**6.2.2 Review of conservation and management measures for sharks**

**SC12 recommends that the Commission notes the conclusions of EB-WP-06 as follows:**

1. The possibility offered in CMM 2014-05 to choose which fishing technique is excluded (either wire trace or shark-lines) has the potential to substantially lessen the reductions of fishing mortality to silky shark and oceanic whitetip shark; and

2. By choosing to exclude the technique least used by their fishing vessels, the median predicted reductions in fishing-related mortality are 6% for silky shark and 10% for oceanic whitetip shark. This compares to reductions of 24% and 37% respectively if choice was removed and both techniques excluded.

Furthermore, SC noted:

1. Survival rate post release is a crucial factor to evaluate the fishing mortality on shark species.
2. 4. CMM 2014-05 entered into force in July 2015 and the fleet gear characteristics data used in this analysis are prior to the adoption of this CMM and covering only a short timeframe.
3. 5. Work on the estimation of reliable post release survival rates of sharks and in particular those covered by CMM 2014-05 is prioritised under the SC Work Plan.

**SC12 recommends that the Commission notes the conclusions of EB-WP-03 as follows:**

1. Redistribution of effort from FADs to free schools resulted in substantial reductions in estimated catches of silky shark (by 83%) and oceanic whitetip shark (by 57%) compared to the ‘status quo’. There was large uncertainty in total catch estimates due to low confidence in assumed estimates of non-zero shark catches.

**6.4 Sea turtles**

**SC12 recommends that the Commission notes:**

1. 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.
2. The recommendations for future work and look forward to receiving the results from the second workshop to be held in November 2016.

**6.6 Data exchange**

**SC12 noted that the BDEP is currently designed for the purpose of dissemination of bycatch data.**

***[MOVE TO DISCUSSION…The following recommendations were made in EB-WP-12:***

1. *The BDEP trial should continue*
2. *Publish BDEP as public domain information on the WCPFC web site… BDEP tables and issues addressed in SC Data gaps paper*
3. *Resolve issues for estimating mortality rates for purse seine*
4. *Provide a table of observer effort by 5°x5°*
5. *Request vessel identities in observer data where missing (seek advice from the respective CCMs)*
6. *Report seabirds to the species level, where possible*
7. *Expand the BDEP protocol to marine mammals to the species level, where possible*
8. *Review and update length-length and length-weight relationships for BDEP for SSIs*
9. *Undertake a trial regional BDEP compilation for purse seine at the scale of the Pacific Ocean, in co-operation with the IATTC and CCSBT Secretariats (subject to resourcing)* ***]***

**SC12 considered the following three options for future work:**

A. Basic, no-cost (*reprioritise other DM tasks*)

Continue trial in 2017-18 (1), publish on web (2)

B. Enhance, low cost

As for A., plus, resolve purse seine form links (3), provide table of observer effort (4), resolve vessel identifiers (5), report seabirds to the species level (6), include marine mammals (7)

C. Focus, moderate cost

As for B., plus, review and update L:L and L:W relationships for SSIs (Species of Special Interest) (8), and undertake regional trial (9)

**SC12 recommends that the Commission notes:**

1. That SC12 recommends the choice of Option A (Basic, no cost)
	* + 1. **SEAPODYM**

**SC12 recommends that WCPFC 13 endorses the results of the review of SEAPODYM (EB-IP- 14) as follows:**

1. SEAPODYM has the potential to be a useful complementary model to Multifan-CL for MSE work that includes spatial management. Similarly, the capacity of SEAPODYM to include alternate oceanographic states (e.g. ENSO phases and climate change projections) would allow climate proofing (reducing risks and capitalizing on opportunities presented by climate change) to be a consideration in the MSE work undertaken by WCPFC.

* 1. **Seabirds**

**Regarding the results of research on seabird distributions, SC12 recommends that the Commission:**

1. Note that the northern limit of the spatial distribution of seabird density data presented extends to areas north of 300S.
2. 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 25oS.
3. Note that use of effective bycatch mitigation measures across the full range of at-risk seabirds should enhance conservation of those seabirds.
4. Note the above information from SC12 and other relevant information when discussing seabird mitigation measures and request that the TCC consider reviewing the 300S boundary of the seabird CMM further north.
	* 1. **Review of conservation and management measures for sharks**

With regard to **CMM 2010-07 (CMM for Sharks)**, 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 recommends that TCC12 and WCPFC13:**

**Note that SC12 was able to review the ratio of fin weight to shark carcass weight from one study (SC12-EB-IP-10). 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 takes note of SC12-EB-IP-02 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.**

**ISG-11 –Guidelines for Development and evaluation of shark management plans**

The Secretariat was tasked by WCPFC12 (WCPFC12 Summary Report, Attachment J) to:

* Propose a range of possible definitions for "fisheries that target sharks in association with WCPFC fisheries" (with reference to CMM 2014-05, para. 2);
* Propose a list of candidate elements to be considered for the development of management plans for these fisheries (with reference to CMM 2014-05, para.2); and
* Provide a list of elements to be considered for the evaluation of these management plans (with reference to CMM 2014-05, para.3).

As required by WCPFC12 (WCPFC12 Summary Report, Attachment J), SC12 reviewed the Secretariat’s recommendations contained in WCPFC-2016-SC12/EB-WP-05 and provided the following comments.

SC12 considers 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 WCPFC-2016-SC12/EB-WP-05 as a starting point for further consideration, if required.

SC12 recommends that the Commission adopt the attached contents list for the development of any new shark management plans (Attachment A).

SC recommends 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.

Attachment A. 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

**ISG - 5 – Designation of key shark species**

ISG 5 assessed the relevance of designating Manta rays, Mobulas rays and pelagic stingrays as WCPFC key shark species for data provision and/or assessment. The assessment was based on the review of SC12-EB-WP-08 "Review of available information on non-key sharks species including mobulids and fisheries interactions". It followed the process for the designation of new key shark species developed at SC8. ISG 5 endorsed the conclusions of SC12-EB-WP-08 for the species considered in terms of:

\* presence in CA

\* impact by WCPFC fisheries

\* ecological concerns

\* data availability

However, the ISG members were not able to agree on the designation of any of this species as key shark species for data provision and/or assessment. This was mainly due to concerns expressed by some CCMs 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 recommends that the process for the designation of key sharks species should to be clarified by the WCPFC secretariat and TCC.

SC12 recommends 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.

SC12 recommends that purse seine observer training programmes add emphasis to Mobula spp. identification as part of their curricula.

SC12 recommends that WCPFC13 takes note of SC-EB-WP-08 and SC12-EB-IP-09 and considers adopting guidelines for safe release of Manta and Mobula rays caught incidentally in WCPFC fisheries.

**ISG – 6 – Review of SRP and future work plan**

Required from James Larcombe