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**IMPROVEMENT ON DATA COLLECTION FOR SHARK AS BYCATCH IN
TUNA FISHERIES**

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Paper by Indonesia

IMPROVEMENT ON DATA COLLECTION FOR SHARK AS BYCATCH IN TUNA FISHERIES

WCPFC13 has adopted Scientific data to be provided to the Commission which requires an estimates of annual catches including for blue shark, silky shark, oceanic whitetip shark, mako sharks, thresher sharks, porbeagle shark (south of 20°S, until biological data shows this or another geographic limit to be appropriate), hammerhead sharks (winghead, scalloped, great, and smooth), and whale shark. It also requires an operational level catch and effort data for those key shark species, by species by gears.

In accordance with the obligation to comply with the scientific data requirement to be provided to the Commission, Indonesia has reported the catch to commission in agregate of total numbers of those species in the Annual report Part 1 since 2017. The catches of sharks data by species by gear are still challenging for Indonesia to provide to the Commission. To obtain a more detailed data and information of sharks catches, a Capacity Development Plan has been submitted to the Secretariat on 28 September 2017 and the progress has been reported at the TCC15.

Several proposals related to the capacity building assistance that are needed to improve shark's data provision to the Commision, as follows:

1. National annual catches estimate to include catch estimate of sharks by gear by species;
2. Shark identification training for enumerators;
3. Provide sharks identification card for enumerators;
4. Strengthen port sampling data collection to include bycatch landed at port including key sharks species;
5. Strengthen fishing log book implementation on sharks catch data;
6. Observer data collection that include released and discarded of catches data;
7. Strengthen surveillance officer involvement for catch monitoring in the field.

The development of data collection for sharks were left behind compared to data collection for targeted/common species such as tuna which the national fisheries statistic, port sampling programs and recently in 2017, One data System were developed to inform fishery manager at national level on the national capture fisheries production. Hence, the previous national annual catch estimates (ACES) workshops were focused on the catches by gear of main tuna species such as i.e. Yellowfin Tuna, Big Eye Tuna and Skipjack Tuna. Actually, several previous annual catch estimates workshops have provided the information on the catches of tuna, bill fishes, neritic tunas as well as sharks by species in the excell format to the participants and SPC since the Fourth Annual Catch Estimates Workshops in 2014. However, sharks catches data by gear by species have not been discussed in detail and agreed by the workshops. Other concerns raising during the workshops were the capacity and ability of enumerators to correctly identify and record shark catches up to the species level.

The inclusion of discussion of the catch estimate on sharks by species by gear using the available statistical fisheries data, port sampling data, log book and observer data were proposed to be included in the Annual Catch Estimates Workshops. It may requires additional days for the next annual catches estimate workshop dedicated for sharks data, which may need to be agreed by the participants and SPC (i.e. at least 5 to 6 working days). Other challenges related to the provision of bycatch and discarded data are also need to be discussed further in

the future ACES workshop. It is expected that the workshop will come up to provide an estimation of catch for shark per species per gear as well as catch of shark from logbook and observer program.

There are also some gaps to implement WCPFC conservation and management measures (CMMs) on shark as stated in **Annex 1**. Currently, Indonesia is in process to harmonize the provisions related to shark as adopted in the CMMs into national regulations, noting the progress of the development of new CMM for sharks by the Commission.

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Annex 1. Gap between provision in the WCPFC CMMs on shark and national regulation

NATIONAL REGULATION	WCPFC CMMS	GAP
<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12/2012 on Fishing Business at High Seas, article 39 and 40 • Ministerial Regulation of Marine Affairs and Fisheries No. 30/2012 on Fishing Business at Indonesia Fisheries Management Area, article 73 • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 on the utilization of protected fish and/or listed in the CITES Appendix, article 11 	<p>CMM 2010-07 Conservation and Management Measure for Sharks</p> <ul style="list-style-type: none"> • Full utilization of any catches of any sharks retained • Vessels implement 5% fin to weight ratio or an alternative • Take measures to prohibit their vessel from retaining, transshipping, landing, or trading in any fins harvested in contravention of CMM • Requirement to take measures to encourage release of live sharks • Report on implementation of this CMM and any alternative measures that are applied (para 1) • In fisheries for tunas and tuna-like species that are not directed at sharks, CCMs shall take measures to encourage the release of live sharks that are caught incidentally and are not used for food or other purposes. 	<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12 year 2012 have regulated shark as a bycatch which is ecologically related to the tuna fishery in the high seas should be fully landed. Juvenile and pregnant shark are prohibited to be caught. • Ministerial Regulation of Marine Affairs and Fisheries No. 30 year 2012 have regulated conservation measures on the shark as a bycatch which is ecologically related to the tuna fishery in the Indonesia FMA only for thresher shark • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 have regulated fish species which are allowed to be caught should be fully landed based on regulation. • According to the current regulations, Indonesia still allows landing of shark, meanwhile WCPFC regulations prohibit to kept, transshipped, landed or sold shark fins which is contradicted to the WCPFC CMM. • Indonesia have a traditional fishing right on the fishery targeting sharks which are fully utilized for livelihood. This right has been regulated by local regulation.
<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12/2012 on Fishing Business at High Seas, article 39 and 40 	<p>CMM 2011-04 Conservation and Management Measure for Whitetip Sharks</p>	<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12 year 2012 have regulated shark as a bycatch which is ecologically related to the tuna fishery in the high seas

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<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 30/2012 on Fishing Business at Indonesia Fisheries Management Area, article 73 • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 on the utilization of protected fish and/or listed in the CITES Appendix, article 11 • Ministerial Regulation of Marine Affairs and Fisheries No. 5 year 2018 on the prohibition of Oceanic Whitetip Shark (<i>Carcharhinus longimanus</i>) and hammerhead shark (<i>Sphyrna spp.</i>) from Indonesia to the outside of the Indonesia 	<ul style="list-style-type: none"> • Prohibit vessels from retaining on board, transshipping, storing or landing any oceanic whitetip sharks, in whole or in part • Requirement to release oceanic whitetip sharks, as soon as possible • Annual report on estimated number of releases and status upon release of oceanic whitetip shark (part 1 report) 	<p>should be fully landed. Juvenile and pregnant shark are prohibited to be caught.</p> <ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 30 year 2012 have regulated conservation measures on the shark as a bycatch which is ecologically related to the tuna fishery in the Indonesia FMA only for thresher shark • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 have regulated fish species which are allowed to be caught should be fully landed based on regulation. • Currently, national regulation (Ministerial Regulation of Marine Affairs and Fisheries No. 5 year 2018) only regulates export prohibition for Oceanic Whitetip Shark • There is no national regulation on the prohibition of kept, transshipped, stored, landed of Oceanic Whitetip Shark which are fully landed or un fully landed • There is no national regulation on the immediate release of Oceanic Whitetip Shark
<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12/2012 on Fishing Business at High Seas, article 39 and 40 • Ministerial Regulation of Marine Affairs and Fisheries No. 30/2012 on Fishing Business at Indonesia Fisheries Management Area, article 73 • Ministerial Decree of Marine Affairs and Fisheries No. 18 year 2013 on the Fully Protection of Whale Shark (<i>Rhincodon typus</i>) 	<p>CMM 2012-04 Conservation and Management Measure on the Protection of whale sharks from purse seine operation</p> <ul style="list-style-type: none"> • Prohibit purse seine setting on whale sharks, if animal is sighted prior to commencement of the set • Part 2 report – advice on compatible measures adopted for mitigating impacts of purse seine fisheries on whale sharks 	<ul style="list-style-type: none"> • Ministerial Decree of Marine Affairs and Fisheries No. 18 year 2013 have regulated fully protection of Whale sharks (<i>Rhincodon typus</i>) including all of live cycle and/or live part of its species. • Ministerial Regulation of Marine Affairs and Fisheries No. 12 year 2012 have regulated any fishing activities on the high seas that accidentally caught marine mammals, including whales should be released alive

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	<ul style="list-style-type: none"> • Requirement in the event of non-deliberate encircling of whale shark in the purse seine net, including safe release • Advice in Part 1 annual report of any instances in which whale sharks have been encircled by the purse seine nets of their flagged vessels, including the details included under paragraph 4 (b) 	<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 30 year 2012 have regulated regulate conservation measures for marine mammals, including whales, by releasing non-fish species which are caught. If this species still alive should be released, meanwhile if its species caught dead should be recorded and reported to the Directorate General through head of the port base
<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12/2012 on Fishing Business at High Seas, article 39 and 40 • Ministerial Regulation of Marine Affairs and Fisheries No. 30/2012 on Fishing Business at Indonesia Fisheries Management Area, article 73 • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 on the utilization of protected fish and/or listed in the CITES Appendix, article 11 	<p>CMM 2013-08 Conservation and Management Measure for Silky Sharks</p> <ul style="list-style-type: none"> • Prohibit purse seine setting on whale sharks, if animal is sighted prior to commencement of the set • Part 2 report – advice on compatible measures adopted for mitigating impacts of purse seine fisheries on whale sharks • Requirement in the event of non-deliberate encircling of whale shark in the purse seine net, including safe release • Advice in Part 1 annual report of any instances in which whale sharks have been encircled by the purse seine nets of their flagged vessels, including the details included under paragraph 4 (b) 	<ul style="list-style-type: none"> • Ministerial Regulation of Marine Affairs and Fisheries No. 12 year 2012 have regulated shark as a bycatch which is ecologically related to the tuna fishery in the high seas should be fully landed. Juvenile and pregnant shark are prohibited to be caught. • Ministerial Regulation of Marine Affairs and Fisheries No. 30 year 2012 have regulated conservation measures on the shark as a bycatch which is ecologically related to the tuna fishery in the Indonesia FMA only for thresher shark • Ministerial Regulation of Marine Affairs and Fisheries No. 61 year 2018 have regulated fish species which are allowed to be caught should be fully landed based on regulation. • There is no national regulation on the prohibition of kept, transshipped, stored, landed of Silky Shark which are fully landed or un fully landed • There is no national regulation on the immediate release of Silky Shark