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**Clarification of WCPFC Shark Designations and Observer Data Collection Requirements in  
Response to WCPFC13 Decisions regarding Manta and Mobulid (Devil) Rays**

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## Abstract

Manta and mobulid (devil) rays were designated as key shark species for assessment by WCPFC13 in December 2016. At the same time, WCPFC13 called for changes in observer data collection for these species and asked SC13 to implement these changes. With a view to both clarifying the situation with regard to the specific tasks for SC13 regarding manta and mobulid (devil) rays, and more broadly for potential future decision-making on other species, this paper explores the definitions and implications of various WCPFC shark designations such as “key shark species”, “species of special interest” and “designated shark species”. It also considers various options for SC13 to reconcile the new observer data collection requirements for manta and mobulid (devil) rays with the existing framework, and recommends a simple and straightforward approach.

## 1 Introduction

The Western and Central Pacific Fisheries Commission (WCPFC) has explicit responsibility for assessing and managing not only tuna species, but also dependent and associated species under Articles 5(d) and 10.1(c) of its Convention. The WCPFC has established several mechanisms through which it collects data and conducts assessments to ensure that populations of dependent and associated species can be maintained or restored. In this regard, one of the issues raised at WCPFC13 in December 2016 pertained to the designation of manta and mobulid (devil) rays as WCPFC key shark species<sup>4</sup>. Before a decision could be taken, WCPFC members, participating territories and cooperating non-members (CCMs) sought clarification on the details of the agreed process (WCPFC 2012), specifically with regard to “designation for data provision” versus “designation for assessment” (WCPFC SC12 Summary Report (paras. 767-768) and WCPFC TCC 2016). Subsequent to clarification and further discussion, a decision was taken at WCPFC13 as follows (WCPFC13 Summary Report, para. 550):

1. *CCMs shall record where possible, through observer programs, the number of discards and releases of Manta and Mobula rays with indication of species (to the best extent possible), length, sex, status (dead or alive) and location caught;*
2. *Manta and Mobula rays shall be considered WCPFC key shark species for assessment and thus listed under the Shark Research Plan, noting that data gaps may preclude a traditional stock assessment approach;*
3. *SC13 shall review, as appropriate, a revision of the ROP minimum standard data fields and develop safe release guidelines for Manta and Mobula rays, with a view to their adoption by WCPFC14.*

This paper explores the definitions and implications of various WCPFC shark designations with a view to both clarifying the situation with regard to the specific tasks for SC13 concerning manta and mobulid (devil) rays, and more broadly for potential future decision-making on other species.

## 2 WCPFC Shark Designations

There are currently four different terms used by the WCPFC to designate the status of shark species. These terms are briefly summarized below.

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<sup>4</sup> collectively referred to as “sharks” in this paper

## 2.1 Key Shark Species for Data Provision

An official process for designating **Key Shark Species for Data Provision** was adopted at WCPFC8 (March 2012, see WCPFC (2012)) and is elaborated in WCPFC (2016a). The primary implications of designating a species as a **Key Shark Species for Data Provision** is that the species is included in “*Scientific Data to be Provided to the Commission*” (WCPFC 2016b), in terms of estimates of annual catches, as well as catch and effort data based on logsheets. It is assumed that all WCPFC key shark species designated prior to agreement of the process (i.e. prior to WCPFC8) were designated as **Key Shark Species for Data Provision** and thus the following species are included in “*Scientific Data to be Provided to the Commission*”:

- Blue shark (*Prionace glauca*) – designated at WCPFC5 in 2008;
- Mako sharks (*Isurus* spp.) – designated at WCPFC5 in 2008;
- Oceanic whitetip shark (*Carcharhinus longimanus*) – designated at WCPFC5 in 2008;
- Thresher sharks (*Alopias* spp.) – designated at WCPFC5 in 2008;
- Silky shark (*C. falciformis*) – designated at WCPFC6 in 2009;
- Porbeagle shark (*Lamna nasus*) – designated at WCPFC7 in 2010<sup>5</sup>; and
- Hammerhead sharks (*Eusphyra blochii*, *Sphryna lewini*, *S. mokarran* and *S. zygaena*) - designated at WCPFC7 in 2010.

Subsequent to agreement of the process at WCPFC8, the whale shark (*Rhincodon typus*) was designated as a key shark species at WCPFC9 in 2012 and has also been included in “*Scientific Data to be Provided to the Commission*” (WCPFC 2016b).

## 2.2 Key Shark Species for Assessment

The same process governs the designation of **Key Shark Species for Assessment** (WCPFC 2012). Prior to 2016 all species had been designated as key sharks for both data provision and assessment, thus the 14 species listed above are also designated as **Key Shark Species for Assessment**. The question of designating a **Key Shark Species for Assessment** (only) first arose in connection with the manta and mobulid (devil) ray key species designation proposal at SC12 and TCC12 in 2016. After clarifying that **Key Shark Species for Assessment** (only) was possible under the agreed process, at WCPFC13 in December 2016 manta and mobulid (devil) rays were added to the list of **Key Shark Species for Assessment**. According to observer records compiled by SPC (Tremblay-Boyer & Brouwer 2016) the manta and mobulid (devil) rays observed since 1994 in WCPFC fisheries consist of six species including giant manta (*Manta birostris*), longhorned mobula (*Mobula eregoodootenkee*), spinetail mobula (*M. japonica*), shortfin devilray (*M. kuhlii*), Chilean devilray (*M. tarapacana*) and smoothtail mobula (*M. thurstoni*). With the addition of these six species, the list of **Key Shark Species for Assessment** totals 20. All species on the list are to be included in the WCPFC Shark Research Plan and subject to “detailed” assessment. If traditional stock assessments are precluded by data gaps, “detailed” assessment may still proceed on the basis of quantitative risk assessments, ecological risk assessments, indicators assessment or other data-poor analytical techniques (WCPFC 2016a).

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<sup>5</sup> Designated as such only in areas south of 20°S until biological data shows this or another geographic limit to be appropriate.

### 2.3 Species of Special Interest (SSI)

The 2016 version of the SPC/FFA longline observer workbook (SPC (2017a), posted on 18 April 2017) lists codes for four shark **Species of Special Interest** (whale shark (RHN), oceanic whitetip shark (OCS), silky shark (FAL) and giant manta (RMB)) as well general codes for both “all sharks” (SHK) and “mobula species” (RMV)<sup>6</sup>. The 2016 SPC/FFA purse seine observer workbook (SPC (2017b) also posted on 18 April 2017) shows the same list of species.

Observers are required to record a greater amount of information for Species of Special Interest on the nature of these species’ interactions with the vessel on the GEN-2 form for vessel interactions (species, date, time, location, condition (initial and final), length (size) and description of interaction) and in some cases on catch forms (PS-3, PS-4 and LL-4). The workbooks do not make clear how or why a species becomes a **Species of Special Interest** but other references in the workbooks to “protected sharks” suggest that species for which retention is prohibited are considered **Species of Special Interest**. This does not, however, explain why manta and mobulid (devil) rays would appear on the list since there is currently no WCPFC prohibition on retaining these species.

Although the term **Species of Special Interest** appears to arise from the SPC/FFA Observer Programme and not from the WCPFC ROP per se, it is worth noting that the term **Species of Special Interest** appears in the Annual Reports for the [WCPFC] Regional Observer Programme (e.g. WCPFC-TCC12-2016-RP02\_rev2, para. 39) which tabulate interactions for the silky, oceanic whitetip and whale sharks. It is also used in the WCPFC’s ROP Minimum Standards Data Fields (MSDF, WCPFC 2016c) where it is defined as “Marine Reptiles, Marine Mammals, Sea Birds, and Designated Shark Species”.

### 2.4 Designated Shark Species (DSS)

The WCPFC’s ROP MSDF represents a list of data types that must be collected by all national or regional observer programmes wishing to be considered part of the WCPFC ROP. This document contains a section entitled “**Species of Special Interest**” and, as explained above, defines these as “marine reptiles, marine mammals, seabirds and designated shark species”. **Designated Shark Species** are not further defined. It can be inferred from the text in the longline section that silky and oceanic whitetips are **Designated Shark Species**, but whale sharks and manta/mobulid (devil) rays are not mentioned. Since the WCPFC ROP MSDF grew out of the SPC/FFA observer programme, similarities between the data collection requirements for **Species of Special Interest/Designated Shark Species** in the former and **Species of Special Interest** in the latter are expected but differences are also apparent (Table 1). Focusing on these requirements (i.e. the last four rows of Table 1), we see that for longline fisheries, landed (caught) species which are **Designated Shark Species** (row 8 vs row 10) have an additional data collection requirement to describe the nature of the interaction (column G), whereas for purse seine fisheries (row 8 vs row 9), species which are considered **Designated Shark Species** have additional information collected on the nature of the interaction (column G) as well as sex (column C) and initial and final condition (columns D & E).

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<sup>6</sup> Care should be taken to avoid confusing the common names of *Manta birostris* (oceanic manta or giant oceanic manta) and *Mobula mobular* (giant devilray). The observer workbooks could be erroneously read as suggesting that the giant oceanic manta (*Manta birostris*) is in the genus *Mobula* spp. Both mantas (genus *Manta*) and devil rays (genus *Mobula*) are in the family Mobulidae (see [goo.gl/3gBeaV](http://goo.gl/3gBeaV) for details).

**Table 1.** Summary of the observer data collection requirements under the SPC/FFA observer programme and the WCPFC Regional Observer Programme’s Minimum Data Standards and Fields (WCPFC ROP MSDF). PS=purse seine. LL=longline. N/A=not applicable. SSI= Species of Special Interest. DSS=Designated Shark Species. Lighter green shading indicates that the requirement is fulfilled through cross-referencing to other fields or forms.

		Fishery	Designation	Nature of Interaction	Species, Location, Date, Time (A)	Length (B)	Sex (C)	Initial Condition (D)	Final Condition (E)	Fate (F)	Description of Interaction (G)	Reference
	SPC/FFA Observer Programme											SPC (2017a,b)
1		PS, LL	SSI	Vessel Interaction						N/A		PS-GEN-2 LL-GEN-2 (Vessel Interactions)
2		PS, LL	SSI	Sightings						N/A	N/A	PS-GEN-2 LL-GEN-2 (Sightings)
3		PS	SSI	Caught		If possible						PS-3 PS-4
4		PS	Non-SSI	Caught		If possible						PS-3 PS-4
5		LL	SSI	Caught							(general comment field only)	LL-4
6		LL	Non-SSI	Caught							(general comment field only)	LL-4
	WCPFC ROP MSDF											WCPFC (2016c)
7		PS, LL	SSI/DSS	Vessel Interaction						N/A		pp. 9-10
8		PS, LL	SSI/DSS	Landed on deck								pp. 9-10
9		PS	Non SSI/Non DSS	Caught		If possible						pp.7-8
10		LL	Non SSI/Non DSS	Caught								pp. 6-7

### **3 Analysis of WCPFC Shark Designations and their Data Collection Implications**

This section returns to the WCPFC13 decision regarding manta and mobulid (devil) rays, and explores the issues facing SC13 based on the preceding explanation of the WCPFC shark designations and their data collection requirements. First, it is clear that the decision in the WCPFC13 Summary Report para. 550 (2) designates manta and mobulid (devil) rays as key species for assessment only, and para. 550 (1) and (3) seek to determine the data reporting requirements for observers. (If WCPFC13 had intended to require reporting on logsheets it would have designated mantas and mobula (devil) rays as key species for data provision and assessment). The task for SC13 is reconcile the WCPFC ROP MSDF with the requirements of para. 550 (1), if necessary.

Second, WCPFC13 Summary Report para. 550(1) requires CCMs' observer programmes to collect data on fate, species, length, sex, condition and location for manta and mobulid (devil) rays. As shown in Table 1, under the WCPFC ROP MSDF fate (column F), species (column A), length (column B) and location (column A) are collected for all landed/caught animals, so applying these requirements to manta and mobulid (devil) rays would not represent a change. Regarding sex (column C) and condition (initial and final, columns D&E ) these fields are currently only required to be recorded for landed/caught species in longline fisheries (row 10), unless the species is a SSI/DSS in which case it must be recorded in both purse seine and longline fisheries (row 8). Therefore, some reconciliation appears to be necessary.

Therefore, SC13 faces a choice in how to reconcile WCPFC13 Summary Report para. 550 (1) with the WCPFC ROP MSDF. As a first option SC13 could address this issue by clarifying the definition of a SSI (and removing confusing references to DSSs) and then assigning that designation to manta and mobulid (devil) rays. If manta and mobulid (devil) rays are considered to be SSIs then under the WCPFC ROP MSDF all of the data types called for in WCPFC13 Summary Report para. 550 (1) are already required.

As a second option, if manta and mobulid (devil) rays are not considered SSIs then in order to conform to the decision in WCPFC13 Summary Report para. 550 (1), the WCPFC ROP MSDF need to be revised to add a requirement for observers to collect sex and condition data for manta and mobulid rays per se in purse seine fisheries (the other requirements of WCPFC13 Summary Report para. 550 (1) already apply). A disadvantage of this option is that it begins to create new categories of species which are not SSIs but have special, idiosyncratic data collection requirements of their own. Maintaining just two categories of sharks (SSIs and non SSIs), each with standardized observer data requirements, would appear to be a more straightforward option for keeping track of WCPFC shark data collection requirements.

### **4 Recommendation**

This paper has argued that designating manta and mobulid (devil) rays as SSI under the WCPFC ROP MSDF would be the simplest way of reconciling WCPFC13 Summary Report, paras. 550 (1) and (3). It would also maintain a clear distinction and separate sets of requirements between SSI and non-SSI sharks for future use.

SC13 is invited to consider the following recommendations arising from the analysis in this paper to meet the requirements of WCPFC13 Summary Report para. 550 (3):

- Clarify that under the WCPFC ROP MSDF that for sharks the terms SSI and DSS are equivalent and the term DSS should be avoided in future;
- Adopt a definition of SSI, e.g. “species of special interest are those species for which the Commission has requested additional data collection under the ROP, either because they are protected under one or more WCPFC conservation and management measures, or for other reasons articulated by the Commission”; and
- Specify which shark species are SSI and why; in particular silky, oceanic whitetip and whale shark on the basis of no-retention conservation and management measures (CMMs 2011-04, 2012-04 and 2013-08), and manta and mobulid (devil) rays on the basis of a Commission decision requiring a greater degree of observer data collection.

## 5 References

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