



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

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3rd Meeting of the Signatories (Sharks MOS3)
Monaco, 10 – 14 December 2018
Agenda Item 10

**SPECIES SPECIFIC CONSERVATION MEASURES FOR
SPECIES LISTED IN ANNEX 1 OF THE SHARKS MOU**

(Prepared by the Advisory Committee and the Conservation Working Group)

1. The current document contains draft species-specific factsheets, in which scientific knowledge and conservation gaps are mentioned and recommendations for conservation measures of high priority are provided.
2. Draft factsheets for the following species or species groups are presented as CMS/Sharks/MOS3/Inf.15 a-k:
 - 15.a: Basking Shark (*Cetorhinus maximus*)
 - 15 b: Great White Shark (*Carcharias carcharodon*)
 - 15 c: Hammerhead Sharks (*Sphyrna mokarran* and *lewini*)
 - 15 d: Mako Sharks (*Isurus oxyrinchus* and *I. paucus*)
 - 15 e: Mobulid (Mobulidae spp.)
 - 15 f: Porbeagle (*Lamna nasus*)
 - 15 g: Sawfishes (Pristidae spp.)
 - 15 h: Silky Shark (*Carcharhinus falciformis*)
 - 15 i: Spiny Dogfish (*Squalus acanthias*)
 - 15 j: Thresher Sharks (*Alopias* spp.)
 - 15 k: Whale Shark (*Rhincodon typus*)
3. An overview on recommended measures for all species or species groups is provided as an Annex to this document.

Background

4. The Conservation Plan of the MOU addresses threats and conservation requirements of species listed in Annex 1 on a general level, without taking into account the specific needs of individual species or taxa, based on their life history characteristics and threats that impact them, nor are provisions made on a regional level.
5. As per its Terms of Reference the Conservation Working Group (CWG) was tasked by the Signatories among other things to assist the Advisory Committee (AC) with

“compiling relevant biological data of species listed in Annex 1 and reviewing and identifying species-specific priority research and conservation needs at the appropriate scale and providing guidelines on the implementation of the Sharks

MOU Annex 1 listings....”

6. In November 2016 the Conservation Working Group met for the first time together with members of the AC in Bristol, UK. At this meeting experts compiled their knowledge of the individual species listed, into ten draft fact sheets for each species or species group. The Secretariat was asked by the group to develop these fact sheets further for presentation to the 2nd Meeting of the Advisory Committee (AC2). The report from CWG1 is provided as CMS/Sharks/MOS3/Inf.7.
7. With financial support from the EU, the Secretariat improved the factsheets and presented those to AC2, in November 2017. Several CWG members were invited by the AC to take part in the meeting and to assist the AC in its work. The meeting discussed and amended the factsheets and agreed, that the following elements should be contained in each factsheet:
 - Biology
 - Distribution
 - Critical sites
 - Population status and trends
 - Threats
 - Key knowledge gaps
 - Key management and conservation gaps
 - Recommendations for conservation and management action,
 - Legal status
 - Additional information on critical sites
 - References
8. The AC decided to keep the content of the factsheet brief, in order to provide a quick overview of the situation and clear expert advice to decision makers and stakeholders. Emphasis was given to recommendations for species specific conservation and management action.
9. Subsequent to AC2, the factsheets were finalized intersessionally by AC members with assistance from the Secretariat.
10. Once approved, the fact sheets will be published on the Sharks MOU website and will be distributed amongst decision makers, fisheries managers, conservation officials and other stakeholders from Signatories and Range States as well as relevant organizations.
11. As new information on the species will emerge continuously, the fact sheets will require regular updating, which should be a standing task of the AC and the Secretariat. In addition, fact sheets should be developed for newly listed species after each amendment of Annex 1.

Action requested:

The Meeting is requested to:

- a) Note the draft Factsheets for Species-specific Conservation Measures, which are presented as CMS/Sharks/MOS3/Inf.15 a-k, adopt the recommended measures which are summarized in Annex 1 to this document and consider the latter for implementation.
- b) Instruct the AC to update existing factsheets regularly and to develop fact sheets for newly listed species;
- c) Instruct the Secretariat to publish the fact sheets on the website and to distribute those.

Species	Recommendations
<p>Basking Shark (<i>Cetorhinus maximus</i>) CMS/Sharks/MOS3/Inf.15a</p>	<p>a) Incorporate conservation measures for Basking Sharks into national legislation of all Parties/Signatories – Implement relevant international conservation and enforcement measures, as required under CMS and CITES.</p> <p>b) Improve the understanding of Basking Sharks through strategic research, monitoring and information exchange, including distributional data and population status – Identify critical sites for Basking Shark; – Collate data from sightings schemes to ascertain their utility for monitoring population size, and consideration of fishery-independent monitoring if current data is uninformative; – Enhance data collection from dead bycatch and stranded specimens and collaborative use of biological data, such as on their life history (noting that the protection status of this species can restrict the collection of data and biological material from dead bycatch); – Improve reporting and monitoring of bycatch levels, including post-release survivorship, and consideration of bycatch avoidance measures where relevant.</p>
<p>Great White Shark (<i>Carcharhias carcharodon</i>) CMS/Sharks/MOS3/Inf.15b</p>	<p>a) Incorporate conservation measures for Great White Sharks into national legislation of all Parties/Signatories – Evaluate and revise the current implementation/compliance with CITES Appendix I and CMS Appendix I obligations.</p> <p>b) Improve the understanding of white sharks through strategic research, monitoring and information exchange – Identify new white shark critical sites; – Focus on key habitats and oceanic movements for future research to support the development of spatial fisheries management; – Undertake genetic studies to determine population structures; – Undertake research to better quantify the potential impacts of protective beach meshing and drum line programs on Great White Shark populations, and mitigate those impacts if necessary; – Share research results and expertise with other Range States, stakeholders and the Sharks MOU Secretariat.</p> <p>c) Improve multilateral cooperation among regions and RFBs – Identify synergies with other Range States and stakeholders to support coordinated and resource-effective research and conservation programmes; – Establish a working group on shark bycatch mitigation techniques with other affected Range States;</p>

Species	Recommendations
	<ul style="list-style-type: none"> – Share methodological and technological advancements between Range States, with a focus on improving baseline population information collection from data-poor regions. d) Minimize interactions between fisheries and Great White Sharks <ul style="list-style-type: none"> – Relevant organizations concerned with the management of fisheries should improve the collection and reporting of standardized data; – Review fishing gears to evaluate potential modifications for reducing bycatch mortality of Great White Sharks; – Consider gear restrictions in Great White Shark critical sites that would help minimize bycatch mortality. e) Eco-tourism <ul style="list-style-type: none"> – Establish ecotourism in aggregation sites to support the acceptance of Great White Sharks by local communities through generation of economic benefits; – Promote best practice guidelines for Great White Shark tourism (cage diving, boat based breaching tours). f) Spatial management <ul style="list-style-type: none"> – Include critical sites in marine and coastal spatial planning activities; – Undertake stakeholder consultations to ensure ownership and equitable access to resources; – Involve local communities in the management of coastal fisheries. g) Raise awareness about the threats to Great White Sharks <ul style="list-style-type: none"> – Inform the public about the need of Great White Shark conservation via educational, social media and local outreach campaigns; – Where shark attack mitigation programs are deemed necessary for public safety, encourage the use of non-invasive methods, and train the public on best behavior to handle threats to humans from entering the marine environment.
<p>Hammerhead Sharks (<i>Sphyrna mokarran</i> and <i>Sphyrna lewini</i>) CMS/Sharks/MOS3/Inf.15c</p>	<ul style="list-style-type: none"> a) Incorporate conservation measures for Hammerhead Sharks into national legislation of all Parties/Signatories (in line with CMS Appendix II and the Objective of the Sharks MOU) <ul style="list-style-type: none"> – Evaluate and implement relevant international measures (e.g. CITES, CMS and RFMOs); – Consider adopting fins attached measures to effectively prohibit finning. b) Conserve and restore suitable habitats <ul style="list-style-type: none"> – Focus on key habitats and connectivity via migration corridors for future research to support the development of spatial fisheries management; – Conserve mangroves and other suitable habitats (e.g. coral reefs).

Species	Recommendations
	<ul style="list-style-type: none">c) Improve the understanding of Hammerhead Sharks through strategic research, monitoring and information exchange<ul style="list-style-type: none">– Identify critical sites (especially for <i>S. mokarran</i>);– Prioritize research on the population structure of Hammerhead Sharks;– Address data gaps in ecological and biological knowledge (life history parameters) of Hammerhead Sharks;– Investigate post-release survivorship of Hammerhead Sharks to improve handling and release protocols;– Collect species-specific data on catch and bycatch especially in coastal and artisanal fisheries;– Develop stock assessments in cooperation with RFMOs for both species.d) Improve multilateral cooperation among regions and RFBs<ul style="list-style-type: none">– Support the development and implementation of appropriate management plans for Hammerhead Sharks;– Support proposals for "look-alike provisions" or "head-attached policy" (or to develop carcass ID guides) to close loop-holes and improve species-specific data collection;– Engage neighboring countries, including non-Signatory Range States to protect and foster the integration of Hammerhead Sharks in conservation planning and implementation workshops;– Promote better regional cooperation between RFMOs, RFBs (e.g. data-sharing or involvement in the Kobe process¹);– Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research and conservation programmes.e) Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort)f) Identify effective approaches to reduce bycatch and improve survivorship of hammerheads<ul style="list-style-type: none">– Identify gear modifications and fishing practices (e.g. soak time and safe release handling guidelines) to reduce interactions and increase survival;– Encourage the development and application of sustainable fishing techniques (e.g. exploration of fishing depth as a means of avoiding capture);– Reduce the soaking time of pelagic longlines or gillnets to increase survivorship.

¹ <http://www.tuna-org.org>

Species	Recommendations
<p>Mako Sharks</p> <p><i>(Isurus oxyrinchus and Isurus paucus)</i></p> <p>CMS/Sharks/MOS3/Inf.15d</p>	<p>a) Incorporate conservation measures for Mako Sharks into national legislation of all Parties/Signatories.</p> <ul style="list-style-type: none"> – Implement relevant international measures (e.g. CMS and RFMOs). <p>b) Improve the understanding of Mako Sharks through strategic research, monitoring and information exchange, including data collection of biological and distributional data and population status.</p> <ul style="list-style-type: none"> – Identify critical sites of Mako Shark, abundance and seasonality; – Address data gaps in biological knowledge (life history parameters) of Shortfin Mako Shark; – Investigate life history of Longfin Mako Shark; – Develop stock assessment in cooperation with RFMOs for all areas; – Further investigate post-release survivorship of Mako Sharks to inform improved handling and release protocols; – Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed). <p>c) Improve multilateral cooperation among regions and RFBs</p> <ul style="list-style-type: none"> – Support the introduction of appropriate management and conservation measures for Mako Sharks at international and regional fora (e.g. Co-sponsor proposals / resolutions within multilateral agreements); – Promote better regional cooperation between RFMOs and RFBs (e.g. data-sharing or involvement in the Kobe process²); – Support the development and implementation of appropriate management plans for Mako Sharks; – Identify synergies with other Range States and stakeholders to support coordinated and resource-effective research and conservation programs. <p>d) Identify the effective approaches to reduce bycatch and improve survivorship of Mako Sharks, including gear modifications e.g. hook and trace type, and fishing practices e.g. soak time and safe release handling guidelines.</p> <p>e) Raise awareness about the threats to Mako Sharks</p> <ul style="list-style-type: none"> – Inform the public about the need of shark conservation via educational, social media and local outreach campaigns.

² <http://www.tuna-org.org>

Species	Recommendations
<p>Mobulid Rays (Mobulidae spp.) CMS/Sharks/MOS3/Inf.15e</p>	<p>a) Incorporate Mobulid Ray protection into national legislation of all parties to CMS / Range states</p> <ul style="list-style-type: none"> – Implement relevant international measures (e.g. CMS, CITES and RFMOs) that prohibit targeting, retaining, landing, transshipping, and selling of mobulid parts; – Consider the CMS Concerted Action Plan for mobulids (CMS/Sharks/MOS3/Inf.9). <p>b) Improve the understanding of migratory shark populations through research, monitoring and information exchange</p> <ul style="list-style-type: none"> – Identify critical sites of mobulids, abundance and seasonality; – Address data gaps in biological knowledge (life history parameters) of mobulid rays; – Support research to define management units within the Mobulidae family; – Conduct long-term monitoring of mobulid populations; – Develop capacity in research, data collection and monitoring; – Establish conservation time-bound targets and indicators to assess progress toward objectives as outlined in Lawson et al. 2017. <p>c) Improve multilateral cooperation among regions and RFBs</p> <ul style="list-style-type: none"> – Support the introduction of appropriate management and conservation measures for mobulids at international and regional fora, including relevant RFMOs (e.g. Co-sponsor proposals / resolutions within multilateral agreements); – Improve the effectiveness of the 2015 IATTC mobulid ray protection measure (i.e. by ending the exceptions for small scale fisheries); – Promote standardized data reporting and safe release techniques. <p>d) Enforce landing and trade bans</p> <ul style="list-style-type: none"> – Prioritize enforcement, including to conduct market surveys and patrols, protected area patrols; – Adopt the Port State Measures Agreement and Implement port-state controls; – Improve capacity in species identification through trainings and the dissemination of available ID guides. <p>e) Identify the effective approaches to reduce bycatch and improve survivorship of mobulids.</p> <ul style="list-style-type: none"> – Identify gear modifications and best fishing practices e.g. gear restrictions, pole and line, safe release handling guidelines (Poisson et al. 2014); – Explore options for spatial management; – Investigate post-release survivorship of mobulids to inform improved handling and release protocols; – Encourage ICCAT, IOTC, and WCPFC to develop recommendations, Resolutions, and CMM, respectively, for the safe release of all Mobulid rays incidentally caught.

Species	Recommendations
Porbeagle	<p>f) Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed)</p> <ul style="list-style-type: none"> – Collect data on bycatch; – Develop capacity in research and monitoring in all regions; – Report national species-specific landings of devil and manta rays to FAO and RFMOs. <p>g) Engage local communities in the conservation of mobulids</p> <ul style="list-style-type: none"> – Provide training to fishing communities on species identification and safe release guidelines; – Involve local communities in the development of regional management (i.e. eco-tourism, sustainable fisheries and aquaculture). <p>h) Reduce gill plate demand</p> <ul style="list-style-type: none"> – Increase awareness of human health risk of consuming gill plates and conservation threat to mobulids through science-based campaigns
<i>(Lamna nasus)</i>	<p>a) Incorporate conservation measures for porbeagle into national legislation of all Parties/Signatories.</p> <ul style="list-style-type: none"> – Implement relevant international measures (e.g. CMS, CITES and RFMO recommendations) <p>b) Improve the understanding of porbeagle shark through strategic research, monitoring and information exchange, including data collection of biological and distributional data and population status.</p> <ul style="list-style-type: none"> – Identify critical sites of porbeagle shark abundance and seasonality; – Address data gaps in life history and determine stock specific biological parameters; – Further investigate post-release survivorship of porbeagle shark and inform improved handling and release protocols; – Enhance, or develop where necessary, collection of fishery data (including landings, discards, size frequency, catch and effort where needed); – Develop more reliable indices of stock abundance. <p>c) III. To Improve multilateral cooperation among regions & RFBs</p> <ul style="list-style-type: none"> – Communicate your actions to the public and other Range States; – Support the introduction of appropriate management and conservation measures for porbeagle shark at international and regional fora (e.g. Co-sponsor proposals / resolutions within multilateral agreements); – Promote better regional cooperation between RFMOs and RFBs (e.g. data-sharing or involvement in the Kobe process); – Support development and implementation of appropriate management plans for porbeagle sharks;
CMS/Sharks/MOS3/Inf.15f	

Species	Recommendations
<p>Sawfishes (Pristidae spp.) CMS/Sharks/MOS3/Inf.15g</p>	<ul style="list-style-type: none"> – Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research & conservation programs. <p>a) Incorporate conservation measures for sawfishes into national legislation of all Parties/Signatories.</p> <ul style="list-style-type: none"> – Implement and enforce relevant international measures (e.g. CMS and CITES), that prohibit targeting, retaining, landing, transshipping, and selling of sawfish parts; – Incorporate sawfish and habitat protection into national legislation of all Parties to CMS / Range States; – Assist in drafting, enhancing and promoting new legislation for Range States that do not yet provide legal protection. <p>b) Conserve and restore suitable habitats</p> <ul style="list-style-type: none"> – Focus on key habitats and migration corridors for future research to support development of spatial fisheries management; – Conserve mangroves and other suitable habitats, and stop land reclamation in key habitats; – Reduce anthropogenic activities (e.g. pollution) in sawfish habitats. <p>c) Improve the understanding of sawfish populations through strategic research, monitoring and information exchange</p> <ul style="list-style-type: none"> – Survey current and historic distributions and abundance along key river systems and coastal areas; – Identify critical sites of sawfish species and seasonality; – Conduct long-term monitoring of sawfish populations; – Address data gaps in biological knowledge (life history parameters) of sawfishes. <p>d) Improve multilateral cooperation among regions</p> <ul style="list-style-type: none"> – Collaboratively draft and support a proposal for Concerted Actions for sawfishes at the next CMS COP; – Engage neighboring countries/non-Signatories to protect sawfishes and foster their integration in conservation planning and implementation workshops; – Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research and conservation programs. <p>e) Enforce compliance with fisheries management regulations, landing and trade bans.</p> <ul style="list-style-type: none"> – Prioritize enforcement, including to conduct market surveys and patrols, protected area patrols and the prosecution of exporters;

Species	Recommendations
<p>Silky Shark (<i>Carcharhinus falciformis</i>) CMS/Sharks/MOS3/Inf.15h</p>	<ul style="list-style-type: none"> – Improve capacity in species identification through trainings and the dissemination of available ID guides. f) Identify the effective approaches to reduce bycatch and improve survivorship of sawfishes <ul style="list-style-type: none"> – Identify gear modifications and fishing practices e.g. soak time and safe release handling guidelines; – Explore options for spatial management; – Investigate post-release survivorship of sawfishes to inform improved handling and release protocols. g) Engage local communities in the conservation of sawfishes <ul style="list-style-type: none"> – Provide training to fishing communities on species identification and safe release guidelines; – Involve local communities in the development of regional management. h) Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed) <ul style="list-style-type: none"> – Collect data on bycatch; – Develop capacity in research and monitoring in all regions. i) Raise awareness about the threats to sawfishes <ul style="list-style-type: none"> – Inform the public about the need of sawfish conservation and status (illegal trade) and encourage the public to report encounters with sawfishes. <hr/> <ul style="list-style-type: none"> a) Incorporate conservation measures for Silky Sharks into national legislation of all Parties/Signatories <ul style="list-style-type: none"> – Implement relevant international measures (e.g. CMS, CITES and RFMOs). b) Improve the understanding of Silky Shark through strategic research, monitoring and information exchange, including data collection of biological and distributional data and population status <ul style="list-style-type: none"> – Identify critical sites of Silky Shark abundance and seasonality; – Further investigate post-release survivorship of Silky Sharks to inform improved handling and release protocols especially associated with purse seine fisheries; – Address data gaps in biological knowledge (life-history and ecological parameters) of Silky Sharks; – Conduct long-term monitoring of Silky Shark populations; – Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed); – Develop stock assessments for Silky Sharks in cooperation with RFMOs. c) Improve multilateral cooperation among regions and RFBs

Species	Recommendations
	<ul style="list-style-type: none"> - Support the introduction of appropriate management and conservation measures for Silky Sharks at international and regional fora (e.g. Co-sponsor proposals / resolutions within multilateral agreements); - Promote better regional cooperation between RFMOs and RFBs (e.g. data-sharing or involvement in the Kobe process³); - Support development and implementation of appropriate management plans for Silky Sharks; - Identify synergies with other Range States and stakeholders to support coordinated and resource-effective research and conservation programs. <p>d) Identify the effective approaches to reduce bycatch and improve survivorship of Silky Sharks,</p> <ul style="list-style-type: none"> - ...Including gear modifications e.g. hook and trace type and fishing practices and safe release handling guidelines. <p>e) Raise awareness about the threats to Silky Sharks</p> <ul style="list-style-type: none"> - Inform the public about the need of shark conservation via educational, social media and local outreach campaigns.
<p>Spiny Dogfish (<i>Squalus acanthias</i>) Northern hemisphere population CMS/Sharks/MOS3/Inf.15i</p>	<p>a) Improve the understanding of Spiny Dogfish through strategic research, monitoring and information exchange, including distributional data and population status</p> <ul style="list-style-type: none"> - Identify critical sites for Spiny Dogfish; - Improved estimation of discards, including post-release survivorship; - Address data gaps in biological knowledge (life history parameters); - Conduct long-term monitoring of Spiny Dogfish populations; - Develop stock assessment in cooperation with RFMOs in all areas; - Further investigate post-release survivorship of Spiny Dogfish to inform improved handling and release protocols, and options for technical measures; - Improve capacity in species identification through trainings and the dissemination of available ID guidelines. <p>b) Improve multilateral cooperation among regions and RFBs</p> <ul style="list-style-type: none"> - Support the introduction of appropriate management measures for Spiny Dogfish at regional fora; - Support development and implementation of appropriate management plans for Spiny Dogfish stocks; - Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research programs, with special reference to Mediterranean Sea and Black Sea.

³ <http://www.tuna-org.org>

Species	Recommendations
<p>Thresher Sharks (<i>Alopias</i> spp.) CMS/Sharks/MOS3/Inf.15j</p>	<p>a) Incorporate conservation measures for Thresher Sharks into national legislation of all Parties/Signatories</p> <ul style="list-style-type: none"> – Implement relevant international measures (e.g. CMS and RFMOs). <p>b) Improve the understanding of Thresher Sharks through strategic research, monitoring and information exchange</p> <ul style="list-style-type: none"> – Identify critical sites of Thresher Sharks' abundance and seasonality; – Address data gaps in biological knowledge (life history parameters) of all Thresher Sharks; – Further investigate post-release survivorship of threshers to inform improved handling and release protocols; – Enhance or develop where necessary collection of fishery data (including landings, discards, size frequency, catch and effort where needed); – Develop stock assessment in cooperation with RFMOs for all three species; – Conduct long-term monitoring of thresher shark populations. <p>c) Improve multilateral cooperation among regions and RFBs</p> <ul style="list-style-type: none"> – Support the introduction of appropriate management and conservation measures for Thresher Sharks at international and regional fora (e.g. Co-sponsor proposals / resolutions within multilateral agreements); – Promote better regional cooperation between RFMOs and RFBs (e.g. data-sharing or involvement in the Kobe process⁴); – Support development and implementation of appropriate management plans for Thresher Sharks; – Identify synergies with other Range States/stakeholders to support coordinated and resource-effective research and conservation programs. <p>d) Identify the effective approaches to reduce bycatch and improve survivorship of Thresher Sharks,</p> <ul style="list-style-type: none"> – ...including gear modifications e.g. hook and trace type, and fishing practices e.g. soak time and safe release handling guidelines. <p>e) Raise awareness about the threats to Thresher Sharks</p> <ul style="list-style-type: none"> – Inform the public about the need of shark conservation via educational, social media and local outreach campaigns.

⁴ <http://www.tuna-org.org>

Species	Recommendations
<p>Whale Shark <i>(Rhincodon typus)</i> CMS/Sharks/MOS3/Inf.15k</p>	<p>a) Incorporate conservation measures for Whale Sharks into national legislation of all Parties/Signatories (in line with CMS Appendix II and the Objective of the Sharks MOU)</p> <ul style="list-style-type: none"> – Evaluate and revise the current implementation/compliance with CITES Appendix II obligations and RFBs/RFMO measures; – Make effective enforcement a high priority; – Adopt the Port State Measures Agreement and Implement port-state controls; – Conduct market surveys and patrols; – Patrol in protected areas; – Prosecute exporters. <p>b) Improve the understanding of Whale Sharks through strategic research, monitoring and information exchange</p> <ul style="list-style-type: none"> – Investigate Whale Shark aggregation sites, seasonality, population connectivity and migrations to support development of spatial fisheries management; – Assess the impacts of bycatch, climate change and pollution on Whale Sharks; – Develop capacity in research, data collection and monitoring; – Address data gaps in biological knowledge (life history parameters, reproductive ecology) of Whale Sharks; – Conduct long-term monitoring of Whale Shark populations; – Share research results and expertise with other stakeholders/Range States/Sharks MOU Secretariat. <p>c) Improve multilateral cooperation among regions and RFBs</p> <ul style="list-style-type: none"> – Communicate your actions to the public and other Range States; – Increase awareness about the CMS Sharks MOU in the South-east Asian region by highlighting the benefits Whale Shark conservation brings to countries and communities; – Engage neighboring countries, including non-Signatory Range States to protect Whale Sharks and encourage their integration in conservation approaches (e.g. via joint workshops); – Cooperate with RFBs and RSCs on: <ol style="list-style-type: none"> a. Developing and supporting proposals for minimum on board observer coverage on commercial shipping lines and fishing vessels to gain information on vessel strikes, bycatch and fisheries interactions; b. Collating information on bycatch and fisheries interaction to assess the level of impact; c. Developing potential bycatch mitigation strategies;

Species	Recommendations
	<p>d. Supporting the ban of setting of purse-seine nets around Whale Sharks by ICCAT.</p> <p>d) Minimize interactions between fisheries and Whale Sharks</p> <ul style="list-style-type: none"> - Collect information on the scale of bycatch and fisheries interaction to assess the level of impact on Whale Sharks and any potential mitigation strategies; - Introduce spatio-temporal gear restrictions around Whale Shark aggregation sites; - Adopt and promote safe release and handling guidelines; - Promote data reporting, safe release and prohibition requirements; - Encourage IOTC to devise mitigation strategies for gillnet fisheries; - Encourage ICCAT to develop a recommendation on the use of FADs, which would include recommendations for the entanglement of Whale Sharks. <p>e) Improve/implement national fisheries reporting</p> <ul style="list-style-type: none"> - Support proposals for Establish a reporting scheme for Whale Sharks; - Standardize species-specific bycatch reporting scheme (national fisheries and RFMOs); - Disseminate identification materials; - Train observers, customs officers, scientists and NGOs. <p>f) Support development of alternate livelihoods for communities reliant on Whale Shark fisheries</p> <ul style="list-style-type: none"> - develop and implement unified guidelines for sustainable Whale Shark tourism and support the Philippines with the implementation of the CMS Concerted Action Plan for Whale Sharks (CMS/Sharks/MOS3/Inf.8); - promote non-consumptive use, sustainable fisheries and aquaculture; - Assist with raising capital for expenses of implementation <p>g) Raise awareness about the threats to Whale Sharks and reduce the demand for fins</p> <ul style="list-style-type: none"> - Inform the public about the need of shark conservation via educational, social media and local outreach campaigns; - Develop science-based campaigns for demand reduction; - Highlight the threats posed to Whale Sharks and health risk of the consumer (heavy metals).