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REFERENCE DOCUMENT FOR BYCATCH MITIGATION CMM REVIEWS

**WCPFC13-2016-21
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Paper prepared by the Secretariat

A. Introduction

1. The purpose of this paper is to provide a quick reference guide to the recommendations of the Scientific Committee (SC) and the Technical Compliance Committee (TCC) of relevance to the discussions in support of the review of bycatch mitigation CMMs. It highlights key recommendations drawn from the SC12 and TCC12 report.

B. Scientific Committee Recommendations

2. The relevant recommendations of the Scientific Committee, with appropriate referencing, are listed below:

Sharks

Oceanic whitetip shark

- a) Overfishing is occurring and the stock is in an overfished state: $F_{\text{current}}/F_{\text{MSY}} = 6.69$ and $SB_{\text{current}}/SB_{\text{MSY}} = 0.15$. (SC8 Paras 226-228).
- b) Management measures to reduce fishing mortality and to rebuild spawning biomass have been agreed to under CMM 2011-04, but mitigation to avoid capture is recommended. Given the bycatch nature of most fishery impacts, mitigation measures provide the best opportunity to improve the status of the WCPO oceanic whitetip shark stock. (SC8 paras 259-261).

Silky shark

- c) Overfishing is occurring and the stock is in an overfished state: $F_{\text{current}}/F_{\text{MSY}} = 4.32$ and $SB_{\text{current}}/SB_{\text{MSY}} = 0.72$. (SC9 Paras 229).
- d) Current catches are higher than MSY (7,123 mt vs. MSY = 2,937 mt) and further catches at current levels of fishing mortality would continue to deplete the stock below SB_{MSY} . The greatest impact on the stock is attributed to bycatch from the longline fishery in the tropical and

subtropical areas, but there are also significant impacts from the associated purse-seine fishery that catches predominantly juvenile sharks. The Commission should consider measures directed at bycatch mitigation as well as measures directed at targeted catch, such as from shark lines (SC9 Paras 229-300).

North Pacific blue shark

- e) The North Pacific blue shark stock is likely not experiencing overfishing and likely not to be in an overfished condition: $F_{2011}/F_{MSY} = 0.34$ and $SB_{2011}/SB_{MSY} = 1.62$. (SC10 Paras 458-464).
- f) SC10, therefore, recommended that all targeted shark fisheries be required to submit management plans with robust catch limits to the Commission by WCPFC12. Given the uncertainties regarding the estimated catch and choice of input parameters for the assessment, SC10 recommended that the catch and fishing effort on blue shark be carefully monitored. (SC10 Paras 465-469).

CMM for sharks in general

- g) CMM 2010-07 (CMM for Sharks)

With regard to this CMM, especially related with Paragraphs 4, 8, and 13 with reference to data provision, fin to carcass ratios, and the need for a revised or new CMM, SC12 recommended that TCC12 and WCPFC13 note that SC12 was able to review the ratio of fin weight to shark carcass weight from one study (SC11-EB-IP-03: *Estimation of fin ratios and dressed weight conversion factors for selected shark species*). This study demonstrated that shark fin weight data have some serious limitations, potential biases and errors. SC12 was unable to confirm the validity of using a 5% fin to carcass ratio in CMM 2010-07 and forwards these concerns to TCC, noting that an evaluation of the 5% ratio is not currently possible due to insufficient information for all but one of the major fleets implementing these ratios. SC12 took note of SC12-EB-IP-02 (*Data Available to the Commission to Address the Implementation and Effectiveness of CMM 2010-07 regarding Shark Finning*) that confirms that the information which can be used to evaluate the effectiveness of the WCPFC ban on shark finning (CMM 2010-07) is currently very limited (SC12 Para 714).

- h) Shark targeting and management plans (SC12 Paras 737-739)
 - a. SC12 considered that it is problematic to agree and apply a definition of longline fisheries “targeting” sharks, noting that fisheries need not be targeting sharks to be having a significant impact on vulnerable shark stocks. The Commission may wish to refer to the potential definitions in SC12-EB-WP-05 (*Elaboration of technical details regarding shark targeting and shark management plans for CMM 2014-05*) as a starting point for further consideration, if required.
 - b. SC12 recommended that the Commission adopt the contents list at Attachment G for the development of any new shark management plans.
 - c. SC12 recommended that the Commission review newly submitted shark management plans for completeness and quality, with a view toward encouraging continuous improvement and documenting the scientific basis for all national management measures referenced in the shark management plans.

SC12 Summary Report Attachment G: Contents list for the development of any new shark management plans

Components to be included in a shark management plan:

- **Species:** List the shark species and stocks (if known) covered by the plan
- **Fleet:** Describe the fleet covered by the plan:
 - Enumerate the vessels catching shark and indicate whether or not they appear on the WCPFC Record of Fishing Vessels
 - Include a map indicating the coordinates of the fishing grounds for the fleet
 - Quantify the fishing effort of the fleet (in annual raised hooks fished if possible)
 - Describe the licensing arrangements applicable to the fleet and note whether effort is controlled (if so, in what way)
- **Catches:** Describe the catch arrangements of the fleet for the shark species covered by the shark management plan:
 - Provide a table showing the retained catches by the fleet of the sharks covered for the last five years (by species if possible)
 - If discards are recorded, show the quantities discarded by species and the total catch (retained + discarded)
 - Describe the mechanism for limiting the catch of sharks, by species if applicable (e.g. input/output controls, regulation, license, no-retention, etc), and the arrangements for monitoring, verification and enforcement
 - Describe the catch limits set (e.g. X tonnes of blue shark, Y tonnes of shortfin mako shark) and provide the rationale for the limit with reference to the latest available stock assessments and reference points
 - If there are any shark species allowed to be retained but not subject to catch limits, please identify them and provide a rationale
- **Mitigation:** Describe operational practices that avoid or reduce mortality to non-retained species
 - Describe the implementation arrangements for no-retention and safe release of oceanic whitetip (CMM 2011-04) and silky (CMM 2013-08) sharks, including safe release guidelines
 - Describe implementation arrangements for the WCPFC full utilization policy (CMM 2010-07). Specifically, if fins are allowed to be removed from carcasses at sea, describe what arrangements are in place to demonstrate that finning is not occurring
 - Identify whether shark lines or wire leaders have been prohibited (by fleet or vessel per CMM 2014-05)
 - List any other shark mitigation measures, e.g. size limits, closed areas or seasons, gear restrictions
- **Management:** Describe how the plan is implemented and reviewed
 - List the dates over which the plan applies
 - Describe how and when the plan is reviewed and reported against, including any linkages with monitoring, control and surveillance (MCS) systems
 - Describe how and when the plan is revised/renewed

Safe release guidelines

- i) SC12 agreed to change the title of ‘*Guidelines for the safe release of encircled animals, including whale sharks*’ to ‘*Guidelines for the safe release of encircled whale sharks*’ (SC12 Para 742).

Non-key-shark species

- j) Because of some concerns about the lack of clarity of the current designation process and potential consequences of new designations of key shark species in terms of reporting, logsheet updating and requirements related to CMM 2010-07, SC12 provided the following recommendations (SC12 Paras 769-772):
 - a. SC12 recommended that the process for the designation of key shark species should be clarified by the WCPFC Secretariat and TCC.
 - b. SC12 recommended that TCC12 clarifies that the designation of a shark species as WCPFC "key shark species for assessment":
 1. is not involving any change in the reporting requirements and logsheets of CCMs;
 2. meets the requirements of para 4 of CMM 2010-07;
 3. results in its listing under the Sharks Research Plan.
 - c. SC12 recommended that purse seine observer training programmes add emphasis to *Mobula* spp. identification as part of their curricula.
 - d. SC12 recommends that WCPFC13 takes note of SC12-EB-WP-08 (*Review of available information on non-key shark species including mobulids and fisheries interactions*) and SC12-EB-IP-09 (*FAO Report of the fifth FAO Expert Advisory Panel for the Assessment of Proposals to Amend Appendices I and II of CITES Concerning Commercially-exploited Aquatic Species*) and considers adopting guidelines for safe release of Manta and Mobula rays caught incidentally in WCPFC fisheries.

Seabirds

- k) Regarding the results of research on seabird distributions, SC12 recommended that the Commission (SC12 Para 790):
 - a. Note that the northern limit of the spatial distribution of seabird density data presented extends to areas north of 30°S.
 - b. Within the southern hemisphere part of the WCPO the main area of distribution for New Zealand’s vulnerable seabirds, especially the Antipodean albatross and the black petrel, is south of 25°S.
 - c. Note that use of effective bycatch mitigation measures across the full range of at-risk seabirds should enhance conservation of those seabirds.
 - d. Note the above information from SC12 and other relevant information when discussing seabird mitigation measures and request that the TCC consider reviewing the 30°S boundary of the seabird CMM further north.
- l) Regarding the results of tori line research, SC12 recommends that the Commission (SC12 Para 809):
 - a. Note the tori line options reported in the papers SC12-EB-WP-10 (*Improving tori line performance in small-vessel longline fisheries*) and SC12-EB-WP-13 (*Examination of effectiveness of seabird bycatch mitigation measures for small-scale longline vessels fishing north of 23°N specified in CMM 2015-03*), developed especially for small longline vessels, and recognise that some of the options may have the potential to be effective in reducing seabird bycatch. SC12 recommends the Commission to continue the experimental trials of tori line designs and procedures adapted to the activities of small-scale longline vessels.

- b. Consider these tori line designs, together with the information on their effectiveness in reducing seabird bycatch and usability in actual fishing operations, during the review or development of any updated tori line specifications, as will be required for the review of specifications set out in CMM 2015-03.

Sea turtles

- m) SC12 recommends that the Commission notes (*SC12 Para 822*):

The results from the first workshop on Joint Analysis of Sea Turtle Mitigation Effectiveness in Longline Fisheries. The workshop considered data from 31 fleets and factors associated with 2,300 observed sea turtle interactions. The results indicated that interactions rates are lower when large circle hooks are used, higher at the two hooks closest to the floats and higher when squid baits are used.

The recommendations for future work are noted and look forward to receiving the results from the second workshop to be held in November 2016.

Bycatch data exchange

- n) SC12 noted that the Bycatch Data Exchange Protocol (BDEP) is currently designed for the purpose of dissemination of bycatch data (*SC12-EB-WP-12: Trial Application of the BDEP Template for Summarizing Bycatch Data*), and recommended that the Commission notes that SC12 recommends the choice of Option A below among the nine recommendations in this paper (*SC12 Paras 838-841*):
 - A. Basic, no-cost (reprioritise other data management tasks):
(Rec.1) the BDEP trial should continue in 2017-18; (Rec.2) Publish BDEP as public domain information on the WCPFC web site, with any issues addressed in the generic data gaps paper.
 - B. Enhance, low cost: As for A., plus, (Rec.3) Resolve issues for estimating mortality rates for purse seine; (Rec.4) Providing a table of observer effort by 5°x5°; (Rec.5) Request vessel identities in observer data where missing (seek advice from the respective CCMs); (Rec.6) Report seabirds to the species level, where possible; (Rec.7) Include marine mammals to the species level, where possible.
 - C. Focus, moderate cost: As for B., plus, (Rec.8) Review and update length-length and length-weight relationships for BDEP for species of special interest; (Rec.9) undertake a trial regional BDEP compilation for purse seine at the scale of the Pacific Ocean.

C. Technical and Compliance Committee Recommendations

3. The relevant recommendations of the Technical and Compliance Committee, with appropriate referencing, are listed below:

Sharks

(Review of CMM 2010-07 & CMM 2014-05)

- a) TCC12, taking note of WCPFC-TCC12-2016-25 “Clarification of Process for Designating WCPFC Key Shark Species for Data Provision and Assessment” recommended that WCPFC13 and SC13 note that TCC12 agreed that:

- a. the WCPFC “Process for Designating Key Shark Species for Data Provision and Assessment” provides a process for species to be designated for assessment only;
 - b. the designation of a shark species as a WCPFC “key shark species for assessment”:
 - 1. does not involve any change in the reporting requirements and logsheets of CCMs;
 - 2. results in its listing under the Shark Research Plan, noting that data gaps may preclude a traditional stock assessment approach. (*TCC12 para 357*)
- b) TCC12 recommended that:
- a. WCPFC13 recognise that it is not possible for TCC to assess compliance related to the application of the 5% ratio prescribed in para. 7 of CMM 2010-07;
 - b. WCPFC13 consider means to strengthen CMM 2010-07 with respect to ensuring compliance with the obligation in paragraph 6; and
 - c. WCPFC13 agree that CCMs provide detailed information relating to their implementation of the full utilization requirement in para 6 of CMM 2010-07 in their AR-Part 2 and if applicable, provide detailed information on why it would be impracticable to implement fins naturally attached as a demonstration of full utilization of sharks. (*TCC12 para 391*)
- c) TCC12 taking note of SC12 recommendation (draft summary report 737 and 738) and TCC12-2016-19 “Elaboration of technical details regarding shark targeting and shark management plans for CMM 2014-05” recommended that:
- a. WCPFC13 adopt the template developed in Annex E of TCC12-2016-19 for the development of future shark management plans under CMM 2014-05 (**Attachment F of TCC12 Summary Report**).
 - b. WCPFC13 agree to continue working towards a common definition of a longline fishery targeting sharks; and
 - c. WCPFC13 task SC to continue working toward the evaluation of the impacts of shark management plans on the conservation status of WCPFC shark stocks. (*TCC12 para 405*)

TCC12 Summary Report Attachment F: Proposed template for the development of future shark management plans under CMM 2014-05 (source: TCC12-2016-19 Annex E)			
WCPFC Shark Management Plan for Longline Fisheries		CCM:	Tier:
Species Covered			
	Blue shark: Y/N	Stock:	Catch limit (t):
	Mako sharks: Y/N	Stock:	Catch limit (t):
	Thresher sharks: Y/N	Stock:	Catch limit (t):
	Porbeagle shark: Y/N	Stock:	Catch limit (t):
	Hammerhead sharks: Y/N	Stock:	Catch limit (t):
	Other sharks (list): Y/N	Stock:	Catch limit (t):
Fleet Information			
	Number of longline vessels covered by this plan:		
	How many of the longline vessels covered by the plan are/are not on the WCPFC Record of Fishing Vessels: Are _____ Are Not: _____		
	Location of fishing grounds (attach map):		

	Annual raised effort of the fleet (in hooks):														
	Describe the licensing arrangements applicable to the fleet and note whether effort is controlled (if so, in what way)														
Catches															
	Shark	Retained Catch (Past 5 yrs, t)					Discarded Catch (Past 5 yrs, t)					Total (Past 5 yrs, t)			
	Blue														
	Makos														
	Silky														
	Oceanic Whitetip														
	Threshers														
	Porbeagle														
	Hammerhead														
	Other														
	Describe the mechanism for limiting the catch of sharks, by species if applicable (e.g. regulation, license, no-retention, etc), and the arrangements for monitoring, verification and enforcement:														
	Describe the catch limits set above for each species and provide the rationale for the limit with reference to the latest available stock assessments and reference points:														
	If there are any shark species allowed to be retained but not subject to catch limits, please identify them and provide a rationale:														
Mitigation															
	Describe the implementation arrangements for no-retention and safe release of oceanic whitetip (CMM 2011-04) and silky (CMM 2013-08) sharks, including safe release guidelines:														
	This fleet uses: Shark Lines: Y/N Wire Leaders: Y/N (fleet or vessel choice?)														
	Describe implementation arrangements for the WCPFC full utilization policy (CMM 2010-07). Specifically, if fins are allowed to be removed from carcasses at sea, describe what arrangements are in place to demonstrate that finning is not occurring														
	List any other shark mitigation measures, e.g. size limits, closed areas or seasons, gear restrictions														
Management															
	List the dates over which the plan applies:														
	Describe how and when the plan is reviewed and reported against, including any linkages with monitoring, control and surveillance (MCS) systems:														
	Describe how and when the plan is revised/renewed:														

