tuna as specified in paragraphs 28, 29 and 43 of CMM-2015-01. SC12 reiterated its advice from SC11 that yellowfin tuna stock status in the WCPO is relatively insensitive to whether purse seine effort is comprised of mainly associated sets or unassociated sets. SC12 also noted that the latest catch estimates for 2015 suggest that catch of yellowfin in the longline and purse seine fisheries appears relatively stable and as such several CCMs do not consider yellowfin catch limits in the longline and purse seine fisheries to be immediately necessary. Nevertheless, some concern was expressed with the increase in yellowfin catch reported in the “other” fisheries category, particularly in the Indonesian and Philippines handline fisheries, though it was noted that these catches are presently provisional and increases may be attributed to changes in data collection in recent years. SC12 therefore recommends WCPFC13 consider the need for continued improvements for data collection in these fisheries and the need for CCMs to provide information to the Commission on the management tools they have available to them to bring these catches under control. {ADOPTED}

Item 5.3.2 Other Issues Related to CMM-2015-01

1. SC12 reviewed a management option to limit bigeye catches on purse seine vessels to assist the recovery of the bigeye tuna stock in the WCPO (WCPFC-SC12-2016/MI-WP-09) and also noted additional options such as the introduction of FAD charges to manage FAD usage in PNA waters to achieve this same objective. SC12 recommends that WCPFC13 note there are various options to limit bigeye catches on purse seine vessels when considering additional management measures for rebuilding the bigeye tuna stock within the WCPO.

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SC12 reviewed a paper analyzing a management option to limit bigeye catches on purse seine vessels to assist the recovery of the bigeye tuna stock in the WCPO (WCPFC-SC12-2016/MI-WP-09), and while SC12 considered this work interesting it noted some methodological shortcomings and the need of taking into account spatial considerations in the analysis. SC12 also was informed about additional options considered by some CCMs (e.g., the introduction of FAD charges to manage FAD usage in PNA waters) to achieve this same objective. SC12 recommends that WCPFC13 note that there are various options to limit bigeye catches on purse seine vessels when considering additional management measures for rebuilding the bigeye tuna stock within the WCPO.

1. SC12 discussed the request from WCPFC12 to provide comments and/or recommendations to the Commission on proposals from CCMs that wish to claim exemption from the 2017 high seas FAD closure on the basis of footnote 5 of CMM 2015-01. SC12 was informed that the EU would be requesting such an exemption on the basis of the 2015 bigeye catch in the purse-seine fishery according to WCPFC-SC12-2016/SC12-MI-IP-06. Nevertheless, SC12 noted that the present CMM is unclear as to how this exemption is to be applied as it does not specify a time period over which the drop in bigeye bycatch to the 55% level of 2010-12 needs to be sustained. SC12 also noted a comment from one CCM that the exemption should only apply where there has been a sustained drop in bigeye bycatch (e.g. the exemption should apply in 2017 only to those purse seine fleets with an average bigeye catch for 2014 and 2015 that is reduced to no more than 55% of their average for 2010 to 2012) and a fleet should not continue to be exempted if its bigeye bycatch is not maintained at the 55% level or less. SC12 recommends that WCPFC13 take note of these comments.

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SC12 discussed the request from WCPFC12 to provide comments and/or recommendations to the Commission on proposals from CCMs that wish to claim exemption from the 2017 high seas FAD closure on the basis of footnote 5 of CMM 2015-01. SC12 was informed that the EU would be requesting such an exemption on the basis of the 2015 bigeye catch in the purse-seine fishery according to WCPFC-SC12-2016/SC12-MI-IP-06. However SC12 has not been able to review this proposal due to the lack of guidance on how this review should be done. SC12 recommends that WCPFC13 clarifies how this assessment should be done.

1. SC12 reviewed candidate indicators of effort creep in the WCPO purse seine fishery (WCPFC-SC12-2016/MI-WP-08) noting that SPC had undertaken the work for the PNA to inform consideration of adjusting the Vessel Day Scheme TAE for effort creep. SC12 strongly supported this work, noting that this work was also directly relevant to the development of a harvest control rule for skipjack. SC12 also identified effort creep as an important issue related to all fleets operating in the WCPO and recommends that WCPF13 that note of these comments and prioritise continued research on this important issue. {ADOPTED}

**Project XX: Identifying appropriate Limit Reference Points (LRPs) for elasmobranchs within the WCPFC**

Background:

The Commission endorsed SC11’s request of USD 25,000 for the continued development of limit reference points for elasmobranchs. The Commission tasked SC12 to develop a scope of work to progress this work within the budget allocated for 2016 (Paras 69-70, FAC9 Summary Report). SC12-ISG-2 also supported the project collaborating with the work presently being undertaken by ISC on the development of stock-recruitment relationships and their parameter estimates, such as stock-recruitment steepness for North Pacific blue shark.

Aim:

This project is to complete the work initiated by S. Clarke and S. Hoyle and presented to SC10 (as described in SC10-MI-07), and the subsequent work undertaken by the Pacific Shark Life History Expert Panel (as described in SC11-EB-13), to identify and quantify appropriate limit reference points for key shark species in the WCPO.

Scope of Work:

This project will facilitate a small workshop of shark and stock assessment experts to undertake the following tasks:

1. For those elasmobranchs which have been evaluated using a stock assessment model, recalculate the risk-based limit reference points (as described in Table 5, SC10-MI-07) using the updated life history information produced by the Shark Life History Expert Panel.
2. For those elasmobranchs which have not been evaluated using a stock assessment model advise on ways of developing an estimate of current fishing mortality (F), for example using catch curves, the method used in the bigeye thresher assessment (SC12-SA-IP-17), or other suitable means. Risk-based LRPs (as described in SC10-MI-07) should then be developed for all WCPFC key shark species.
3. Where the stock-recruitment relationship is highly uncertain, compare Fcurrentto SPR-based LRP such as F60%SPRunfished and discuss any new insights into the recommended estimated LRPs so that the WCPFC Scientific Committee can decided on a case-by-case basis which LRP is most appropriate.
4. Review the use or otherwise of other potential LRPs based on SPR, reduction of recruitment or empirical measures (e.g. catch rate or length values designed to signal unacceptable population states).
5. Advise on any changes or updates to the recommended LRPs in SC10-MI-07 based on new developments, including any suggestions for further technical work before consideration of adoption of LRPs by fishery managers.
6. Review the work presently being undertaken by ISC on the development of stock-recruitment relationships and their parameter estimates, such as stock-recruitment steepness for North Pacific blue shark and assess the applicability of extending this work to other key shark species, especially South Pacific blue shark.

Output:

The project will produce a final report which shall be presented to and reviewed by SC13.

Secretariat Support:

The Principal Investigator for the project should liaise with the WCPFC Secretariat to help facilitate and coordinate arrangements for the workshop (e.g. arranging travel for the participants).

Timing:

The Commission allocates funds on an annual basis. As such, the project funds would need to be spent or contracted this financial year, otherwise the Commission would need to re-approve funding for this project at WCPFC13.