



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

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Agenda Item 10.2

As revised at MOS4

**DEVELOPMENT OF A
CONSERVATION STRATEGY AND ACTION PLANS
FOR PELAGIC SHARKS AND RAYS**

(Prepared by the Advisory Committee and the Secretariat)

1. This document contains an overview of an initiative that aims to gather data on pelagic shark and ray species listed in Annex 1 to the Sharks MOU, in cooperation with the International Union for Conservation of Nature Species Survival Commission Shark Specialist Group (IUCN SSC SSG) and relevant RFMOs.
2. Draft Decisions of this Meeting to support the implementation of this initiative are included in Annex 1 to this document for consideration at the meeting.
3. Annex 2 makes suggestions on activities that Signatories may wish to include in their Programme of Work for the triennium 2023-2025, which will also be discussed under agenda item 12.

Background

4. For the purposes of this document, pelagic sharks and rays are considered to be those species that typically inhabit (spend the majority of their time) the upper parts of the water column, including both shelf sea and/or oceanic ecosystems.
5. The IUCN Red List of Threatened Species™ categories and criteria were recently used to assess the global status of 31 pelagic shark and ray species. Results highlight that since 1970, the global abundance of these species has declined by 71 per cent owing to an 18-fold increase in relative fishing pressure (Pacoureau *et al.* 2021¹, provided as [CMS/Sharks/MOS4/Inf.6](https://doi.org/10.1038/s41586-020-03173-9)). Table 1 includes pelagic shark and ray species currently listed in Annex 1 of the MOU.
6. A lack of fisheries data, competing priorities with other commercially or recreationally harvested species, and complicated jurisdictional issues present difficulties for assessing and conserving pelagic sharks and rays. Of the five Regional Fisheries Management

¹ Pacoureau, N., Rigby, C.L., Kyne, P.M. *et al.* (2021) Half a century of global decline in oceanic sharks and rays. *Nature*, **589** (<https://doi.org/10.1038/s41586-020-03173-9>).

Organizations (t-RFMOs)² that manage pelagic tuna and tuna-like species, only four shark species (Blue Shark - *Prionace glauca*, Shortfin Mako shark - *Isurus oxyrinchus*, Oceanic Whitetip Shark - *Carcharhinus longimanus*, and Porbeagle - *Lamna nasus*) have been subject to quantitative stock assessments for some of the relevant stock units.

Table 1: Pelagic species of sharks and rays currently included in Annex 1 of the Sharks MOU

Scientific name	Common name
<i>Alopias pelagicus</i>	Pelagic Thresher Shark
<i>Alopias superciliosus</i>	Bigeye Thresher Shark
<i>Alopias vulpinus</i>	Common Thresher Shark
<i>Carcharhinus falciformis</i>	Silky Shark
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark
<i>Carcharhinus obscurus</i>	Dusky Shark
<i>Carcharodon carcharias</i>	Great White
<i>Cetorhinus maximus</i>	Basking Shark
<i>Isurus oxyrinchus</i>	Shortfin Mako Shark
<i>Isurus paucus</i>	Longfin Mako Shark
<i>Lamna nasus</i>	Porbeagle
<i>Mobula alfredi</i>	Reef Manta Ray
<i>Mobula birostris</i>	Oceanic Manta Ray
<i>Mobula eregoodoo</i>	Longhorned Pygmy Devil Ray
<i>Mobula hypostoma</i> ³	Atlantic Pygmy Devil Ray
<i>Mobula kuhlii</i>	Shorthorned Pygmy Devil Ray
<i>Mobula mobular</i> ⁴	Spinetail Devil Ray
<i>Mobula munkiana</i>	Munk's Pygmy Devil Ray
<i>Mobula tarapacana</i>	Sicklefin Devil Ray
<i>Mobula thurstoni</i>	Bentfin Devil Ray
<i>Rhincodon typus</i>	Whale Shark
<i>Sphyrna lewini</i>	Scalloped Hammerhead Shark
<i>Sphyrna mokarran</i>	Great Hammerhead Shark
<i>Sphyrna zygaena</i>	Smooth Hammerhead Shark

7. Aside from some national recovery and fishery management regulations for certain species, there is no formal conservation plan for the majority of at-risk pelagic shark and ray species. Therefore, a global conservation strategy and regional action plans⁵ for these species has

² Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Indian Ocean Tuna Commission (IOTC), Inter-American Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), Western and Central Pacific Fisheries Commission (WCPFC).

³ *Mobula rochebrunei* is also now considered one species with *Mobula hypostoma*.

⁴ *Mobula japonica* is also now considered one species with *Mobula mobular*.

⁵ Global Strategy and Regional Action Plans

the potential to fill this gap and serve as critical information and guidance to government agencies and RFMOs.

MOU Mandates

8. The Sharks MOU includes strong mandates calling for improved data collection for all species listed in Annex 1 of the Sharks MOU:
 - a) Of the 35 valid species that are listed in Annex 1 of the Sharks MOU, 24 are considered to be pelagic or coastal pelagic species (see Table 1), and the remaining 11 valid species considered to be demersal.
 - b) Activity 1.3 of the [Conservation Plan \(Sharks MOU Annex 3\)](#) requests Signatories to 'Compile relevant data, improve ecological knowledge and conduct baseline studies'.
 - c) Activity 3.2 of the [Conservation Plan](#) requests Signatories to 'Develop programmes to establish baseline data and facilitate reporting at a species-specific level on: shark catch rates, the amount of incidental and directed taking, the amount of waste and discards'.
 - d) Additionally, the initiative fulfills the [Programme of Work \(2019 – 2021\)](#) No.16 to 'Liaise with the IUCN SSC SSG and participate in assessment and conservation planning workshops'.

Conservation Strategy and Regional Action Plans for Pelagic Sharks and Rays

9. The purpose of species conservation planning is to increase the effectiveness of action by ensuring that it is based on thorough analysis of available information, well-defined and achievable goals, the incorporation of multiple perspectives, and agreement among those involved about what should be done.
10. The development of a global conservation strategy and regional action plans will be undertaken in cooperation with the relevant partners, including RFMOs, and the International Union for Conservation of Nature Species Survival Commission Conservation Planning Specialist Group (IUCN SSC CPSG), which leads and supports species conservation planning within the IUCN SSC. Its approach to planning is deeply rooted in a set of principles that emphasize sound science and the meaningful participation of key stakeholders. These principles are used to guide a series of planning steps that continue to evolve in response to the increasing complexity of today's wildlife conservation challenges. Taken together, these principles and steps are important elements in the development and implementation of effective species conservation plans.
11. As most RFMOs have few management regulations for many Annex-1 listed species, government agencies are often left without guidance for managing the fisheries that interact with Annex 1-listed species and conserving these species. Additionally, aside from a few national recovery and fishery management plans for certain species, there is no formal conservation plan for the majority of at-risk pelagic sharks and rays.
12. Therefore, a global conservation strategy and regional action plans for pelagic species has the potential to fill this gap and serve as critical information and guidance to government agencies and the international fishing community.

13. With financial support from the German Federal Ministry of the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection and the Principality of Monaco, the IUCN SSC SSG in collaboration with the IUCN SSC CPSG have already undertaken first steps to initiate the development of the global conservation strategy. A virtual meeting of experts was held in October 2022. A second virtual meeting is planned for January 2023. These meetings involve scientists, policy makers and stakeholders to collect preliminary input on the scope and scale of the conservation strategy.

Improving data availability for CMS Sharks MOU Signatories and Indian Ocean Tuna Commission (IOTC) Contracting Parties in the Indian Ocean region

14. The initial stage of the initiative will be focused on developing a regional action plan for the Indian Ocean region, as the IUCN Red List status and availability of data for many species of sharks and rays are worse in this ocean basin than anywhere else in the world. Additionally, this region has observed declines of pelagic sharks and rays as steep as 85 per cent. This depletion has increased the extinction risk of species in this region to the point at which three-quarters of them are threatened with extinction ([Pacoureau et al. 2021¹](#), [provided as CMS/Sharks/MOS4/Inf.6](#)).
15. The current state of knowledge on pelagic shark and ray populations in the Indian Ocean is poor, with most species considered data limited. The IOTC currently classifies the status of all sharks as “Not assessed/ Uncertain”. Given the lack of data availability for these species, data mining exercises are needed not only to provide information to guide the Conservation Plan, but also to update current IOTC databases and assist in the work of the IOTC Working Party on Ecosystems and Bycatch (WPEB).
16. The general objective of the initiative for the Indian Ocean region is to collect data on catches of 19 species⁶ of sharks and rays, develop a regional pelagic shark and ray action plan, and provide the collated data and regional action plan to Sharks MOU Signatories in the Indian Ocean region and to the Scientific Committee of the IOTC.
17. Alongside gathering data, a measure of the level of risk (e.g., risk reference points) for these pelagic species needs to be developed to inform decision makers and conservation planners. In the absence of a formal stock assessment to measure an index of relative abundance, reference points can be calculated that are based on fishing mortality, to assign a level of risk for each species within the Indian Ocean.
18. Once these reference points have been established for each species, a level of risk can then be established and the species can be assigned to a risk category (e.g., recovering, medium risk, high risk). This is an alternative way to calculate the risk of a species decline when data are limited on the life-history characteristics, population size and capture by targeted and non-targeted fishing practices. These risk assessments will be essential to contribute to the regional pelagic shark and ray action plan.
19. This initiative will provide, for these pelagic species listed on Annex 1 of the Sharks MOU, information to assist both Signatories of the Sharks MOU, and IOTC Contracting Parties to make informed decisions, develop appropriate species-specific strategies, align national and regional policies on sustainable fisheries management, prepare stock assessments, as well as provide guidance on international cooperation priorities across the region to achieve

⁶ Species are currently being identified by experts

common goals. In addition, the project would support provide another tool for prioritizing species on the Sharks MOU depending on the level of risk.

Action requested:

20. The Meeting is requested to:

- a) Review the draft decision as presented in Annex 1 to this document and agree a final version;
- b) Review the draft activities presented in Annex 2 to this document and consider including them in the Programme of Work 2023 – 2025.

DRAFT DECISIONS OF THE MEETING

Signatories

1. Welcomed the initiative and progress made by the International Union for the Conservation of Nature Species Survival Commission Shark Specialist Group (IUCN SSC SSG) in developing a global conservation strategy and regional action plans for pelagic sharks and rays and agreed to support the approach outlined in [CMS/Sharks/MOS4/Doc.10.2/Rev.1](#).

ANNEX 2

DRAFT ACTIVITIES FOR INCLUSION IN THE PROGRAMME OF WORK 2023-2025

No.	Activity	Mandate ⁷	Priority ranking ⁸	Time frame ⁹	Responsible entity ¹⁰	Funding needs for implementation	Secretariat staff required for implementation (working days)
Species Conservation/Habitat Conservation							
X. Development of a Conservation Strategy and Regional Action Plans for Pelagic Sharks and Rays							
x.1	Provide technical support to the IUCN SSC SSG, including sharing relevant information and expertise and participating in expert workshops and/or conservation planning meetings and processes.	MOS4 decisions (CP 1.3 & 3.2)	tbd	tbd	AC, SIG, (SEC: if funds were provided through the Secretariat)	€10,000 per meeting for AC travel	P staff: 0.5 G staff: 0.5 (managing travel)
x.2	Provide funding to support the development of a global conservation strategy and regional action plan for pelagic sharks and rays, with an initial regional focus on the Indian Ocean.	MOS4 decisions (CP 1.3 & 3.2)	tbd	tbd	AC, SIG, (SEC: if funds were provided through the Secretariat)	€250,000 (project funds for the Indian Ocean region)	P staff: 5 (raising funds, managing donor agreement (s))
x.3	Liaise with the IUCN SSC SSG and other relevant experts on the development of a global conservation strategy and regional action plans for pelagic sharks and rays.	MOS4 decisions (CP 1.3 & 3.2)	tbd	tbd	SEC		P staff: 5
x.4	Provide support to the IUCN SSC SSG for the implementation of the initiative in the Indian Ocean (and other regions as provided funds become available)_(and other regions should funds become available).	MOS4 decisions (CP 1.3 & 3.2)	tbd	tbd	SEC	(see x.2)	P staff: 20 G staff: 5 (managing project and funding agreement(s))

⁷ Conservation Plan (CP), Terms of Reference of the Advisory Committee (AC TOR), Terms of Reference of the Secretariat (SEC TOR)

⁸ Core Secretariat activities and suggested priorities (High, Medium)

⁹ Year(s) during which activity should be implemented

¹⁰ Signatories (SIG), Advisory Committee (AC), Secretariat (SEC), Conservation Working Group (CWS), Consultants, Cooperating Partners (CooP)