



**MEMORANDUM OF UNDERSTANDING
ON THE CONSERVATION OF
MIGRATORY SHARKS**

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Agenda Item 5

**OPTIONS FOR COOPERATION BETWEEN THE SHARKS MOU AND
RELEVANT REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS**

(Prepared by the Secretariat)

1. Signatories to the CMS Sharks MOU consider cooperation between the fisheries and conservation sectors to be important. To avoid duplication and to increase synergies between the two sectors, the Sharks MOU was therefore mandated to work with and through Regional Fisheries Management Organizations (RFMOs) and other relevant organizations, that interact with elasmobranchs, in order to achieve its objectives and to further the implementation of the Conservation Plan in Annex 3 to the MOU. Specific mandates include:

- a. In its preamble, the Sharks MOU states, “that RFMOs should be involved in the [...] implementation of this MOU by virtue of their mandate to bring fishing nations together to promote conservation and management of fish stocks [...]”. It is further noted, “that it will be necessary to work with and through these organizations to achieve the objectives of this MOU and to avoid duplication or inconsistency of efforts”.
- b. As one of its fundamental principles, the Sharks MOU acknowledges “the role as well as the scientific and political actions of [...] RFMOs [...], which are responsible for the management of migratory shark fisheries, and the need to strengthen and improve their role in taking measures to improve or restore a favourable conservation status of sharks listed in Annex 1 of the Memorandum of Understanding”.
- c. The Conservation Plan in Annex 3 of the Sharks MOU contains under its Objective 2 several activities that are strongly related to the fisheries sector and that require the full cooperation between the MOU Signatories and relevant RFMOs. Those activities encompass research and data collection, data exchange, and bycatch mitigation amongst other fisheries-related matters.

2. The Advisory Committee (AC) is generally mandated to provide expert advice to the Signatories and the Secretariat and to make recommendations on the implementation of the MOU. The Conservation Working Group (CWG), which was established at MOS2 to support the AC with the completion of its tasks, is specifically requested “to review the work of [...] Regional

Fisheries Bodies (RFBs) and other relevant organizations that are involved with Annex 1 listed species, identifying research, management and information gaps that may be addressed by the Sharks MOU”.

3. In order to assist the AC and the CWG to complete their tasks as specified in their respective Terms of Reference, the Secretariat has prepared a review on overlaps and gaps between the objectives of relevant RFMOs and the CMS Sharks MOU, which is contained in **Annex 1** to this document. The Secretariat has made suggestions for possible fields of cooperation between RFMOs and the Sharks MOU and related activities that may be included in a strategy to cooperate with RFMOs (RFMO Engagement Strategy) for the Sharks MOU.

4. In **Annex 2**, the Secretariat has outlined a possible set of procedures to interact with RFMOs, which the AC is requested to review and to provide guidance upon.

5. The recommendations from this meeting will be included in a draft RFMO Engagement Strategy which will be submitted for the consideration by the Signatories at MOS3.

Action requested:

The Advisory Committee is requested to:

- a) take note of the review in Annex 1 and to make amendments as required.
- b) review the suggestions for activities by the Sharks MOU Signatories in their engagement with RFMOs made by the Secretariat in Annex 1, and provide guidance on activities that should be included in an “RFMO Engagement Strategy” for the Sharks MOU;
- c) provide guidance on the draft elements for an RFMO engagement procedure as suggested in Annex 2.

Annex 1: Review of Overlaps and Gaps between the objectives and activities of relevant Regional Fisheries Management Organizations and the CMS Sharks MOU

(as at 30 September 2017)

Introduction

A review was undertaken by the Secretariat for key Regional Fisheries Management Organizations (RFMOs) that are interacting with species included in Annex 1 of the CMS Sharks MOU. Based on the overall mandates of the organizations and their existing regulations and activities concerning elasmobranchs, overlaps and gaps between each of the examined RFMOs and the CMS Sharks MOU were identified.

1. International Convention on the Conservation of Atlantic Tuna (ICCAT)

1.1. Mandate

The International Commission for the Conservation of Atlantic Tunas is responsible for the conservation of tuna and tuna-like species in the Atlantic Ocean and adjacent seas. The preambular text describes the overall objective of the Convention as the desire to “[maintain] the populations of these fishes at levels which will permit the maximum sustainable catch for food and other purposes”.

As per Article VIII 1. (a) the Commission may, on the basis of scientific evidence, make recommendations designed to maintain the populations of tuna and tuna-like fishes that may be taken in the Convention area at levels which will permit the maximum sustainable catch.

1.2. Regulations and activities concerning elasmobranchs

ICCAT has regulated shark fisheries for Blue Sharks (*Prionace glauca*), Shortfin Mako Sharks (*Isurus oxyrinchus*), and Porbeagles (*Lamna nasus*), and has set specific regulations for prohibited species of sharks.

1.2.1. Resolutions and recommendations

Catch measures are established for the three species of shark targeted by fisheries managed by ICCAT. Firstly, each Contracting Party and Cooperating Non-Contracting Party (CPCs) must fully implement an NPOA-Sharks in accordance with the FAO IPOA-Sharks (Res 03-10¹). Appropriate measures should also be undertaken by CPCs to reduce fishing mortality in fisheries targeting North Atlantic Shortfin Mako Sharks until sustainable levels of harvest can be determined through peer reviewed stock assessments by SCRS or other organizations (Rec 07-06²). Fisheries targeting Porbeagles were advised to undertake precautionary measures for this stock, and that mortality of Porbeagles should not exceed the level recommended in 2015 (Rec 15-06³). Fishermen are required to fully utilize the entire catch (all parts except the head, guts and skin) at point of first landing, and require a 5 per cent fin-to-body weight ratio for finned sharks onboard vessels (Rec

¹ICCAT Resolution 03-10 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2003-10-e.pdf>

²ICCAT Recommendation 07-06 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2007-06-e.pdf>

³ICCAT Recommendation 15-06 https://www.ccsbt.org/sites/default/files/userfiles/file/other_rfmo_measures/iccat/ICCAT_2015-06-e.pdf

04-10⁴). It is prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention with the 5 per cent fin-to-body weight ratio.

Prohibited measures are also in place for some shark species, where vessels are prohibited from undertaking a directed fishery for species of thresher sharks (*Alopias* spp.; Rec 09-07⁵), and prohibited from retaining onboard, transhipping, landing, storing, selling or offering for sale any part or whole carcass of Bigeye Thresher Sharks (*Alopias superciliosus*) in any fishery (except of a Mexican small scale coastal fishery; Rec 09-07⁵), oceanic Whitetip Sharks (*Carcharhinus longimanus*; Rec 10-07⁶), hammerhead sharks of the family *Sphyrnidae* (except for *Sphyrna tiburo*; Rec 10-08⁷), and Silky Sharks (*Carcharhinus falciformis*; Rec 11-08⁸).

Bycatch measures exist to minimize mortality of non-target shark species. Vessels are required to release, to the extent practicable, unharmed Bigeye Thresher Sharks (Rec 09-07⁵), hammerhead sharks (Rec 10-08⁷), Silky Sharks (Rec 11-08⁸), and Porbeagles (Rec 15-06⁹). Furthermore, CPCs should encourage the live release of sharks, especially juveniles, that are caught incidentally and that are not used for food or subsistence (Rec 04-10⁴).

1.2.2. Reporting requirements

Annual reporting of data for catches of sharks, including estimates of dead discards and size frequencies, together with available historical data (Rec 04-10⁴, 07-06² & 11-10¹⁰). Specifically, discards and releases must be recorded with status (dead or alive) for Bigeye Thresher Sharks (Rec 09-07⁵), Oceanic Whitetip Sharks (Rec 10-07⁶), hammerhead sharks (Rec 10-08⁷), Silky Sharks (Rec 11-08⁸), Blue Sharks (Rec 16-12¹¹), and Porbeagles (Rec 15-06⁹). CPCs must also annually report on steps taken to mitigate bycatch and reduce discards, and on any relevant research undertaken in this field (Rec 11-10¹⁰).

1.2.3. Research programmes and data collection

Stock assessments are undertaken on target species to ensure the conservation of stocks.

A stock assessment was conducted for the Blue Shark, and a recommendation advised catch limits and scheduled a stock assessment for 2021 for which new measures would be considered for the sustainable use of this species (Rec 16-12).

A stock assessment was conducted on the Shortfin Mako Shark in 2012, and the Standing Committee recommended that the fishing mortality should not be increased (Rec 14-06¹²). However, a more recent stock assessment on the Shortfin Mako Shark was undertaken in 2017 at the time of writing this document.

⁴ICCAT Recommendation 04-10 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2004-10-e.pdf>

⁵ICCAT Recommendation 09-07 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2009-07-e.pdf>

⁶ICCAT Recommendation 10-07 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2010-07-e.pdf>

⁷ICCAT Recommendation 10-08 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2010-08-e.pdf>

⁸ICCAT Recommendation 11-08 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2011-08-e.pdf>

⁹ICCAT Recommendation 15-06 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2015-06-e.pdf>

¹⁰ICCAT Recommendation 11-10 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2011-10-e.pdf>

¹¹ICCAT Recommendation 16-12 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2016-12-e.pdf>

¹²ICCAT Recommendation 14-06 <https://www.iccat.int/Documents/Recs/compendiopdf-e/2014-06-e.pdf>

A Porbeagle stock assessment was conducted in 2009, and another is scheduled for 2019 (Rec 15-06).

CPCs are recommended to implement research on pelagic shark species to identify potential nursery areas, to consider time and area closures and other measures (Rec 07-06), and specifically for thresher sharks (Rec 09-07) and hammerhead sharks (10-08). Research on Shortfin Mako Sharks (Rec 14-06) and Blue Sharks (Rec 16-12) should also be undertaken to provide information on key biological and ecological parameters, life-history and behavioural traits, and identifying potential mating, pupping and nursery grounds. Lastly, CPCs should undertake research to identify ways to make fishing gear more selective (Rec 04-10).

1.3. Overlaps with the objectives of the Sharks MOU

1.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 3)*

ICCAT conducts stock assessments on all its target species, with two species listed in the MOU Annex 1, the Porbeagle and the Shortfin Mako Shark. They have also developed research programmes to collect data at a species-specific level on catch rates, the amount of incidental and directed taking and the amount of waste and discards (for Bigeye Thresher Sharks, hammerhead sharks, Porbeagles and Silky Sharks). CPCs also undertake research on the fishing gear used in shark fisheries and how to make it more selective.

1.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

The taking of all CMS Appendix I listed species is prohibited, and the NPOA-Sharks is established and implemented (6.1). ICCAT shark fisheries adopt the best practice guidance for the conservation and management of shark populations, and follow a precautionary approach per recommendations by the Standing Committee, which is updated to ensure sustainable catches. Furthermore, ICCAT has a Regional Observer Programme, through which shark fisheries and shark bycatch are monitored. The global moratorium on all large-scale pelagic driftnets is fully implemented, in accordance with the UN General Assembly Resolution 46/215.

1.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

To the extent practicable, vessels are required to release sharks unharmed and live release is encouraged.

1.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

Research is undertaken to identify shark nursery areas, and based on this information, CPCs consider time and area closures, and other measures if necessary. The mortality of juvenile sharks is also avoided by encouraging the live release of incidentally-caught juveniles.

1.4. Gaps between the objectives and activities of ICCAT and the CMS Sharks MOU

1.4.1. *Prohibited species and bycatch:*

Currently, ICCAT does not list any approved recommendations regarding the bycatch and safe release of Mobulid Rays (*Manta* spp. & *Mobula* spp.), Whale Sharks (*Rhincodon typus*), Basking Sharks (*Cetorhinus maximus*), White Sharks (*Carcharodon carcharias*), or Spiny Dogfish (*Squalus acanthias*), which are all listed as Annex 1 of the CMS Sharks MOU and apart from the Spiny Dogfish, are also included in CMS Appendix I of CMS. Furthermore, no guidelines exist on the use of Fish Aggregating Devices (FADs). Finally, ICCAT regulations recommend the live release of juveniles, yet do not recommend the release of fecund females, as stated in activity 9.5 of the Sharks MOU Conservation Plan.

1.4.2. *Finning regulations:*

The fin-to-body weight ratio limit of 5 per cent does not align with activity 7.3 of the Conservation Plan of the Shark MOU, which recommends enacting regulations requiring sharks to be stored on board and landed with each fin naturally attached.

1.4.3. *Research and data collection:*

Lastly, gaps exist within the research and data collection section of the Conservation Plan. ICCAT does not require the size and sex of individuals to be reported at a species-specific level (Activity 3.2), and although conducts research on nursery grounds and develops appropriate closures, no research is currently undertaken to identify aggregation areas for mating (activity 9.3).

1.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with ICCAT

Signatories of the Sharks MOU may:

- encourage ICCAT to amend its Recommendation on shark finning such that sharks are required to be landed with fins naturally attached;
- encourage ICCAT to adopt a precautionary management approach for the Porbeagle, Blue Shark and Shortfin Mako Sharks;
- encourage ICCAT to develop a recommendation on the use of FADs, which would include recommendations for the entanglement of whale sharks;
- encourage ICCAT to improve data and knowledge of species-specific population, the size and sex of the individual should also be reported, as well as other information, such as pregnancy and age;
- encourage ICCAT to expand data collection on shark releases, by recording clear detail of shark status at release (e.g. level of injury, pregnancy, sex, size), to be able to estimate post-release mortality, especially if combined with a tagging programme.

2. **Western and Central Pacific Fisheries Commission (WCPFC)**

2.1. Mandate

The Western and Central Pacific Fisheries Commission (WCPFC) was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The objective of this Convention is to “ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention and the Agreement”.

As per Article 5, the Commission will “ensure that such measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield”.

2.2. Elasmobranch regulations and activities

WCPFC has regulated shark longline fisheries for Blue Sharks (*Prionace glauca*), mako sharks (*Isurus* spp.), Oceanic Whitetip Sharks (*Carcharhinus longimanus*) and Silky Sharks (*Carcharhinus falciformis*). Other catches of shark species, which are grouped together in reports, include Porbeagles (*Lamna nasus*), thresher sharks (*Alopias* spp.), and hammerhead sharks (*Sphyrna* spp.).

2.2.1. Resolutions and recommendations

Members, Cooperating Non-Members and Participating Territories (CCMs) of WCPFC must fully implement an NPOA-Sharks in accordance with the FAO IPOA-Sharks (CMM 2010-07¹³). The National Plans of Action should include measures to minimize waste and discards from shark catches and encourage the live release of incidental catches of sharks from non-directed fisheries. Additionally, fishermen are required to fully utilize the entire catches (all parts except the head, guts and skin) at point of first landing, and require a 5 per cent fin-to-body weight ratio for finned sharks on board vessels. It is prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention with the 5 per cent fin-to-body weight ratio. CCMs may alternatively require that their vessels land sharks with fins attached to the carcass or that fins not be landed without the corresponding carcass. In longline fisheries targeting sharks, CCMs must develop a management plan for that fishery, including fishing licenses and a TAC to limit the catches to an acceptable level. The plans should demonstrate how the fisheries aim to avoid and reduce catch and maximize live release of highly depleted species, such as Silky and Oceanic Whitetip Sharks caught accidentally (CMM 2014-05¹⁴). Specific measures are undertaken by CCMs to reduce mortality of Oceanic Whitetip (CMM 2011-04¹⁵) and Silky Sharks (CMM 2013-08¹⁶), due to their declining populations. For both species, vessels are prohibited from retaining onboard, transhipping, landing or storing any part or whole carcass of the shark. Vessels are required to release Whitetip and Silky Sharks as soon as possible, and to do so with as little harm as possible to the shark.

As an effort to reduce shark catches in longline fisheries for tuna and billfish, CCMs must ensure that their vessels either do not use wire branch lines and leaders, or do not use shark lines (CMM 2014-05). Furthermore, guidelines for purse seine fisheries exist for the safe release of encircled sharks and rays¹⁷, as well as a prohibition of setting a purse seine on a Whale Shark if it is sighted prior to the set, and calls for safe release of the whale shark if it is inadvertently encircled in the net (CMM 2012-04¹⁸).

2.2.2. Reporting requirements

Annual reporting of data for catches of key shark species (Blue Shark, Silky Shark,

¹³WCPFC CMM 2010-07 <https://www.wcpfc.int/doc/cmm-2010-07/conservation-and-management-measure-sharks-0>

¹⁴WCPFC CMM 2014-05 <https://www.wcpfc.int/doc/cmm-2014-05/conservation-and-management-measures-sharks>

¹⁵WCPFC CMM 2011-04 <https://www.wcpfc.int/doc/cmm-2011-04/conservation-and-management-measure-oceanic-whitetip-sharks>

¹⁶WCPFC CMM 2013-08 <https://www.wcpfc.int/doc/cmm-2013-08/conservation-and-management-measure-silky-sharks>

¹⁷Poisson et al., 2012. Good practices to reduce the mortality of sharks and rays caught incidentally by the tropical tuna purse seiners. <https://www.wcpfc.int/node/3282>

¹⁸WCPFC CMM 2012-04 <https://www.wcpfc.int/doc/supplcmm-2012-04/guidelines-safe-release-encircled-animals-including-whale-sharks>

Oceanic Whitetip Shark, mako sharks, and thresher sharks, Porbeagle shark and hammerhead sharks (Winghead, Scalloped, Great, and Smooth)), including annual retained and discarded catches (CMM 2010-07). CCMs are also required to estimate, through data collected from observer programs, the number of releases of Silky Sharks (CMM 2013-08) and Oceanic Whitetip Sharks (CMM 2011-04), including the status upon release (dead or alive), and report this annually.

At the Commission's 13th Regular Session in 2016, the Commission adopted regulations proposed by the European Union regarding Manta and Mobula rays¹⁹. CCMs are required to record the number of discards and releases of Manta and Mobula rays with indication of species, length, sex, status (dead or alive) and location caught. Manta and Mobula rays are now listed as WCPFC key shark species for assessment.

2.2.3. Research programmes and data collection

Stock assessments were undertaken on target species to ensure the conservation of stocks. Recent stock assessments were conducted on Silky Sharks (2013²⁰), Oceanic Whitetip Sharks (2012²¹) and on North Pacific Blue Sharks (2014²²).

CCMs and the Scientific Committee work on bycatch mitigation measures and live release guidelines to avoid the initial catch of these species wherever possible, and maximize the number of incidentally caught individuals that can be released alive (CMM 2013-08). CCMs shall also support research and development of strategies for the avoidance of unwanted shark captures (e.g. chemical, magnetic and rare earth metal shark deterrents) (CMM 2010-07). The Commission is also encouraged to supply species identification guides for their fleets of Small Island Developing States and Territories, and to develop guidelines and training for the safe release of sharks (CMM 2011-04; WCPFC-SC9²³).

2.3. Overlaps with Sharks MOU

2.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 1&3)*

WCPFC conducts stock assessments on all its target species, with one species listed in the MOU annex I, the Silky Shark. They have developed research programmes to collect data at a species-specific level on catch rates, the amount of incidental and directed taking and the amount of waste and discards (for Silky Sharks). WCPFC undertakes research on the fishing gear used in shark fisheries and how to make it more selective for unwanted shark captures. WCPFC has compiled relevant data to improve knowledge on Whale Sharks. As Whale Sharks became designated as a key shark species, an analysis of the spatial and temporal distribution of Whale Sharks in the WCPO was undertaken (1.3).

¹⁹ (1) WCPFC13 Outcome Document <https://www.wcpfc.int/system/files/WCPFC%20Circular%202016-73%20WCPFC13%20Outcomes%20document.%2021%20December%202016.pdf>

(2) Proposal for CMMs by the European Union https://www.wcpfc.int/system/files/WCPFC13-2016-DP06_rev2%20EU%20proposal%20for%20a%20CMM%20for%20Mobula%20and%20Manta%20Rays.pdf

²⁰WCPFC Silky shark stock assessment <https://www.wcpfc.int/system/files/Rice%20FAL%20Assessment%202013.pdf>

²¹WCPFC Oceanic whitetip shark stock assessment <https://www.wcpfc.int/system/files/Rice%20OWT%20Assessment%202012.pdf>

²²WCPFC North Pacific blue shark stock assessment https://www.wcpfc.int/system/files/SC10-SA-WP-08%20NP%20BSH%20assessment%20SSynthesis_0.pdf

²³Scientific Committee 9th Regular Session – Progress report on the Shark Research Plan <https://www.wcpfc.int/system/files/EB-WP-06-shark-research-plan.pdf>

2.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

The taking of the all species listed on CMS Appendix I of CMS is prohibited, and the NPOA-Sharks is established and implemented (6.1). Shark fisheries adopt the best practice guidance for the conservation and management of shark populations, and follow a precautionary approach per recommendations by the Standing Committee, which is updated to ensure sustainable catches. Currently, vessels are prohibited from landing silky sharks. Furthermore, WCPFC has a Regional Observers Programme, through which shark fisheries and shark bycatch are monitored. The global moratorium on all large-scale pelagic driftnets is fully implemented, in accordance with the UN General Assembly Resolution 46/215.

2.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

To the extent practicable, vessels are required to release sharks unharmed and live release is encouraged. Furthermore, WCPFC promotes capacity-building with Small Island Developing States and Territories for the safe handling and release of sharks.

2.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

CCMs may require that their vessels land sharks with fins attached to the carcass or that fins not be landed without the corresponding carcass, rather than using the 5 per cent fin-to-body weight ratio (CMM 2010-07).

2.4. Gaps

2.4.1. *Prohibited species and bycatch:*

WCPFC does not have any recommendation of the live release of juveniles or fecund females, as state in activity 9.5 of the Conservation Plan. Additionally, no guidelines currently exist for the safe release of Manta and Mobula rays, only for an improved reporting on the sex and size of individual caught and status (dead or alive).

2.4.2. *Finning regulations:*

CCMs may require that their vessels land sharks with fins attached to the carcass or that fins not be landed without the corresponding carcass, but this is not required.

2.4.3. *Research and data collection:*

Many gaps exist within the research and data collection section of the Sharks MOU Conservation Plan. WCPFC does not currently report on the size and sex of catches for key shark species (apart from Manta and Mobula rays), nor conducts research on mating, pupping, and nursery grounds to develop appropriate closures, and on key biological and ecological parameters of sharks. Furthermore, no research is done to make fishing gear more selective, rather limiting the type of gear allowed. Lastly, no stock analysis for other WCPFC key shark species are done due to species added to the list after research priorities set for the WCPFC Shark Research Plan 2010, and due to lack of reported catches for hammerhead sharks, and low number of reliable observer-recorded catches for Porbeagles. Thus, best practice to follow a precautionary approach to ensure shark catches within sustainable limits is lacking for some targeted species of sharks.

2.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with WCPFC

Signatories of the Sharks MOU may:

- encourage the WCPFC to adopt a new Conservation and Management Measures (CMM) for sharks caught in association with fisheries managed by WCPFC, with updated recommendations that would close the gaps between WCPFC and the Shark MOU;
- encourage WCPC to develop CMM for the safe release of Manta and Mobula rays accidentally caught;
- encourage WCPC to promote the live release of juveniles and pregnant females that are caught incidentally and are not used for food and/or subsistence;
- encourage WCPC to update its Recommendation on shark finning such that sharks are required to be landed with fins naturally attached;
- encourage WCPC to improve data and knowledge of species-specific population, the size and sex of the individual should also be reported, as well as other information, such as pregnancy and age;
- encourage WCPFC to expand data collection on shark releases, recording clear detail of shark status at release (e.g. level of injury, pregnancy, sex, size), to be able to estimate post-release mortality, especially if combined with a tagging programme.
- encourage WCPFC to collect data on shark mating, pupping and nursery areas in the Convention Area;
- encourage WCPFC to improved research on gear mitigation and size limits;
- encourage WCPFC to improved management plans and catch limits based on stock assessments, and following a precautionary approach which may lead to no retention policies for some species of sharks.

3. Indian Ocean Tuna Commission (IOTC)

3.1. Mandate

The IOTC is responsible for the management of tuna and tuna-like resources and their associated environment in the Indian Ocean. The objective of the IOTC is to “promote cooperation among the Contracting Parties (Members) and Cooperating Non-Contracting Parties of the IOTC with a view to ensuring, through appropriate management, the conservation and optimum utilisation of stocks covered by the organisation’s establishing Agreement and encouraging sustainable development of fisheries based on such stocks.”

3.2. Elasmobranch regulations and activities

Although IOTC does not have targeted shark fisheries as parts of its mandate, they are frequently caught in association with fisheries, and some fleets may also target both shark and IOTC species simultaneously. So, Contracting Parties and Cooperating non-Contracting Parties (CPCs) must report information at the same level as the targeted species. The key shark species are the Blue Shark (*Prionace glauca*), Oceanic Whitetip Shark (*Carcharhinus longimanus*), Scalloped Hammerhead Shark (*Sphyrna lewini*), Shortfin Mako Shark (*Isurus oxyrinchus*), Silky Shark (*Carcharhinus falciformis*), Bigeye Thresher Shark (*Alopias superciliosus*) and the Pelagic Thresher Shark (*Alopias pelagicus*).

3.2.1. Resolutions and recommendations

Each CPC is recommended to fully implement an NPOA-Sharks in accordance with the FAO IPOA-Sharks (IOTC WPEB12 Report²⁴). A precautionary approach to the management of Blue Sharks and Oceanic Whitetip Sharks should be considered (Summary of Stock Status 2016²⁵). CPCs are encouraged to comply with their recording and reporting requirement on sharks (main shark species outlined in Res 15/01²⁶ and 15/02²⁷), and the stocks of all shark species need to be closely monitored and a precautionary approach considered.

Following the 21st Session of IOTC in May 2017, a new resolution on the Conservation of Sharks was adopted (Res 17/05²⁸). Firstly, fishermen are required to fully utilise the entire catches (all parts except the head, guts and skin) at point of first landing. Furthermore, IOTC is the first tuna RFMO to prohibit the removal of shark fins on sharks landed fresh, and prohibits the landing, retention on-board, transshipment and carrying of shark fins which are not naturally attached to the fresh shark carcass until the first point of landing. The fins may be partially sliced through and folded against the carcass to facilitate on-board storage. For sharks landed frozen, CPCs require their vessels to have a 5 per cent fin-to-body weight ratio for finned sharks onboard vessels, and ensure compliance through certification or observers. It is prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention with the 5 per cent fin-to-body weight ratio.

Certain prohibitions are in place for oceanic whitetip sharks (Res 13/06²⁹) and thresher sharks of all species of the family Alopiidae (Res 12/09³⁰). CPCs are prohibited from retaining on board, transshipping, landing, storing, selling or offering for sale any part or whole carcass, except as part of a research project approved by the IOTC Scientific Committee (SC)/Working Parties on Ecosystem and Bycatch (WPEB). Artisanal fisheries operating within their EEZs can fish oceanic whitetip sharks for the purposes of local consumption.

Bycatch measures exist to minimise mortality of non-target shark species. Vessels are required to release, to the extent practicable, unharmed Oceanic Whitetip Sharks (Res 13/06) and thresher sharks (Res 12/09). Furthermore, CPCs should encourage the live release of sharks, especially juveniles and pregnant sharks, that are caught incidentally and that are not used for food or subsistence (Res 17/05). Fishers are required to be aware of and use identification guides and handling practices. Observers on purse seine and longline fishing boats also have guidelines for the safe release of sharks and mobulid rays caught accidentally. Guidelines for purse seine fisheries exist for the safe release of encircled whale sharks (Res 13/05³¹), as well as a prohibition of setting a purse seine on a whale shark if it is sighted prior to the set. CPCs must follow the best practice guidelines

²⁴IOTC Report of the 12th Session of the IOTC Working Party on Ecosystems and Bycatch <http://www.iotc.org/documents/report-12th-session-iotc-working-party-ecosystems-and-bycatch>

²⁵Status summary for species of tuna and tuna-like species under the IOTC mandate, as well as other species impacted by IOTC fisheries. <http://www.iotc.org/science>

²⁶IOTC Resolution 15/01 <http://www.iotc.org/cmm/resolution-1501-recording-catch-and-effort-data-fishing-vessels-iotc-area-competence>

²⁷IOTC Resolution 15/02 <http://www.iotc.org/cmm/resolution-1502-mandatory-statistical-reporting-requirements-iotc-contracting-parties-and>

²⁸IOTC Resolution 17/05 http://www.iotc.org/sites/default/files/documents/2017/06/Circular_2017-061_-_CMMs_adopted_in_2017E.pdf

²⁹IOTC Resolution 13/06 <http://www.iotc.org/cmm/resolution-1306-scientific-and-management-framework-conservation-sharks-species-caught>

³⁰IOTC Resolution 12/09 <http://www.iotc.org/cmm/resolution-1209-conservation-thresher-sharks-family-alopiidae-caught-association-fisheries-iotc>

³¹IOTC Resolution 13/05 <http://www.iotc.org/cmm/resolution-1305-conservation-whale-sharks-rhincodon-typus>

for the safe release and handling of Whale Sharks developed by the IOTC SC³². Lastly, the use of non-entangling Fish Aggregating Devices (FADs) is being gradually applied from 2014 (Res 17/08³³).

3.2.2. Reporting requirements

Annual reporting of data for catches of sharks is required, including available historical data and estimates and life status of discards (dead or alive), as well as size frequencies (Res 17/05). Incidental catches and live releases must be recorded for Oceanic Whitetip Sharks (Res 13/06) and thresher sharks (Res 12/09). Incidents with Whale Sharks with purse seine nets must also be reported, and all other gear types shall report incidents to the relevant authority of the flag State (Res 13/05). IOTC has established a regional observer scheme to collect verified catch data and other scientific data (Res 11/04³⁴).

3.2.3. Research programmes and data collection

CPCs are recommended to implement research on Oceanic Whitetip Sharks (Res 13/06) and thresher sharks (Res 12/09) taken in the IOTC area to identify potential nursery areas; other measures shall be considered by CPCs based on this information. CPCs should undertake research to identify ways to make fishing gears more selective, including on the effectiveness of prohibiting wire leaders, as well as research on key biological and ecological parameters, life-history and behavioural traits, and migration patterns of key shark species. Furthermore, CPCs should identify shark mating, pupping and nursery areas of all species. Lastly, research should be undertaken to improve handling practices for live sharks to maximise post release survival (Res 17/05). The WPEB develops a workplan with a ranked list of priorities for projects to be developed over a 5-year timeframe. This workplan is updated annually by the WPEB and then revised and endorsed by the SC³⁵.

3.3. Overlaps with Sharks MOU

3.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 1&3)*

A full quantitative stock assessments with provision of biological reference points has been completed for blue sharks in 2015, but the stock status was still considered uncertain. A new stock assessment for Blue Shark with updated and revised data (e.g., catches) is taking place in 2017. For the other species listed in the MOU Annex 1 – Scalloped Hammerhead Shark, Shortfin Mako Shark, Silky Shark, Bigeye Thresher Shark, and the Pelagic Thresher Shark, as well as for other pelagic sharks that interact with IOTC fisheries, Ecological Risk Assessments have been carried out. IOTC has also developed research programmes to collect data at a species-specific level on catch rates for all key shark species, and the amount of incidental catches and live releases for Oceanic Whitetip and thresher sharks. IOTC also

³²Best practice guidelines for the safe release and handling of encircled whale sharks <http://www.iotc.org/documents/best-practice-guidelines-safe-release-and-handling-encircled-whale-sharks>

³³IOTC Resolution 17/08 http://www.iotc.org/sites/default/files/documents/2017/06/Circular_2017-061_-_CMMs_adopted_in_2017E.pdf

³⁴IOTC Resolution 11/04 <http://www.iotc.org/cmm/resolution-1104-regional-observer-scheme>

³⁵IOTC Report of the 12th Session of the IOTC Working Party on Ecosystems and Bycatch – Appendix XVIII <http://www.iotc.org/documents/report-12th-session-iotc-working-party-ecosystems-and-bycatch>

undertakes research on the fishing gear used in shark fisheries and how to make it more selective for unwanted shark captures.

3.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

For all species listed on CMS Appendix I of CMS “no-retention” applies under IOTC, and the NPOA-Sharks has been established and is being implemented, or in the process of implementation (activity 6.1). Shark fisheries adopt the best practice guidance for the conservation and management of shark populations, and follow a precautionary approach to ensure sustainable catches. Currently, vessels are prohibited from landing Oceanic Whitetip and thresher sharks. Furthermore, IOTC has a Regional Observer Scheme, through which shark fisheries and shark bycatch are monitored. The global moratorium on all large-scale pelagic driftnets is fully implemented as per Resolution 17/07³⁶, in accordance with the UN General Assembly Resolution 46/215. IOTC and CMS held a capacity-building workshop in 2015 to support the implementation of the Regional Observer Scheme, and taught participants how to identify and release migratory species (in relation to activity 4.2 and 5.3 of the Conservation Plan).

3.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

To the extent practicable, vessels are required to release non-targeted sharks unharmed and live release is encouraged.

3.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

Research is undertaken to identify shark nursery areas. The mortality of juvenile and pregnant sharks is also avoided by encouraging the live release of incidentally-caught individuals.

3.4. Gaps

3.4.1. *Prohibited species and bycatch:*

The NPOA-Sharks is in the process of being implemented by some countries, but not all of them have adopted it or reported back to the Commission³⁷.

Currently, IOTC does not list any approved CMMs regarding the bycatch and safe release of Porbeagles (*Lamna nasus*) or White Sharks (*Carcharodon carcharias*). Guidelines for the safe release of rays are outlined in the Regional Observer Scheme³⁸.

3.4.2. *Finning regulations:*

A fin attached policy in IOTC has been adopted for fresh products since May 2017. For other fleets, the fin-to-body weight ratio limit of 5 per cent is in place. In such cases, CPCs are required to take the necessary measures to ensure compliance with the 5 per cent ratio through certification, monitoring by an observer, or other appropriate measures. These regulations align partially with activity 7.3 of the Conservation Plan of the Shark MOU, which recommends enacting regulations requiring sharks to be stored on board and landed with

³⁶IOTC Resolution 17/07 http://www.iotc.org/sites/default/files/documents/2017/06/Circular_2017-061_-_CMMs_adopted_in_2017E.pdf

³⁷IOTC Status of implementation of the NPOA-Sharks <http://iotc.org/science/table-progress-implementing-npoa-sharks-npoa-seabirds-and-fao-guidelines-reduce-sea-turtle-mortality>

³⁸Regional Observer Scheme for IOTC <http://www.iotc.org/science/regional-observer-scheme-science>

each fin naturally attached.

3.4.3. *Research and data collection:*

The Observer scheme of IOTC requires the reporting of size and weight of catches for the main shark species, as well as for by-catch and discards. Sex determination is program-specific. Recording of interactions with non-target species is both fishery and vessel specific, but is strongly recommended.

IOTC conducts research on nursery grounds and develops appropriate closures, as well as some research to identify aggregation areas for mating (activity 9.3). A wide range of research activities, such as on stock structure, biological and ecological parameters, and bycatch mitigation, are undertaken as part of the Program of Work 2017-2021 (see Appendix XVIII of the 12th IOTC WPEB Report³⁹).

3.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with IOTC

Signatories of the Sharks MOU may:

- encourage IOTC to develop and adopt CMM for the safe release of Manta and Mobula rays accidentally caught⁴⁰.
- encourage IOTC to instruct the IOTC Working Party on Ecologically Related Species (WPEB) work on identifying and monitoring the status of sharks until comprehensive assessments are possible for all relevant shark species. Data should be collected to be able to perform a reliable stock assessment, including on the identification of data gaps and the collection of relevant data;
- encourage IOTC to collect data on shark mating, pupping and nursery areas in the Area of Competence;
- encourage IOTC to continued research on gear mitigation measures;
- encourage IOTC to continued Continuation of data collection to be able to perform comprehensive and reliable stock assessments for the key shark species.⁴¹
- consult the IOTC WPEB to develop suggestions on joint capacity building activities between IOTC and the CMS Sharks MOU.

4. Inter-American-Tropical-Tuna-Commission (IATTC)

4.1. Mandate

The objective of the IATTC is to “ensure the long-term conservation and sustainable use of the fish stocks covered by this Convention, in accordance with the relevant rules of international law”. The Convention Area comprises the area of the Pacific Ocean bounded by the coastline of North, Central, and South America. The members of the Commission shall apply the precautionary approach for the conservation, management and sustainable use of fish stocks

³⁹IOTC Report of the 12th Session of the IOTC Working Party on Ecosystems and Bycatch <http://www.iotc.org/documents/report-12th-session-iotc-working-party-ecosystems-and-bycatch>

⁴⁰ This was proposed at the 21st Session in May 2017, but was not adopted due to lack of advice from the Scientific Committee and lack of consideration of gear types other than purse seine fisheries.

⁴¹ IOTC is planning to undertake an Ecological Risk Assessment (ERA) for all of the key shark species in 2018, including from the purse seine and gillnet fisheries so this may be an area for collaboration (personal communication with the IOTC Secretariat)

covered by this Convention.

4.2. Elasmobranch regulations and activities

IATTC fisheries mainly catch Silky Sharks (*Carcharhinus falciformis*) and hammerhead sharks (*Sphyrna* spp.), and in small quantities Oceanic Whitetip Sharks, thresher sharks and other sharks (unnamed). Due to recent stock assessments, most of these species have been prohibited from being caught by Members and Cooperating Non-Members (CPCs).

4.2.1. *Resolutions and recommendations*

Each CPC must fully implement an NPOA-Sharks in accordance with the FAO IPOA-Sharks (Res C-05-03⁴²). Fishermen are required to fully utilize the entire catches (all parts except the head, guts and skin) at point of first landing, and require a 5 per cent fin-to-body weight ratio for finned sharks onboard vessels (Rec C-05-03). It is prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention with the 5% fin-to-body weight ratio.

Due to the status of the silky shark stock, multi-species fisheries using surface longlines are required limit their catches of silky sharks <100cm total length to 20 per cent of the total number caught during the trip. These vessels are required to have monitoring measures to review and report percentages reached through port inspections and observer data. If the 20 per cent is exceeded, CPCs prohibit the use of steel leaders for three consecutive months each year (Rec C-16-06⁴³). Furthermore, fisheries directed at Silky Sharks must close for a 3-month period each year (Doc 90-04d⁴⁴). Vessels with Silky Shark licences are prohibited from fishing in pupping areas (Res C-16-06), and fishing with steel leaders in those areas is prohibited (Doc 90-04d).

Prohibition measures exist for purse seine fisheries, where vessels are prohibited from retaining onboard, transhipping, landing, storing, selling, or offering for sale any part or whole carcass of Oceanic Whitetip Sharks (Res C-11-10⁴⁵) and mobulid rays (*Manta* and *Mobula* spp.; Res C-15-04⁴⁶), except small-scale and artisanal fisheries using catches exclusively for domestic consumption. Purse seine vessels are also prohibited from retaining onboard, transhipping, landing or storing any part or whole carcass of Silky Sharks (Res C-16-06) and hammerhead sharks (Doc 90-04d).

Bycatch measures exist to minimize mortality of non-target shark species. Vessels are required to release, to the extent practicable, unharmed oceanic whitetip sharks (Res C-11-10), hammerhead sharks (Doc 90-04d), and Mobulid rays (Res C-15-04), and all other sharks and non-target species (Res C-04-05⁴⁷). For Silky Sharks, longline vessels without licenses are required to limit bycatch to a maximum of 20 per cent of the total catch by fishing trip in weight (Res C-16-06). In case Mobulid rays are unintentionally caught, the whole Mobulid ray must be surrendered at the point of landing, and may not be sold but may be donated for domestic human consumption (Res C-15-04). Furthermore, CPCs should encourage the live release of sharks, especially juveniles, that are caught

⁴²IATTC Resolution C-05-03 <https://www.iattc.org/PDFFiles2/Resolutions/C-05-03-Sharks.pdf>

⁴³IATTC Resolution C-16-06 <https://www.iattc.org/PDFFiles2/Resolutions/C-16-06-Conservation-of-sharks.pdf>

⁴⁴IATTC Document IATTC-90-04-d (REV) <http://www.iattc.org/Meetings/Meetings2016/June/pdf-files/IATTC-90-04d-Conservation-recommendations-2016REV.pdf>

⁴⁵IATTC Resolution C-11-10 <https://www.iattc.org/PDFFiles2/Resolutions/C-11-10-Conservation-of-oceanic-whitetip-sharks.pdf>

⁴⁶IATTC Resolution C-15-04 <https://www.iattc.org/PDFFiles2/Resolutions/C-15-04-Conservation-of-Mobulid-Rays.pdf>

⁴⁷IATTC Resolution C-04-05 <https://www.iattc.org/PDFFiles2/Resolutions/C-04-05-REV-2-Bycatch-Jun-2006.pdf>

incidentally and that are not used for food or subsistence (Res C-05-03).

Specific guidelines exist for the safe release of sharks and Mobulid Rays. If the animal is too large to be lifted safely by hand should be brailled out of the net or by other methods (Poisson et al. 2012; Doc 90-04d). The use of gaffs, hooks, or similar instruments for handling sharks and Mobulid rays is prohibited, as well as lifting them by their gill slits or spiracles, or punching holes in the bodies or fins (Doc 90-04d). Additionally, purse-seine vessels are required to install equipment, such as ramps, hatches or doors to facilitate the release of sharks and Mobulid rays without the need to lift them. If they must be landed on deck, they must be returned to the water as soon as possible, either through ramps or escape hatches, or lowered into the water with a sling or net (Doc 90-04d).

The use of “shark lines” in longlines targeting Bigeye or Yellowfin tunas or swordfish is banned (Doc 90-04d). Regarding FADs, the devices are designed and deployed according to certain principles to reduce the entanglement of sharks and other species (Res 16-01⁴⁸). Furthermore, vessels are prohibited from setting a purse-seine net on a school or tuna associated with a live Whale Shark, if the animal is sighted prior to the commencement of the set. If the Whale Shark is not deliberately encircled, the vessel is required to ensure its safe release, and report the incident, including information on the status of the Whale Shark on release (alive or dead, or post-release mortality).

4.2.2. Reporting requirements

Annual reporting of data is done for catches, effort by gear type, landing, and trade of sharks by species (Doc 90-04d, Res C-05-03). Specifically, discards and releases must be recorded with status (dead or alive) for Oceanic Whitetip Sharks (Res C-11-10), hammerhead sharks (Doc 90-04d), and Mobulid rays (Res C-15-04).

4.2.3. Research programmes and data collection

CPCs are recommended to implement research on pelagic shark species to identify potential mating, pupping and nursery areas (Res C-16-04⁴⁹), and specifically stated for silky sharks (Res C-16-06). Research should also be undertaken to improve knowledge of key biological and ecological parameters, life-history and behavioural traits, and migration patterns of key shark species (Res C-16-04), as well as assess habitat preference and the effect of environmental changes on the species (Doc 90-04d).

CPCs should also undertake research to identify ways to make fishing gears more selective, including research on alternative measures to prohibit wire leaders (Res C-16-04). For example, mitigation of bycatch of sharks, especially in longline fisheries, and survival of sharks caught by all gear types should be researched, and studies conducted on the effects on survival of shorter sets and use of circle hooks (Res C-16-06; Doc 90-04d). Additionally, handling practices for live sharks to maximise post-release survival should be improved (Res C-16-06; Res C-16-04), as well as research on survival rates of these released sharks and Mobulid rays (Res C-04-05). A data collection program should be established for Mobulid Rays for all fisheries (Res C-15-04). Measures to reduce bycatch should also be evaluated, such as closures and effort limits (Doc 90-04d).

⁴⁸IATTC Resolution C-16-01 <https://www.iattc.org/PDFFiles2/Resolutions/C-16-01-FADs-Amendment-C-15-03.pdf>

⁴⁹IATTC Resolution C-16-04 <https://www.iattc.org/PDFFiles2/Resolutions/C-16-04-Sharks-Amendment-C-05-03.pdf>

4.3. Overlaps with Sharks MOU

4.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 1&3)*

IATTC conducts stock assessments on Silky Sharks and Common Thresher Sharks (as well as Blue and mako sharks; not listed in Annex 1) to evaluate the impact of bycatch on the stock. They have also developed research programmes to collect data at a species-specific level on catch rates, the amount of incidental and directed taking and the amount of waste and discards for Mobulid rays, Silky Sharks and hammerhead sharks. CPCs also undertake research on the fishing gear used in shark fisheries and how to make it more selective, and on fisheries methods that are more responsible to avoid bycatch. Lastly, IATTC conducts studies on habitat preferences, shark aggregations (mating, pupping and nursery grounds), life history and behavioural traits, and migration patterns (1.3, 1.5).

4.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

The taking of all CMS Appendix I listed species is prohibited, and the NPOA-Sharks is established and implemented (6.1). IATTC shark fisheries adopt the best practice guidance for the conservation and management of shark populations, by recommending closures on some shark fisheries according to gear to ensure shark catches are within sustainable limits. Furthermore, IATTC has a Regional Observers Programme, through which shark fisheries and shark bycatch are monitored. The global moratorium on all large-scale pelagic driftnets is fully implemented, in accordance with the UN General Assembly Resolution 46/215.

4.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

To the extent practicable, vessels are required to release sharks unharmed and live release is encouraged. Guidelines have been developed to reduce mortality of non-utilized catches, and IATTC continuously tries to improve handling practices for live sharks to maximise post-release survival, by training crew in shark handling and release. IATTC bans the use of certain gear to avoid bycatch of sharks, such as shark lines, as well as prohibits the setting of purse-seine nets around Whale Sharks. For silky sharks, bycatch is limited for longline vessels without licenses to 20 per cent of total catch in weight.

4.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

Research is undertaken to identify shark mating, pupping and nursery areas, and based on this information, CPCs consider time and area closures, and other measures if necessary. The mortality of juvenile sharks is also avoided by encouraging the live release of incidentally-caught juveniles. A recent review of bycatch addressed actions to reduce shark bycatch, such as seasonal closures, effort controls, and prohibition of shark landings, size limits, and shark bycatch quotas per vessels. For example, the silky shark fishery is closed for three consecutive months per year.

4.4. Gaps

4.4.1. *Prohibited species and bycatch:*

Currently, IATTC does not list any recommendations regarding the bycatch and safe release of Basking Sharks (*Cetorhinus maximus*) or White Sharks (*Carcharodon carcharias*). Secondly, IATTC regulations recommend the live release of juveniles, yet do not recommend

the release of fecund females, as stated in activity 9.5 of the Conservation Plan.

4.4.2. Finning regulations:

The fin-to-body weight ratio limit of 5 per cent does not align with activity 7.3 of the Conservation Plan of the Shark MOU, which recommends enacting regulations requiring sharks to be stored on board and landed with each fin naturally attached.

4.4.3. Research and data collection:

Lastly, gaps exist within the research and data collection section of the Conservation Plan. IATTC does not require the size and sex of individuals to be reported at a species-specific level (Activity 3.2).

4.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with IATTC

Signatories of the Sharks MOU may:

- encourage the IATTC to update their Recommendation on shark finning such that sharks are required to be landed with fins naturally attached, and further prohibit the landing of any fins (as already proposed in Proposal IATTC-90-C-1 by the European Union at the 90th meeting of IATTC50).
- encourage the IATTC to improve data and knowledge of species-specific population, the size and sex of the individual should also be reported, as well as other information, such as pregnancy and age.
- encourage the IATTC to expanded data collection on shark releases, recording clear detail of shark status at release (e.g. level of injury, pregnancy, sex, size), to be able to estimate post-release mortality, especially if combined with a tagging programme.
- consult the IATTC to develop suggestions on joint capacity building activities between IATTC and the CMS Sharks MOU.

5. Commission for the Conservation of Southern Bluefin Tuna (CCSBT)

5.1. Mandate

The CCSBT is an intergovernmental organization responsible for the management of Southern bluefin tuna throughout its distribution. The CCSBT's objective is to ensure, through appropriate management, the conservation and optimum utilization of Southern Bluefin tuna.

5.2. Elasmobranch regulations and activities

5.2.1. *Resolutions and recommendations*

Each member must fully implement an NPOA-Sharks in accordance with the FAO IPOA-Sharks (ERS Recommendation⁵¹). Furthermore, members must comply with all current binding and recommendatory measures adopted by the IOTC, WCPFC and ICCAT in their convention areas aimed at the protection of sharks from fishing, irrespective of whether the

⁵⁰Proposal IATTC-90-C-1 <https://www.iattc.org/Meetings/Meetings2016/June/Proposals/IATTC-90-C-1-EUR-Conservation-of-sharks.pdf>

⁵¹Recommendation to Mitigate the Impact on Ecologically Related Species of Fishing for Southern Bluefin Tuna (Updated at the Eighteenth Annual Meeting – 10-13 October 2011) https://www.ccsbt.org/userfiles/file/docs_english/operational_resolutions/Recommendation_ERS.pdf

Member or Cooperating Non-Member concerned is a member of the relevant commission or otherwise cooperates with it⁵².

5.2.2. *Reporting requirements*

Members and Cooperating Non-Members are required to collect and report data on ecologically related species⁵³.

5.2.3. *Research programmes and data collection*

A stock assessment has been conducted on the porbeagle by New Zealand, and was updated at the 11th meeting of the Ecologically Related Species Working Group (ERSWG)⁵⁴. An evaluation of the diets of mako sharks, Porbeagles, and Blue Sharks in New Zealand waters was also presented at that meeting.

The ERSWG has created a handbook on sharks caught in SBT Fishing Grounds⁵⁵, providing an identification guide and guidelines on the handling and release of caught and entangled sharks in longlines. The ERSWG recommends leaving the shark in the water, as hauling them can cause stress and reduce survival, to use a line cutter to reduce the trail of line behind the shark, and to minimise the time out of water for the shark.

5.3. Overlaps with Sharks MOU

5.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 1&3)*

All overlaps of the Sharks MOU with the ICCAT, IOTC and WCPFC apply to the CCSBT. Additionally, Members also conducted an analysis of migratory species diet in their waters, in line with activity 1 of the Conservation Plan, as well as perform stock assessments on some bycatch species.

5.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

All overlaps of the Sharks MOU with the ICCAT, IOTC and WCPFC apply to the CCSBT. Additionally, the global moratorium on all large-scale pelagic driftnets is fully implemented, in accordance with the UN General Assembly Resolution 46/215.

5.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

All overlaps of the Sharks MOU with the ICCAT, IOTC and WCPFC apply to the CCSBT.

5.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

All overlaps of the Sharks MOU with the ICCAT, IOTC and WCPFC apply to the CCSBT.

⁵²Recommendation adopted at the 15th annual meeting http://www.gc.noaa.gov/documents/2011/101408-ccsbt_bluefin_tuna.pdf

⁵³Crocodile shark, thresher shark, bigeye thresher shark, pelagic thresher shark, white shark, shortfin mako shark, longfin mako shark, porbeagle, blue shark, tiger shark, Galapagos shark, sandbar shark, dusky shark, oceanic whitetip shark, silky shark, bronze whaler, scalloped hammerhead shark, smooth hammerhead shark, school shark, velvet dogfish, and pelagic stingray

⁵⁴ERSWG 11th Meeting report https://www.ccsbt.org/userfiles/file/docs_english/meetings/meeting_reports/ccsbt_22/report_of_ERSWG11.pdf

⁵⁵ERSWG Handbook on Sharks <https://www.ccsbt.org/en/content/ecologically-related-species>

5.4. Gaps

All gaps between the Sharks MOU and the ICCAT, IOTC and WCPFC apply to the CCSBT.

5.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with CCSBT

Signatories of the Sharks MOU may:

- encourage CCSBT to further develop their Porbeagle stock assessments, and to recommend a joint approach to the assessment;
- encourage CCSBT to improve species-specific reporting to improve the estimates of mortality;
- encourage CCSBT to develop research on bycatch mitigation to mitigate mortality of sharks;
- consult the CCSBT to develop suggestions on joint capacity-building activities between CCSBT and the CMS Sharks MOU.

6. **General Fisheries Commission for the Mediterranean (GFCM)**

6.1. Mandate

The General Fisheries Commission for the Mediterranean (GFCM) provides recommendations for management of living marine resources in the Mediterranean Sea, Black Sea and connecting waters. Its main objective is to “ensure the conservation and the sustainable use, at the biological, social, economic and environmental level, of living marine resources as well as the sustainable development of aquaculture in the Mediterranean and in the Black Sea”.

6.2. Elasmobranch regulations and activities

6.2.1. *Resolutions and recommendations*

Vessels under GFCM comply with ICCAT recommendations regarding catches of target shark species and comply with any bycatch recommendations. Appropriate measures should also be undertaken by CPCs to reduce fishing mortality in fisheries targeting North Atlantic Shortfin Mako Sharks until sustainable levels of harvest can be determined through peer reviewed stock assessments by SCRS or other organizations (ICCAT Rec 07-06²). Fisheries targeting Spiny Dogfish (*Squalus acanthias*) in the Black Sea should develop management measures in line with the precautionary approach, to provide long-term yields consistent with the maximum sustainable yield (Rec 39/2015/4⁵⁶).

Fishermen are required to fully utilize the entire catches (all parts except the head, guts and skin) at point of first landing, and the finning prohibition for CPCs (Rec 36/2012/3⁵⁷) is enforced through a 5 per cent fin-to-body weight ratio for finned sharks onboard vessels, which should be monitored with observers or through certification (Rec 2005/3(E)⁵⁸). It is prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention with the 5 per cent fin-to-body weight ratio (Rec

⁵⁶ GFCM Recommendation 39/2015/4 http://www.fao.org/fileadmin/user_upload/gfcm/docs/GFCM-FinalReport-Commission-39-en.pdf

⁵⁷ GFCM Recommendation 36/2012/3 <http://www.fao.org/3/a-ax385e.pdf>

⁵⁸ GFCM Recommendation 2005/3 (E) ftp://ftp.fao.org/Fi/DOCUMENT/gfcm/web/GFCM_Recommendations2005.pdf

36/2012/3). CPCs should also ensure the prohibition of beheading and skinning of specimens on board and before landing, and that these sharks cannot be marketed at first sale markets at first landing (Rec 36/2012/3).

Prohibited measures are in place for some shark species, where vessels are prohibited from undertaking a directed fishery for species of Bigeye Thresher Sharks (*Alopias* spp.; Rec 34/2010/4(C)⁵⁹), and prohibited from retaining onboard, transshipping, landing, storing, selling or offering for sale any part or whole carcass of Bigeye Thresher Sharks (*Alopias superciliosus*) in any fishery (except of a Mexican small scale coastal fishery; Rec 34/2010/4(C)⁵), as well as hammerhead sharks of the family *Sphyrnidae* (except for *Sphyrna tiburo* and hammerhead sharks caught by developing coastal CPCs; Rec 35/2011/7 (C)⁶⁰), spiny dogfish smaller than 90 centimetres (Rec 39/2015/4), and species listed in Annex II of the SPA/BD Protocol of the Barcelona Convention (Rec 36/2012/3).

Bycatch measures exist to minimize mortality of non-target shark species. Vessels are required to release, to the extent practicable, unharmed Bigeye Thresher Sharks (Rec 34/2010/4(C)⁵), hammerhead sharks (Rec 35/2011/7 (C)), Spiny Dogfish smaller than 90 centimetres (Rec 39/2015/4), as well as all species listed in Annex II of the SPA/BD Protocol of the Barcelona Convention (Rec 36/2012/3). Tope Sharks (*Galeorhinus galeus*) caught with bottom-set gillnets, longlines and in tuna traps shall be promptly released unharmed and alive, to the extent possible (Rec 36/2012/3). Furthermore, CPCs should encourage the live release of sharks caught in association with fisheries managed by ICCAT, especially juveniles, that are caught incidentally and that are not used for food or subsistence (Rec 2005/3(E)). To enhance the protection of coastal sharks, CPCs should ensure a reduction of trawl fishing by prohibiting fishing activities with trawl nets within three nautical miles off the coast, or within the 50-metre isobath (Rec 36/2012/3).

6.2.2. Reporting requirements

Annual reporting of data for catches of sharks, including estimates of dead discards and size frequencies, together with available historical data (ICCAT Rec 04-10⁴, ICCAT Rec 07-06², Rec 2005/3 (E)). Specifically, discards and releases must be recorded with status (dead or alive) for thresher sharks (Rec 34/2010/4), hammerhead sharks (Rec 35/2011/7 (E)), and Shortfin Mako Sharks (Rec 35/2011/7 (B)⁹). Catch data, incidental catches, releases and discarding events for shark species listed in either Annex II or III of the SPA/BD Protocol should be recorded (Rec 36/2012/3), as well as for spiny dogfish (Rec 39/2015/4).

6.2.3. Research programmes and data collection

A stock assessment was conducted on the Shortfin Mako Shark in 2012, and the Standing Committee recommended that the fishing mortality should not be increased (ICCAT Rec 14-06¹²). CPCs are recommended to implement research on pelagic shark species to identify potential nursery areas (Rec 2005/3 (E)), and consider time and area closures and other measures for thresher sharks (Rec 34/2010/4 (C)) and hammerhead sharks (Rec 35/2011/7 (C)). Lastly, CPCs should undertake research to identify ways to make fishing gears more selective (Rec 2005/3 (E)).

CPCs are encouraged to improve knowledge on Spiny Dogfish biology, including population dynamics, migrations, location of spawning and nursery areas, and survival ratios (Rec

⁵⁹ GFCM Recommendation 34/2010/4 (C) <http://www.fao.org/3/a-ax391e.pdf>

⁶⁰ GFCM Recommendation 35/2011/7 (C) <http://www.fao.org/3/a-ax391e.pdf>

39/2015/4).

The GFCM completed a research programme between 2010 and 2013 to fill knowledge gaps and assess the status of elasmobranchs in the Mediterranean and Black Sea. The work included outreach to experts to collate current information on population dynamics, ecology, fisheries and taxonomy of elasmobranchs (see meeting report⁶¹), and workshops to assess and discuss the stocks of 6 species⁶².

6.3. Overlaps with Sharks MOU

6.3.1. *Research, monitoring and data collection (Shark MOU Conservation Plan: activity 3)*

GFCM have developed research programmes to collect data at a species-specific level on catch rates, the amount of incidental and directed taking and the amount of waste and discards. CPCs also undertake research on the fishing gear used in shark fisheries and how to make it more selective. Furthermore, a 3-year programme was developed to address elasmobranch population declines and data gaps.

6.3.2. *Sustainable management of shark populations (Shark MOU Conservation Plan: activity 4)*

GFCM fisheries adopt the best practice guidance for the conservation and management of shark populations, and follow a precautionary approach to ensure sustainable catches. Furthermore, GFCM has a Regional Observers Programme, through which shark fisheries and shark bycatch are monitored. The global moratorium on all large-scale pelagic driftnets is fully implemented, in accordance with the UN General Assembly Resolution 46/215.

6.3.3. *Bycatch measures (Shark MOU Conservation Plan: activity 5)*

To the extent practicable, vessels are required to release sharks unharmed and live release is encouraged.

6.3.4. *Conservation activities (Shark MOU Conservation Plan: activity 9)*

Research is undertaken to identify shark nursery areas, and based on this information, CPCs consider time and area closures, and other measures if necessary. The mortality of juvenile sharks is also avoided by encouraging the live release of incidentally-caught juveniles.

6.4. Gaps

6.4.1. *Prohibited species and bycatch:*

Currently, GFCM does not list any approved recommendations regarding the bycatch and safe release of mobulid rays (*Manta* spp. & *Mobula* spp.), Basking Sharks (*Cetorhinus maximus*), or White Sharks (*Carcharodon carcharias*), which are all listed as CMS Appendix I species. Furthermore, no guidelines exist on the use of Fish Aggregating Devices (FADs). Finally, GFCM regulations recommend the live release of juveniles, yet do not recommend the release of fecund females, as stated in activity 9.5 of the Conservation Plan.

⁶¹ Report of the First Transversal Expert Meeting on the status of Elasmobranchs in the Mediterranean and Black Sea http://gfcmsitestorage.blob.core.windows.net/documents/web/SAC/13/GFCM_SAC13_2011_Inf.13-e.pdf

⁶² Pilar Hernández, Aurora Nastasi and Federico Alvarez. 2013. Outcomes of the GFCM three -year programme on elasmobranchs in the Mediterranean and Black Sea. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.656.1280&rep=rep1&type=pdf>

6.4.2. *Finning regulations:*

The fin-to-body weight ratio limit of 5% does not align with activity 7.3 of the Conservation Plan of the Shark MOU, which recommends enacting regulations requiring sharks to be stored on board and landed with each fin naturally attached.

6.4.3. *Research and data collection:*

Lastly, gaps exist within the research and data collection section of the Conservation Plan. ICCAT does not require the size and sex of individuals to be reported at a species-specific level (Activity 3.2), and although conducts research on nursery grounds and develops appropriate closures, no research is currently undertaken to identify aggregation areas for mating (activity 9.3).

6.5. Suggestions for activities by the Sharks MOU Signatories in their engagement with GFCM

Signatories of the Sharks MOU may:

- consider the development of an NPOA-Sharks if they do not already have one adopted.
- *Further activities to be suggested*

**Annex 2:
Suggested elements for an RFMO engagement procedure**

The below suggestions were largely modelled after the RFMO engagement procedure of the Agreement on the Conservation of Albatrosses and Petrels (ACAP).

1. Ways to promote the objectives of the Sharks MOU:

Promoting the objective of the Sharks MOU will require different activities to be recommended by the Advisory Committee (AC) and decided by the Signatories. This could be in form of:

- a. Identifying relevant meetings, where the Sharks MOU may be represented;
- b. Providing briefings notes to Sharks MOU Focal points on upcoming RFMO meetings and relevant agenda items and draft decisions;
- c. Coordinating Sharks MOU positions on relevant agenda items and draft decisions with Signatories;
- d. Identify and send a Sharks MOU representative to relevant RFMO meetings;
- e. Informing RFMOs about the objectives of the Sharks MOU and provide regular updates on new initiatives and listed species;
- f. Liaising with RFMOs to identify opportunities for joint activities, including capacity-building activities that are relevant for the conservation and management of species listed in Annex 1;
- g. Acknowledging progress and proposing next steps.

2. Levels of engagement:

Signatories to the Sharks MOU that are part of an RFMO have committed to the MOU objectives. Although the MOU is not legally binding, Signatories made a political commitment to implement these objectives and their negotiation positions at RFMOs should ideally reflect this.

There are two different scenarios of Sharks MOU representation at meetings of RFMOs and other relevant organizations:

- a. Presence of a dedicated Sharks MOU representative;
- b. Presence of States that are part of RFMOs, as well as Signatories to the Sharks MOU.

The presence of a dedicated Sharks MOU representative would be desirable, as this person could focus exclusively on the Sharks MOU and wouldn't have to take a national position at the same time.

3. Types of engagement:

Types of engagement may include:

- a. Direct engagement through the submission of proposals to an RFMO meeting;
- b. Indirect engagement through:
 - the submission of information documents to an RFMO meeting to inform decisions and positions about matters relevant to the conservation and management of species listed in Annex 1 of the Sharks MOU
 - providing briefing notes to Signatory Focal Points on upcoming RFMO

meetings and agenda items that are relevant to the Sharks MOU objectives and mandates.

4. Processes for engagement

Signatories may agree on Sharks MOU positions (e.g. papers, views) presented in these fora. Furthermore, it will necessary to agree on approaches to achieve specific outcomes. Therefore, it might be necessary to nominate a dedicated person either from a Signatory or the Advisory Committee to follow all developments within specific RFMOs and to lead on the coordination of joint positions.

A suggested process to follow might be.

1. A dedicated Sharks MOU representative is agreed by the Signatories for each RFMO (at Sharks MOS3);
2. Signatories are notified of an upcoming RFMO meeting at which a Sharks MOU position would be desirable. This might be achieved by the presence of the Sharks MOU representative and/or by submitting information documents;
3. The representative informs Signatories about the proposed position or information materials to be taken to the RFMO meeting, seeking feedback and input from Signatories within a reasonable timeframe. In addition, the Sharks MOU representative would liaise with the AC Chair.
4. Revisions to views or material to be presented may be made with reference to the feedback received and a revised version circulated;
5. The Sharks MOU representative coordinates a final position amongst Signatories;
6. Once agreement on the joint position or material is reached, the Secretariat would submit any Sharks MOU documents to the RFMO. The Secretariat would also work with the Sharks MOU representative to ensure that agreed views and appropriate products, briefing papers etc. have been conveyed to the Sharks MOU Focal points;
7. At the RFMO meeting, the Sharks MOU representative will work to ensure that Signatories consult and coordinate during the meeting;
8. After the meeting, the Sharks MOU representative will report back to the Signatories, including via a brief written report to the Advisory Committee.

The Advisory Committee would establish new/revised objectives and tasks as appropriate. Ideally, such discussions would take place at meetings of the AC, or intersessionally (e.g. by email), as required.