



## TECHNICAL AND COMPLIANCE COMMITTEE

### Fourth Regular Session

2– 7 October 2007

Pohnpei, Federated States of Micronesia

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### SC4 OUTCOMES RELATING TO THE TCC

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WCPFC-TCC4-2008/19 (Rev.1)

15 September 2008

#### Paper prepared by the Secretariat

#### **Introduction**

1. The Fourth Regular Session of the Scientific Committee (SC4) met at Port Moresby, Papua New Guinea from 11 to 22 August 2008. Several recommendations in the draft SC4 Summary Report refer to possible action by the WCPFC Technical and Compliance Committee (TCC) in general, or the Fourth Regular Session of the TCC (TCC4) in particular.

#### **Seabird By-catch Mitigation**

2. The SC4 noted that as of 18 August 2008, 26 of 34 CCMs had submitted a Part 1 report. Sixteen of those 26 reports indicated that observers had been deployed by the CCM in 2007. Seven of the 26 reports included estimates of seabird catches required by CMM-2007-04. It was noted that for some CCMs the data in their Part 1 reports is provisional.

3. The SC4 recommended that the Secretariat seek advice from other RFMOs on the wording of CMM-2007-04, Attachment O, Annex 1, 1 a) (iv) and 1 b) (iv) to ensure that tori lines include branch streamers along the aerial extent of the line and that in 1 a) (iv) the branch streamers are of a length that ensures that they would touch the surface of the water in the absence of wind and swell. Paragraph 213 of the draft SC4 Summary Report notes that this matter will be further discussed by TCC4, but the TCC will need to ensure that it has access to advice from an appropriate range of experts.

4. In response to SC4's recommendation that the Secretariat seek advice from other RFMOs in respect to branch streamers, the advice received by the Secretariat is that the CCAMLR Conservation Measure 25-02(2007) "Minimisation of the incidental mortality of seabirds in the course of longline fishing or longline fishing research in the Convention Area" provides best practice advice. This CCAMLR Measure is appended at **Attachment A**.

5. The SC4:

- a. recommended that seabird identification guides be made available to observers and vessel masters; and
- b. emphasized the recommendation made at SC2 that the objective of the Regional Observer Programme should initially be to attain a minimum coverage of 5 per cent of fishing

effort across all strata; and the distribution of observer effort is to be representative of species of interest, fishing areas, seasons and fishing fleets.

6. Item 5.6 of the TCC4 provisional agenda provides for discussion of issues arising from SC4.

### **Sharks**

7. The SC4 noted that because no additional information on the five per cent shark fin-carcass ratio was presented to it, it was not necessary to modify its previous advice on this issue. Based on the Ecological Risk Assessment work presented in WCPFC-SC4-2008/EB-WP-1, there is no apparent difference in the catch rates for sharks by longliners above and below 24m overall length. The SC4 recommended that the shark Measure (CMM-2006-05, paragraph 16) be revised to include vessels under 24m.

8. A review of the vessel-length exclusion in CMM-2006-05 provided by the SPC-OFP at the request of the WCPFC Secretariat is appended at **Attachment B**.

9. The SC4 noted that as of 18 August 2008, 11 of the 26 Part 1 Annual Reports included estimates of shark catches required by CMM-2006-05 and recommended by SC3. It was noted that for some CCMs the data in their Part 1 reports is provisional.

10. Item 5.6 of the TCC4 provisional agenda provides for discussion of issues arising from SC4.

### **Small tuna on floating objects (STFO)**

11. In response to CMM-2005-01, paragraph 15 in relation to purse seine effort on FADs and recommendations arising from SC1, SC2, SC3 and the SA-SWG session of SC4, the SC reviewed research outcomes and information relevant to the reduction of fishing mortality on STFO. Recommendations for further study or industry-associated work endorsed by the SC included, *inter alia*:

- i. A comparative analysis of the proportions of STFO in the western and central Pacific, as the purse seine CPUE of bigeye tuna appears to be higher in the central Pacific, although it is an area with relatively low purse seine effort.
- ii. A detailed characterization of vessels or fleets that have high catch rates of STFO and bigeye tuna in particular.
- iii. Monitoring and reporting to SC5 the results of EC acoustic selectivity project and IATTC pilot study on pre-set estimation of floating object aggregations.
- iv. CCMs are encouraged to develop industry-associated projects to address STFO reduction, emphasizing means to avoid encircling STFO.
- v. CCMs are encouraged to continue work on fine-scale characterization of tuna behaviour on floating objects, particularly on horizontal movements of tuna species.
- vi. The convening of a workshop or working group consisting of scientists, observer programme representatives, vessel owners and fishing captains to develop collaborative projects to seek ways to avoid STFO and bigeye tuna in particular on floating object sets.
- vii. The operational research plan for 2008-2009 and medium term work plan of the FT-SWG as adopted under Agenda Item 3.1.

## **Sea turtles**

12. The SC4 noted that:
  - a. as of 18 August 2008, seven of the 26 Part 1 Annual Reports included estimates of sea turtle catches recommended by Resolution-2005-04.
  - b. FFA members have developed an Action Plan to reduce the impact of fishing on sea turtles as a responsible step under the flexible approach embodied in Resolution-2005-04.
13. Information regarding sea turtle bycatch mitigation is provided in WCPFC-TCC4-2008/19 (Supp.).
14. Item 4.5 of the TCC4 provisional agenda provides for discussion of this issue.

## **WCPFC Bycatch Mitigation Database System**

15. The SC4 noted that the development of the WCPFC Bycatch Mitigation Database System had progressed during the past year and test data have been added to the system. Access to, and dissemination of, these data will be governed by the Commission's data security policies.
16. Item 5.6 of the TCC4 provisional agenda provides for discussion of issues arising from SC4.

## **Regional Observer Programme (ROP)**

17. The SC4 thanked the Second Inter-sessional Working Group for the Regional Observer Programme (IWG-ROP2) that met at Nadi, Fiji from 7-10 July 2008 for its work in progressing the draft minimum data fields required for the ROP. No changes were proposed to the data elements documented in WCPFC-SC4-2008/ST-IP-5.
18. Item 3.1 of the TCC4 provisional agenda provides for discussion of this issue.

## **Scientific needs for VMS data**

19. SC4 offered provisional advice regarding the kinds of VMS data that are needed for scientific purposes (vessel identification, location, date and time), and their purposes, including:
  - a. Estimating fine-scale distribution of fishing effort for use in oceanographic research;
  - b. Planning short-term tagging operations;
  - c. Estimating or validating the recapture positions of tag returns;
  - d. Modeling the spatial dynamics of fishing effort for use in the operational models associated with any future MSE work;
  - e. Estimating abundance indices using effective effort from fine-scale vessel specific data; and
  - f. Validating logbook data.
20. Paragraph 275 of the draft SC4 Summary Report notes that with regard to the timescale at which data are needed, the SC considered that, as an interim arrangement, the standard (for time scale) used in ICCAT should be adopted by WCPFC.
21. Items 2.2 and 3.2 (ii) of the TCC4 provisional agenda provide for discussion of this issue.

## **Requests from the Commission on purse seine fishing effort**

22. On the issue of purse seine fishing effort on the high seas and for the zones of CCMs which are not Parties to the Nauru Agreement (PNA) the SC4:

- i) Noted the data contained in SC4-ST-WP-4 represent the best assessment of purse seine fishing effort on the high seas and in the zones of non-PNA members available at this time;
- ii) Recommended the working paper (SC4-ST-WP-4) should be forwarded to TCC4 and the Commission; and
- iii) Recommended any CCM who believes that they have additional data that should be included in this paper, should provide their proposed changes (along with supporting documentation) to the Secretariat by 15 September 2008.

23. Item 4.7 of the TCC4 provisional agenda provides for discussion of this issue. The relevant TCC4 paper to inform discussion on this issue is WCPFC-TCC4-2008/13.

### **Conclusion**

24. TCC4 is invited to:
- i. note the outcomes of the SC4 meeting relating to the TCC; and
  - ii. address each of these issues under the appropriate item in the TCC provisional agenda.

<b>CONSERVATION MEASURE 25-02 (2007)<sup>1,2</sup></b> <b>Minimisation of the incidental mortality of seabirds in the course of longline fishing or longline fishing research in the Convention Area</b>	Species	Seabirds
	Area	All
	Season	All

1. Fishing operations shall be conducted in such a way that hooklines<sup>3</sup> sink beyond the reach of seabirds as soon as possible after they are put in the water.
2. Vessels using autoline systems should add weights to the hookline or use integrated weight (IW) hooklines while deploying longlines. IW longlines of a minimum of 50 g/m or attachment to non-IW longlines of 5 kg weights at 50 to 60 m intervals are recommended.
3. Vessels using the Spanish method of longline fishing should release weights before line tension occurs; traditional weights<sup>4</sup> of at least 8.5 kg mass shall be used, spaced at intervals of no more than 40 m, or traditional weights of at least 6 kg mass shall be used, spaced at intervals of no more than 20 m, or solid steel weights<sup>5</sup> of at least 5 kg mass shall be used, spaced at intervals of no more than 40 m.
4. Longlines shall be set at night only (i.e. during the hours of darkness between the times of nautical twilight<sup>6</sup>)<sup>7</sup>. During longline fishing at night, only the minimum ship's lights necessary for safety shall be used.
5. The dumping of offal is prohibited while longlines are being set. The dumping of offal during the haul shall be avoided. Any such discharge shall take place only on the opposite side of the vessel to that where longlines are hauled. For vessels or fisheries where there is not a requirement to retain offal on board the vessel, a system shall be implemented to remove fish hooks from offal and fish heads prior to discharge.
6. Vessels which are so configured that they lack on-board processing facilities or adequate capacity to retain offal on board, or the ability to discharge offal on the opposite side of the vessel to that where longlines are hauled, shall not be authorised to fish in the Convention Area.
7. A streamer line shall be deployed during longline setting to deter birds from approaching the hookline. Specifications of the streamer line and its method of deployment are given in the appendix to this conservation measure.
8. A device designed to discourage birds from accessing baits during the haul of longlines shall be employed in those areas defined by CCAMLR as average-to-high or high (Level of Risk 4 or 5) in terms of risk of seabird by-catch. These areas are currently Statistical Subareas 48.3, 58.6 and 58.7 and Statistical Divisions 58.5.1 and 58.5.2.

<sup>1</sup> Except for waters adjacent to the Kerguelen and Crozet Islands

<sup>2</sup> Except for waters adjacent to the Prince Edward Islands

<sup>3</sup> Hookline is defined as the groundline or mainline to which the baited hooks are attached by snoods.

<sup>4</sup> Traditional weights are those made from rocks or concrete

<sup>5</sup> Solid steel weights shall not be made from chain links. They should be made in a hydrodynamic shape designed to sink rapidly

<sup>6</sup> The exact times of nautical twilight are set forth in the Nautical Almanac tables for the relevant latitude, local time and date. A copy of the algorithm for calculating these times is available from the CCAMLR Secretariat. All times, whether for ship operations or observer reporting, shall be referenced to GMT.

<sup>7</sup> Wherever possible, setting of lines should be completed at least three hours before sunrise (to reduce loss of bait to/catches of white-chinned petrels).

9. Every effort should be made to ensure that birds captured alive during longlining are released alive and that wherever possible hooks are removed without jeopardising the life of the bird concerned.

10. Other variations in the design of mitigation measures may be tested on vessels carrying two observers, at least one appointed in accordance with the CCAMLR Scheme of International Scientific Observation, providing that all other elements of this conservation measure are complied with<sup>8</sup>. Full proposals for any such testing must be notified to the Working Group on Fish Stock Assessment (WG-FSA) in advance of the fishing season in which the trials are proposed to be conducted.

#### **APPENDIX TO CONSERVATION MEASURE 25-02**

1. The aerial extent of the streamer line, which is the part of the line supporting the streamers, is the effective seabird deterrent component of a streamer line. Vessels are encouraged to optimise the aerial extent and ensure that it protects the hookline as far astern of the vessel as possible, even in crosswinds.

2. The streamer line shall be attached to the vessel such that it is suspended from a point a minimum of 7 m above the water at the stern on the windward side of the point where the hookline enters the water.

3. The streamer line shall be a minimum of 150 m in length and include an object towed at the seaward end to create tension to maximise aerial coverage. The object towed should be maintained directly behind the attachment point to the vessel such that in crosswinds the aerial extent of the streamer line is over the hookline.

4. Branched streamers, each comprising two strands of a minimum of 3 mm diameter brightly coloured plastic tubing<sup>9</sup> or cord, shall be attached no more than 5 m apart commencing 5 m from the point of attachment of the streamer line to the vessel and thereafter along the aerial extent of the line. Streamer length shall range between minimums of 6.5 m from the stern to 1 m for the seaward end. When a streamer line is fully deployed, the branched streamers should reach the sea surface in the absence of wind and swell. Swivels or a similar device should be placed in the streamer line in such a way as to prevent streamers being twisted around the streamer line. Each branched streamer may also have a swivel or other device at its attachment point to the streamer line to prevent fouling of individual streamers.

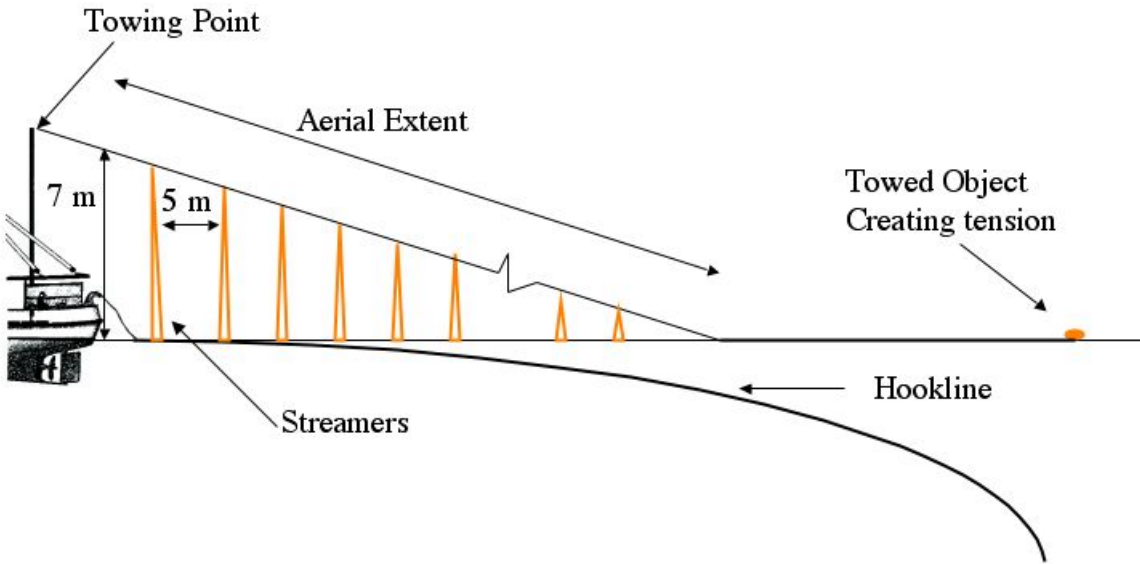
5. Vessels are encouraged to deploy a second streamer line such that streamer lines are towed from the point of attachment each side of the hookline. The leeward streamer line should be of similar specifications (in order to avoid entanglement the leeward streamer line may need to be shorter) and deployed from the leeward side of the hookline.

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<sup>8</sup> The mitigation measures under test should be constructed and operated taking full account of the principles set out in WG-FSA-03/22 (the published version of which is available from the CCAMLR Secretariat and website); testing should be carried out independently of actual commercial fishing and in a manner consistent with the spirit of Conservation Measure 21-02.

<sup>9</sup> Plastic tubing should be of a type that is manufactured to be protected from ultraviolet radiation.

# Streamer Line



**Review of the vessel-length exclusion in CMM 2006-05 [Sharks]**

The Executive Summary of SC4 includes the following recommendation:

48. The SC noted that, based on the ERA work presented in WCPFC-SC4-2008/EB-WP-1, there is no apparent difference in the catch rates for sharks by longliners above and below 24 m overall length. The SC recognized that there appears to be no scientific basis to justify the current exemption for small vessels. The SC recommended that the shark measure be revised to include vessels under 24 m.

This recommendation is based on an evaluation of the vessel length exclusion under CMM-2006-05 on sharks. Presently this CMM applies only to vessels >24 m in length overall. However, no scientific basis for this exemption was presented to WCPFC at the time the CMM was agreed and the extent to which the CMM would be effective in reducing incidental catch of sharks was therefore unknown at that time.

Based on the largest possible subset of regional observer data where both vessel length and shark catch rates were available (i.e. a total of 11,000 sets, from 501 longline vessels of 14 different flag States), it is apparent (see Table 1. below) that nominal catch rates for sharks do not differ for longer vs. smaller vessels.

Note that this analysis is only for longline vessels targeting tuna; vessels <24 m in length overall that are targeting sharks have higher catch rates than those shown here.

An analysis of purse seine vessels was not carried out, except to note that only one purse seiner on the FFA Regional Register is exempt from the CMM due to its length, but at 23.8 m it is unlikely to have lower catch rates for sharks than vessels >24 m.

A previous study presented to WCPFC4 has estimated that of the 3500 longliners in the WCPO that are >14 m in length overall, only 500 (14%) are >24 m in length. The fact that 86 per cent of longline vessels are excluded from the Sharks CMM on the basis of vessel length, and the fact that these vessels catch the same number of sharks per set as do longer vessels, means that the CMM is unlikely to be effective in reducing incidental fishing mortality on sharks. It is on this basis that SC made its recommendation that the shark measure be revised to include vessels under 24 m.

Statistical analyses of the vessel length issue will be carried out before WCPFC5. There are also likely to be other aspects of CMM-2006-05 that compromise its effectiveness in reducing incidental mortality of sharks but these aspects have not been considered here or otherwise reviewed by SC. TCC may therefore suggest additional scientific analyses to be carried out to further evaluate the measure.



Table 1. Nominal catch rates (CPUE: individuals per set) for key shark species and total sharks, considering vessel length in tropical and sub-tropical areas. Note that the numbers of distinct flags, vessels and sets given below, are not the total for all vessels fishing in the two areas, but are the subset of data that were available for analysis, i.e. where both vessel length and catch rate information are available. This therefore excludes the vessels of certain flags that are known to fish in these areas but for which either vessel length or observer data were not available.

	Area	20°N–20°S		South of 20°S	
	Vessel length category	≤24 m	>24 m	≤24 m	>24 m
	Number of distinct flags	8	13	4	5
	Number of vessels	133	220	9	139
	Number of sets	2,260	4,549	89	4,102
<b>BLUE SHARK</b>	Number	5,036	7,424	829	50,977
	CPUE	<b>2.2</b>	<b>1.6</b>	<b>9.3</b>	<b>12.4</b>
<b>OCEANIC WHITE-TIP</b>	Number	789	2,001	50	435
	CPUE	<b>0.3</b>	<b>0.4</b>	<b>0.6</b>	<b>0.1</b>
<b>SILKY SHARK</b>	Number	2,314	3,903	4	124
	CPUE	<b>1.0</b>	<b>0.9</b>	<b>0.0</b>	<b>0.0</b>
<b>MAKO SHARKS</b>	Number	548	1,078	82	2,199
	CPUE	<b>0.2</b>	<b>0.2</b>	<b>0.9</b>	<b>0.5</b>
<b>THRESHER SHARKS</b>	Number	831	2,533	16	469
	CPUE	<b>0.4</b>	<b>0.6</b>	<b>0.2</b>	<b>0.1</b>
<b>OTHER SHARKS</b>	Number	2,639	3,640	123	7,199
	CPUE	<b>1.2</b>	<b>0.8</b>	<b>1.4</b>	<b>1.8</b>
<b>TOTAL SHARKS</b>	Number	12,157	20,579	1,104	61,403
	CPUE	<b>5.4</b>	<b>4.5</b>	<b>12.4</b>	<b>15.0</b>