Best practice in the prevention of shark finning

Best Practice in the Prevention of Shark Finning

FINAL Report to the Marine Stewardship Council

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7 July 2020

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Acronyms, Abbreviations, and Glossary of Terms

ABNJ	Areas Beyond National Jurisdiction
ATF	Authorization to Fish
Batoidea	Subclass of Chondrichthyes incorporating skates, rays, and shark-like rays
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources (RFMO)
CCSBT	Commission for the Conservation of Southern Bluefin Tuna (RFMO)
Chondrichthyes	Class Chondrichthyes, encompassing sharks, skates, rays and chimaeras; in the FAO context referred to as "sharks"
CMM	Conservation and Management Measure
CTMFM	Comisión Técnica Mixta del Frente Marítimo / Joint Technical Commission for the Argentina/Uruguay Maritime Front (RFMO)
DW	Distant Water – referring to waters outside of States' EEZs but not necessarily only the High Seas
EEZ	Exclusive Economic Zone
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FB	Shark-Finning Ban
FAA	Fins Artificially Attached– implementation option for FB [as defined in the New Zealand shark finning regulation (No 2, 2014): *in relation to shark fins, means attached to the corresponding body of the shark through some artificial means, for example, the fins are stitched, tied, or stapled to the body of the shark or secured in a bag with the body of the shark*]
FCR	Fin-to Carcass Ratio – implementation option for FB
FNA	Fins Naturally Attached – implementation option for FB
FSR	Fisheries Standard Review (MSC)
GFCM	General Fisheries Mechanism for the Mediterranean (RFMO)
HS	High Seas [Areas Beyond National Jurisdiction]
IATTC	Inter-American Tropical Tuna Commission (RFMO)
ICCAT	International Commission for the Conservation of Atlantic Tunas (RFMO)
IOTC	Indian Ocean Tuna Commission (RFMO)
IPOA	International Plan of Action adopted under the auspices of FAO [in this context, the IPOA-Sharks, adopted in 1999]
LL	Longline fishing gear
MSC	Marine Stewardship Council
NEAFC	North-East Atlantic Fisheries Commission (RFMO)
NAFO	Northwest Atlantic Fisheries Organization (RFMO)
NPFC	North Pacific Fisheries Commission (RFMO)
NPOA	National Plan of Action [in this context for sharks, under the FAO IPOA-Sharks]
NW	National Waters – under the jurisdiction of an Independent Sovereign State
PS	Purse Seine fishing gear
RECOFI	Regional Commission for Fisheries (RFMO)
RFMO	Regional Fisheries Management Organization
SEAFO	Southeast Atlantic Fisheries Organization (RFMO)
SIOFA	Southern Indian Ocean Fisheries Agreement (RFMO)
SPRFMO	South Pacific Regional Fisheries Management Organization (RFMO)
TPS	Tuna Purse Seine
WCPFC	Western Central Pacific Fisheries Commission

I. Introduction

Shark finning is the practice of removing the fins of a shark at sea and discarding the carcass at sea. This practice is discouraged in the (voluntary) FAO International Plan of Action for Conservation and Management of Sharks (IPOA-Sharks), adopted in 1999, which, *inter alia*, aims to minimize waste and discards from shark catches in accordance with the FAO Code of Conduct for Responsible Fisheries (for example, requiring retention of sharks from which fins have been removed) and encourage full use of dead sharks. Already by 1999, the practice of shark finning had been prohibited in certain fisheries around the world. Since then, it has been prohibited by a number of Regional Fisheries Management Organizations (RFMOs) and many national governments. As shark finning bans have expanded globally, they have also evolved to incorporate requirements aimed at enabling illegal shark finning to be detected and deterred, namely through fin-to-carcass ratios (FCR) for sharks landed separate from fins or fins-naturally-attached (FNA) provisions. There has been a steady evolution over the past decade at least towards a FNA requirement for fisheries landing sharks, and FNA is widely considered to be "best practice" not only in ensuring that shark finning is not occurring but also in enabling fisheries monitoring at the level necessary to support adaptive management of these vulnerable species. There are, nevertheless, numerous countries and fisheries management bodies around the world that have yet to ban shark finning or put in place specific implementation requirements, particularly FNA.

The Marine Stewardship Council (MSC)'s Fisheries Standard (FS) incorporates a shark finning component. As part of the periodic Fisheries Standard Review (FSR), the MSC is assessing whether the shark finning component should be revised, in particular, whether strengthening requirements on policies such as "Fins Naturally Attached" (FNA) is needed. This report has been commissioned to support the MSC's deliberations on this issue, specifically in reviewing whether science and management best practice regarding the prevention of shark finning has significantly evolved since the publication of the current MSC Fisheries Standard v2.0 in 2014.

II. Best Practice in the Prevention of Shark Finning – Scope and Methods

A. Scope

In accordance with the Terms of Reference, the following issues were researched and reviewed, and the specific data points were compiled into a spreadsheet:

- adoption of a FNA or Fin-to-Carcass Ratio (FCR) requirement as a legally binding policy for the management and prevention of shark finning over a representative sample of jurisdictions globally;
- specifics of policies adopted, including nature of the policy; date of adoption/entry into force; scope of application (including exceptions); taxonomic coverage (definition of "sharks" in relation to shark finning); and whether any implementation reviews of FNA have been undertaken by fisheries management authorities and, in such cases, whether they have been deemed effective to prevent shark finning in their respective jurisdictions; and
- existence and prevalence of policies in place to prevent finning of other elasmobranchs, if different to those adopted for "sharks."

B. Methods

1. Global Representative Sampling

At least 143 countries, areas, territories and entities report shark catches to FAO (Fischer *et al*. 2012). There is no single, comprehensive compilation of shark finning measures adopted by these and other shark-fishing jurisdictions across the world, and primary-source documentation on laws and policies is dispersed and generally difficult to access. Therefore, given time and other constraints, it was decided that the Global Representative Sampling of jurisdictions would focus on the top 40 shark-fishing countries, territories or entities based on FAO FishStat data for the past decade (2008-2017) – the Top 40 - and an additional three countries (China, Myanmar, Viet Nam) that do not report large shark catches to FAO despite being among the world's top fishing countries – Top 40+. These fishing entities represent all regions of the world, and many of them fish in several, if not all, of the world's oceans. In addition to these "Top 43+," the shark finning measures in place for shark-relevant RFMOs were reviewed.

2. Definition of Policy

The main focus of the research was legally enforceable policies, namely laws and regulations adopted or promulgated by national governments or conservation and management measures (CMMs) adopted by RFMOs. As research progressed, it became evident that this narrow definition needed to be expanded to incorporate the national policy decisions on shark finning that are implemented through fishing licenses or permits, or other Authorizations to Fish (ATFs), as provided for under prevailing fisheries legislation. Adoption of finning bans and FCR and FNA requirements through fishing permits and licenses has evolved over time in different countries (e.g., Australia, Canada, South Africa) and in relation to different fisheries.

3. Sources of Information

Information on RFMO CMMs for sharks is readily available on all RFMO websites. For national jurisdictions and other fishing entities, the main sources of global information – and documentation – on legal measures for sharks are the FAO Shark Measures Database and FAOLEX, FAO's online legal database. Neither of these is comprehensive, nor universally up-do-date. Other sources of information include the websites of national fisheries agencies, which often provide links to relevant legislation; national assemblies and national gazettes, with their own legal databases; and third-party online legal databases. The author's own databases of shark measures, which are based on and incorporate primary-source documents and are maintained on an ongoing basis as time and resources allow, were also used. Finally, national and regional Plans of Action developed under the FAO IPOA-Sharks were consulted, as, in many instances, these detail the fisheries management regime in place for sharks and incorporate recommendations for improvements, including in relation to shark finning bans.

In addition, the MSC circulated a questionnaire requesting information on shark finning measures to a selection of government fishing agencies and RFMO secretariats around the world. Information requested included the measures in place to manage shark finning, whether shark finning measures applied to other elasmobranchs, and the legalities regarding prosecutions of shark finning. The responses to these questionnaires provided additional information for several of the countries reviewed here.

4. Caveats and Qualifications

- The information compiled and presented in the detailed spreadsheet and summarized here has relied heavily on publicly available information. For many fishing jurisdictions, information on shark finning measures was not locatable, but such measures may exist and simply not be in the public domain – or not in any of the languages used by the author to conduct this research. Similarly, this is a very dynamic space; hence, rules are ever-changing. Finally, legally enforceable policies for the control of shark finning are being adopted and implemented through licensing and permitting conditions, which are at the administrative level and, therefore, not included in legal databases. There are, therefore, likely to be omissions and inaccuracies in the information presented.
- Many shark finning measures do not explicitly prohibit shark finning. Such a prohibition is implicit in a "full utilization" requirement, which may, or may not, be defined as retention by the fishing vessel of all parts of the shark excepting head, guts and skins to the point of first landing, and also in a "landed whole" requirement. For the purposes of this review, these requirements are considered "finning bans."
- There is variability in how fishing entities apply fisheries management rules to fisheries and vessels operating within and outside of their jurisdictional waters. In some cases, national laws applying to fishing operations in the EEZ or national waters extend to the nation's flagged vessels wherever they may be operating. In other instances, countries have enacted a separate set of rules and standards for their flagged vessels operating outside of their jurisdictional waters. In addition, certain measures may apply to certain fleets, e.g., using certain gears, operating in specific fishing zones, or certain sizes of vessels. This complicates analysis of shark finning measures.
- Most of the fishing entities reviewed are contracting parties to RFMOs that have adopted shark finning measures. This analysis did not assess compliance with RFMO finning measures at any level of application.

III. Findings

A. Prevalence and Evolution of Fins Naturally Attached (FNA) Globally

RFMO Finning Measures Including FNA. Fifteen RFMOs considered of greatest relevance to chondrichthyan management were reviewed. The Commission for the Conservation of Southern Bluefin Tuna (CCSBT) has a standing (binding) policy of requiring their members to comply with the CMMs of the RFMOs governing the waters that they may additionally fish for southern bluefin tuna, even if they are not a member or cooperating non-member of that RFMO. Of the remaining fourteen RFMOs reviewed,

Table 1. Adoption of Shark Finning Bans, with FNA or FCR Requirements, by Shark-relevant RFMOs

RFMO	Finning Ban (FB) Date	FB w/FCR Measure Date	FB w/ FNA Measure Date	NOTES
CTMFM	2009	—	—	
GFCM	2012	—	2018	
IATTC	2005	2005	—	
ICCAT	2004	2004	—	
IOTC	2005	2005	2017: fresh sharks	2017: FCR frozen sharks
NAFO	2005	2005	2017	
NEAFC	2015	—	2015	
SEAFO	2006	2006	—	
WCPFC	2006	2010	2019	FNA w/ exceptions /alternatives

nine have adopted a shark finning ban, with the earliest dating to 2004 (ICCAT). Until 2015, six of these shark finning bans operated under a 5% FCR requirement. Since 2015, five of these fourteen RFMOS have adopted a full or partial FNA requirement: GFCM, IOTC, NAFO, NEAFC, WCPFC.

National Finning Measures Including FNA. The shark measures in place for the Top 40+ Global Shark Fishing countries, territories, or entities based on FAO FishStat data for 2008-2017 were reviewed. The overall findings of this analysis, in terms of adoption of shark finning bans (FB) and adoption of a Fins Naturally Attached (FNA) requirement, are summarized in Table 2 and detailed in Table 3 below (as well as the excel spreadsheet accompanying this report). Importantly, of the 21 fishing entities having adopted a shark finning ban, 19 (90%) have adopted a FNA requirement for at least some fisheries under their jurisdiction.

Table 2. Summary of Shark Finning Bans and FNA Requirement across Top 40+ Shark-fishing Countries, Territories, or Entities

Fishing Entities with FB in Place	21
Fishing Entities with No FB in Place	9
Fishing Entities with FB Status Unknown or Unverifiable	9
Fishing Entities solely implementing RFMO CMMs	4
Fishing Entities having adopted FNA for at least some fisheries under their jurisdiction	19
Fishing Entities having adopted, or expanded, FNA for at least some fisheries under their jurisdiction from 2014 onwards	7
Fishing Entities having adopted, or expanded, FNA for at least some fisheries under their jurisdiction from 2013 onwards	8
Fishing Entities having adopted, or expanded, FNA for at t least some of the fisheries under their jurisdiction from 2012 onwards	11
Fishing Entities having adopted FNA for at least some of the fisheries under their jurisdiction prior to 2012	11*
* The 2003 EU Shark Finning Regulation prohibited the removal of shark fins on board all EU vessels, wherever operating, but provided for special exemption permits to the FNA requirement that allowed removal of shark fins on board based on a 5% FCR. The 2013 amendment to the Shark Finning Regulation explicitly banned finning and required FNA universally by removing the special permit exemption. The EU's FNA measure is interpreted here as having come into effect in 2003. Four of the Top 40+ Shark Fishing Entities reviewed here are EU Member States (France, Portugal, Spain, and UK).	

As has been the case with RFMOs, there has – and continues to be – evolution in the adoption of FNA, not only by an increasing number of fishing entities but also in its being expanded to a wider fleet or greater number of fisheries under the jurisdiction of individual fishing entities. Of the 19 fishing entities among the Top 40+ having adopted FNA for at least some portion of the fisheries under their jurisdiction: eleven (11), including four EU Member States, adopted FNA prior to 2012; three fishing entities adopted FNA in 2012 – Brazil, Venezuela and Taiwan (for selected fleets); one, India, adopted FNA nationally in 2013; and six – Canada, Japan, New Zealand, Peru, South Africa, and Taiwan have adopted, or expanded, FNA since 2014. Japan, for example, established, in January 2016, a FNA requirement for its offshore surface longline fleet operating out of the port of Kesennuma (Japan Fisheries Agency 2016), while Taiwan established, in 2012, a FNA requirement for certain classes of fishing vessels operating in its EEZ and subsequently, in 2017, for certain vessel classes of distant water fishing vessels landing in Taiwanese ports.

It is noteworthy that no Southeast Asian country has – or appears to have – adopted a finning ban for their national waters. One exception may be Indonesia, where, under its 2015 national Tuna Fishery Management Plan, vessels $\geq$ 30 GT are required to land shark fins on the basis of a 5% FCR, an implicit if not explicit finning ban for that fishery (I. Sualia, *in litt.*, 20 May 2020).

Table 3. Adoption of Shark Finning Bans, with FCR and FNA Requirements, by Top 40+ Shark-Fishing Countries or Entities (based on FAO FishStat 2008-2017)

Global Ranking – Fishing Entity		Finning Ban Date	FB w/ FCR Date	FB w/ FNA Date	NOTES
(1)	European Union	2003	2003	2003, 2013	Exemption to 2003 finning prohibition via special permits requiring FCR rescinded in 2013
1	Indonesia	2012- RFMO only	[2015]	—	See text re Tuna Management Plan
2	Spain (EU)	2003	2003	2003, 2013	Spain issued most special permits applying FCR not FNA of all EU countries
3	India	2013	—	2013	
4	Mexico	2007	—	—	
5	USA	2000	2011	2011	FCR applies to 1 species exempt from FNA in certain US national waters
6	Argentina	2009	—	—	
7	Taiwan P. China	2012, 2016	2012, 2016	2012, 2016	FAA, FNA, FCR for fleets operating under differing conditions, incl. in national (NW) vs. distant (DW) waters; implements RFMO CMMs
8	Malaysia	—	—	—	
9	Brazil	2012	—	2012	
10	Nigeria	?	?	?	
11	New Zealand	2014	2014	2014	FNA applies to most species; FAA or FCR applies to 9 shark and chimaera species taken in fisheries under different management regimes
12	Portugal (EU)	2003	2003	2003, 2013	Portugal issued special permits applying FCR not FNA
13	France (EU)	2003	—	2003, 2013	France did NOT issue exemption permits to FNA
14	Japan	2008	RFMO only	2016; RFMO	FNA adopted for Surface LL fleet operating in EEZ
15	Pakistan	?	?	?	
16	Iran (Islamic R.)	?	?	?	
17	Peru	2016	—	2016	
18	Korea (R.)	RFMO only	RFMO only	RFMO only	
19	Yemen	?	?	?	
20	Ecuador	2007	—	2007	
21	Oman	?	?	?	
22	Tanzania (U. R.)	N	N	N	
23	Australia	2000 →	—	< 2011	FB implemented gradually for different fisheries from 2000. FNA incorporated into permit conditions, then adopted into law in 2011 for all Commonwealth fisheries
24	Sri Lanka	2001	—	2001, 2015	2015 Regulation extends FB to High Seas
25	Senegal	N	N	N	
26	Thailand	N	N	N	
27	Ghana	N	N	N	
28	Venezuela	2012	—	2012	
29	Madagascar	N	N	N	
30	United Kingdom (EU)	2003	2003	2003,2013	UK applied FNA to all UK vessels as of 2009
31	Philippines	N	N	N	
32	Costa Rica	2001	2005	2001, 2008	
33	Russian Federation	?	?	?	
34	Morocco	?	?	?	
35	South Africa	1998	?	2017, 2020	FNA implemented for specific fisheries via permit conditions; FCR may apply in some cases

Global Ranking – Fishing Entity		Finning Ban Date	FB w/ FCR Date	FB w/ FNA Date	NOTES
36	Canada	1994	?	2018, 2019	Implemented in licensing conditions over time and incorporated into Fisheries Act in 2019; FNA for skates adopted in 2019
37	Namibia	RFMO only	RFMO only		
38	Angola	?	?	?	
39	Chile	2011	—	2011	
40	Uruguay	—	—	—	FB in Joint AR-UY Fishing Zone -beyond 12m limit
Other Likely Important Shark-Catching Countries					
	China	RFMO only	RFMO only	RFMO only	
	Myanmar	—	—	—	
	Viet Nam	?	?	?	

Key: ? = Unknown: no information located on which to assess existence of measure OR the dates of implementation; **–** **—** indicates that available information, including expert knowledge, indicates the measure is not in place.

Shark Finning Measures Beyond the Top 40+. Numerous additional countries of the at-least 143 fishing entities reporting shark catches to FAO (Fischer *et al.* 2012) have adopted shark finning bans and associated measures, including FCR and FNA. Those for which information is readily available at the time of writing are presented in the table below.

Country	Finning Ban Date	FNA Requirement Date	NOTE
Cabo Verde	2007	2014 (NW)	May have been established earlier
Colombia	2013		
Cook Islands	2012 (NW)		
El Salvador	2012	2012	
Gambia	2008		
Kiribati	2012 (NW)		
Nicaragua	2004 (FCR)		
Panama	2006	2006	
Seychelles	2006 (FCR)		
Sierra Leone	2011?	2019	Diop and Dossa (2011) report FB in place at time of writing
United Arab Emirates	2014?	2019	

NW= National Waters

B. Taxonomic Coverage of Finning Bans and FNA Requirements

The definition of "shark" in the measures reviewed for this analysis varies widely. As "shark finning" is the common term used to refer to the practice of "finning," finning measures generally refer to "sharks" ("tiburón in Spanish, "requin" in French). Where "shark" is not defined, it is difficult, if not impossible, to discern whether the scope of the measure is the FAO definition of "shark" – Class Chondrichthyes – or the true sharks. i.e., selachians. Of the 21 fishing entities of the Top 40+ Global Shark-Fishing entities reviewed here that have adopted a finning ban, 12 have defined "shark" for the purposes of the FB, while nine have not (See Annex I). In a number of instances, "shark" or "shark fin" is specifically defined to exclude certain taxa from the finning measure. As discussed below, the definition of shark and shark fin has important implications, as a narrow definition (selachians) would exclude shark-like elasmobranchs such as guitarfishes and wedgefishes that have some of the most valuable fins on the international shark fin market, while a broader definition, such as including the batoids, brings skate fisheries, and their most important product, skate wings, under the finning regime (intentionally or not).

The RFMO shark finning measures generally do not define the term "shark." Although several make reference to the FAO IPOA-Sharks in their preambular or operative section, it seems unwise to infer that the broad definition used by FAO is understood to apply. Among the variations are the following:

- both SEAFO and IOTC refer in the preamble of their shark CMMs to the FAO IPOA-Sharks and NPOAs but state - erroneously - "… sharks (defined as elasmobranchs)" vs. all Chondrichthyes;
- the GFCM uses the same definitions as the EU Council Regulation: elasmobranchs, but excluding from "shark fins" the pectoral fins of rays, the "constituent part of raywings."

Importantly, one of the several improvements in the shark CMM adopted by the WCPFC in 2019 is a specific definition of shark as all Chondrichthyes.

At the national level, there are also noteworthy variations on the taxonomic coverage of the shark finning measures. For example:

- Australia's shark finning measure for Commonwealth fisheries, including the FNA requirement adopted in 2011, defines sharks as Class Chondrichthyes. In order to facilitate compliance with that requirement, the regulation specifies the parts of the animal that may not be removed at sea based on the morphology of the different taxonomic groups – sharks; angel sharks and dogfishes; banjo sharks; skates and rays; and elephant fishes (chimaeroids).
- Canada expanded its FNA requirement, implemented gradually through fishing license conditions then incorporated into the Fisheries Act in 2019, to skates in 2019, thereby requiring that skates now also be landed with their pectoral fins attached.
- The European shark finning regulation explicitly defines shark as all elasmobranchs. However, it defines "'shark fins' as any fins of sharks including caudal fins, but excluding the pectoral fins of rays, which are a constituent part of raywings," thereby excluding skates from the finning prohibition. The EU Scientific, Technical and Economic Committee for Fisheries (STECF) has raised concerns regarding the lack of definition of "ray" in the regulation and whether that might present a loophole for EU vessels to catch and process the fins of valuable shark-like rays, such as guitarfishes and wedgefishes, in their distant-water operations (STECF 2019); they have further recommended that the Regulation cover in full all elasmobranchs, thus including skates and rays, but that recommendation has not yet been implemented (EC 2011).
- New Zealand, which has important commercial fisheries taking chimaeras, defines shark "as all Chondrichthyes excluding *Batoidea"* (This Superorder incorporates skates, rays, and their relatives, including the guitarfishes and wedgefishes, and with the Superorder Selachimporpha constitute the Subclass Elasmobranchii).
- In the USA, "shark" is not defined in the Shark Finning Prohibition Act or Shark Conservation Act. Their implementing regulations, most recently promulgated in 2016, specifically interpret the finning prohibition and FNA requirement as applying to "sharks not skates and rays."

As the above examples would suggest, the taxonomic coverage of shark finning measures is at once haphazard and deliberate. In some instances, there has clearly been a recognition of implications of the definition for certain fisheries; in other instances, there appears to have been little thought afforded to the ramifications of defining "shark" and in what manner. While there is a broad understanding of the importance of elasmobranch fisheries, including for skates and rays, around the world, there seems to

be less overall awareness of the importance of chimaeroid fisheries, such as operate in Argentina and New Zealand (see also Okes and Sant 2019), and the incidence of chimaera fins in the shark fin trade, such as has been documented by Fields et al. (2017). There are clearly important issues warranting further analysis as regards the taxonomic coverage of shark finning bans.

C. Review of Effectiveness of FNA

There appear to be very few reviews of implementation of FNA in support of a shark finning ban. Such reviews may have been internal processes for which publicly available information rarely exists. Shark finning bans were clearly subject to review in the context of government reviews of NPOAs, but the details of these reviews are generally not included in revised NPOAs (e.g., Bodsworth *et al*., 2010). A few instructive examples of approaches to FNA, or assessments of finning bans relating to FNA, are presented in the case studies below. From these and other examples, it is clear that there is no "one size fits all" in this very complex and dynamic space.

European Union

The largest body of experience on implementation of a shark finning ban, in particular as regards FNA and FCR, is through implementation of the EU shark finning ban, established by EU Council Regulation in 2003 and applying to EU waters and all waters where EU fishing vessels operate. The 2003 Council Regulation prohibiting the removal of shark fins on board vessels but allowing the practice via special permits issued by EU Member States for which a FCR would apply, was amended in 2013 to remove the special permit exception, such that FNA has applied, since the entry into effect of the 2013 Regulation, to all EU waters and EU vessels. Over the ten-year period between 2003-2013 and subsequently, there have been numerous implementation reviews, stakeholder consultations, annual reporting by EU Member States on implementation of the shark finning Regulations, and reporting by the Commission to the EU Parliament and Council (see, for example, EC 2011, EC 2016 and Annex, STECF 2019, Fowler and Seret 2010). There is, thus, is an extensive body of documentation on issues arising from the EU shark finning ban, more than could be reviewed for this analysis. The 2016 European Commission review of the revised FNA Regulation recognized the concerns expressed by Spain regarding the financial impacts of the Regulation on the Spanish longline fleet. At the same time, the review concluded that the Commission's analysis of the reported costs of adaptation to the requirements of the new Regulation by relevant EU fleet segments indicated that the largest fleet segment (in terms of number of vessels and employment) could continue operating with reasonable profit margins, while for those segments already operating with losses, the adaptation costs may exacerbate their financial problems. The 2019 review of implementation of the Regulation by the EU STECF (2019) raised concerns regarding the inadequacy of information on which to assess the EU fleet's compliance with the Regulation outside of EU waters, in addition to those detailed above regarding the taxonomic coverage – i.e., excluding batoids from the shark finning ban, along with chimaeras, thus two of the three subclasses of Chondrichthyes.

New Zealand

Finning of live sharks is prohibited under New Zealand's Animal Welfare Act 1999, which prohibits ill-treatment, including loss of a body part. New Zealand banned shark finning in New Zealand fisheries and implemented a FNA requirement in 2014, applying to all Chondrichthyes excluding *Batoidea*, and to all

but a handful of commercially valuable chondrichthyans harvested in fisheries managed under a Quota Management System (QMS). Prior to implementation of the 2014 finning ban, several options for landing fins were assessed against three main objectives: 1) meet public and international expectations for reducing wastage in shark fisheries; 2) provide a high degree of confidence that shark finning is no longer occurring; and 3) minimize the impact on commercial operations, including those that already fully utilize shark catches. A FNA approach for all species was considered in the initial analysis but was rejected on the grounds that it may not meet objective 1 as it could further increase wastage due to less efficient processing on land than on sea and could also potentially increase discarding. It was also determined that it would not meet objective 3, as additional processing costs and/or a lower quality product would negatively impact some commercial operations and potentially encourage discarding. Details on the process of considering a shark finning ban are presented in the Regulatory Impact Statement (July 2014) prepared by the Ministry for Primary Industries in support of the finning regulation.

A FNA policy is one of three conditions that New Zealand implements to allow commercial fishers to land shark fins. The conditions vary by species (see Table below): FNA applies to spiny dogfish and all shark species managed outside New Zealand's Quota Management System (QMS); blue shark (the primary shark bycatch species of the tuna fishery) may be landed with fins artificially attached; and a FCR applies to the remaining QMS seven shark (chondrichthyan) taxa. Technical assessments to derive appropriate species-specific FCR have been conducted (Francis 2014).

Summary of conditions for allowing landing of shark fins in New Zealand (main tuna bycatch species highlighted)

Approach	Description and conditions	Applicable species
Fin-to-Carcass Ratio	Fins must be stored and landed separately by species. The weight of fins landed should not exceed a specified percentage of the green weight of the shark. Weight of fins must be reported on landing returns. The ratio applies to landings on a trip-by-trip basis.	Elephant fish
		Dark ghost shark
		Mako shark
		Pale ghost shark
		Porbeagle shark
		Rig
		School shark
Fins artificially attached	After being processed to the dressed state, fins must be re-attached to the shark by some artificial means. Landings to be reported with landed state of SFA (shark fins attached).	Blue shark
Fins naturally attached	After being processed to the headed and gutted state, the fins must remain attached to the body by some portion of uncut skin. Landings to be reported with landed state of SFA (shark fins attached).	Spiny dogfish
		All non-QMS species

According to Fisheries New Zealand (response to MSC questionnaire), their department is currently undertaking a review of the shark finning ban, which will address general changes in fisher behaviour since the introduction of the ban and whether the existing measures are working effectively. Sharks are a common bycatch of the tuna fishery (surface longlining, in particular), and this catch is perceived as having low or even negative value to the fishers. Further, the domestic tuna longline fleet is made up of smaller vessels that would be severely constrained in their ability to operate were they to land all shark catches. It is not clear whether this review is addressing the taxonomic coverage of the shark finning ban, in particular any implications of the exclusion of the batoid fishes from its provisions.

Sri Lanka

Shark (defined as species of shark and skate) finning was prohibited in Sri Lanka in 2001. The Landing of Fish (Species of Shark and Skate) Regulations, 2001 defined shark finning (slicing off fins of sharks caught) onboard fishing vessels and discarding the carcasses at sea); required fishers to land fish belonging to the species of shark or skate while the fins of such species of fish are attached to such fish; and prohibited landing of fins that have been removed from any fish belonging to the species of shark or skate (Sri Lanka NPOA 2013). That regulation was superseded in 2015 by two regulations, one applying to fisheries in national waters and the other to fishing operations by Sri Lanka vessels on the High Seas (this also incorporates several IOTC shark measures, including retention bans). Both prohibit finning and retention on board, transshipment or landing of fins unless they are naturally attached to the shark body. Both regulations state "'shark' include species of sharks."

Although the 2015 Regulations present an improvement in extending the finning ban and FNA requirement to High Seas fishing operations and incorporating the other IOTC measures, the taxonomic coverage could be interpreted as having been narrowed (i.e., no skates), with important implications for some batoids with valuable fins occurring in Sri Lanka waters. Apparently, however, this was inadvertent: the original draft text defined "sharks" per the FAO definition, but this was changed by a non-expert in the final legal draft; it must now be rectified in a subsequent amendment. In either case, however, the finning ban and FNA requirement are not considered a problem for Sri Lanka fisheries, as all shark catches are landed whole (D. Fernando*, in litt.*, 21 May 2020).

WCPFC

The Western and Central Pacific Fisheries Commission (WCPFC) revised its CMM for sharks in an omnibus resolution, CMM 2019-04 Conservation and Management Measure for Sharks, adopted in 2019 that enters into force on 1 November 2020. This revised resolution, which is annexed to this report, significantly improves on the previous WCPFC measure in number of respects and is particularly noteworthy for its treatment of a new FNA requirement. Specifically, CMM 2019-04:

- specifically defines 1) sharks (all Chondrichthyes), 2) full utilization; and 3) finning;
- explicitly prohibits finning;
- mandates CCMs to require their vessels to land sharks with fins naturally attached to the carcass;
- sets forth three specific alternative methods to FNA and establishes a waiver process for any CCM wishing to allow its fishing vessels operating on the High Seas to use any alternative to the four prescribed methods;
- details reporting requirements regarding implementation of these provisions and their effectiveness; and
- mandates the Technical and Compliance Committee (TCC) to review these reports and advise the WCPFC in 2023 regarding the effectiveness of the alternative measures and recommend any adjustments for possible adoption at the 2023 Commission meeting.

The three alternatives to FNA are:

(1) each individual shark carcass and its corresponding fins are stored in the same bag, preferably a biodegradable one;

(2) each individual shark carcass is bound to the corresponding fins using rope or wire;

(3) identical and uniquely numbered tags are attached to each shark carcass and its corresponding fins in a manner that inspectors can easily identify the matching of the carcass and fins at any time. Both the carcasses and fins shall be stored on board in the same hold. Notwithstanding this requirement, a CCM may allow its fishing vessels to store the carcasses and corresponding fins in different holds if the fishing vessel maintains a record or logbook that shows where the tagged fins and correspondingly tagged carcasses are stored, in a manner that they are easily identified by the inspectors.

Over the course of the working group deliberations that prepared this revised resolution, one of the proposals that was presented was that any alternative to FNA would require a waiver to be approved by the TCC. That waiver would include a specification of the proposed system for implementing the finning ban, to include the following components:

i. A description of and rationale for any required quantitative standards such as fins to carcass ratios with a clear statement of the application of standards to live or dressed carcasses, full or partial fin sets, any species-specific considerations, wet or dry weights, any conversion factors, etc.
ii. A description of any required operational practices such as cutting, tying, tagging, bagging, etc.
iii. A description of record-keeping requirements at sea and upon landing, including species-specific reporting for the WCPFC key shark species.
iv. A description of the monitoring system used by the CCM to compile and check these records for the incidence of finning, including the number of annual landing events by location, annual total numbers and weight of sharks and fins by species, etc.
v. A description of the inspection system used by the CCM to verify (e.g. through random, periodic audits) that the monitoring system is functioning appropriately, and the number of audits conducted each year.
vi. A list of past incidences of shark finning detected and a description of the remedial actions taken by the CCM and the vessel(s) and crew(s) involved.
vii. A commitment to including an independent observer on board as a condition of waiver.

The FNA alternatives in CMM 19-04 and proposed waiver specifications may be instructive for the consideration of alternatives to FNA. Finally, the WCPFC annual reporting on this CMM and 2023 review are likely to be also shed light on implementation issues – and possibilities – for FNA and these alternatives.

IV. Information Sources

Personal Communications

Dr. Randall Arauz, International Policy Director, Fins Attached – Marine Research and Conservation, USA/Costa Rica. *in litt*., 14 May 2020.

Dr. Rhett Bennett, Shark and Ray Conservation Program Manager – Madagascar and Western Indian Ocean, Wildlife Conservation Society (WCS*),* South Africa*. in litt.*, 20 May 2020.

Dr. Shelley Clarke, Sasama Consulting, Japan*. in litt.*, 21, 30 May 2020.

Dr. Juan Martín Cuevas, Coordinator, Patagonia Sharks and Rays Initiative, Wildlife Conservation Society (WCS) Argentina. *in litt.*, 16 April 2020.

Dr. Charlene da Silva, Department of Environment, Forestry and Fisheries (DEFF), South Africa. *in litt*.,21, 22 May 2020.

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Dr. Rachel Graham, Founder and Executive Director, MarAlliance, US/Panama. personal communication, 27 May 2020.

Ms. Cheri McCarty, Foreign Affairs Specialist, Office of International Affairs and Seafood Inspection, NOAA Fisheries, National Oceanic and Atmospheric Administration, US. personal communication, 22 May 2020. *in litt.*, 26 May 2020.

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Responses to MSC Shark Finning Questionnaires, 2019

Australia Fisheries Management Agency
Canada Fisheries and Oceans
China
Fiji
New Zealand Fisheries
Indonesia Ministry of Marine Affairs and Fisheries
Mexico
Palau Nauru Agreement Secretariat
Spain
US National Oceanic and Atmospheric Administration
IATTC
ICCAT and IOTC
WCPFC

Annex I: Definition of "Shark" by the 21 of the Top 40+ Global Shark-Fishing Entities Having Established a Finning Ban

Fishing Country or Entity (by Global Ranking)	Sharks Defined?	Details
European Union (4 of 21 FB Entities)	Y	Elasmobranchs; but definition of "shark fin" excludes "skates and rays" (undefined)
India	N	
Mexico	Y	Defines "tiburón" (shark) as Selachimorpha (true sharks)
USA	Y/N	Not defined in the legislation, but the implementing regulation states that FB/FNA applies to "sharks not skates and rays"
Argentina	N	Law applies to "condricitos" and "rayas" (skates and rays) as well as "tiburones," (sharks) and FB applies to "tiburones," thus suggesting FB applies to sharks only
Taiwan	N	English translation is "sharks"
Brazil	Y	Any species of Elasmobranchii
New Zealand	Y	Chondrichthyes, excluding *Batoidea*
Japan	N	English translation is "sharks"
Peru	N	"tiburones" (sharks)
Ecuador	N	"tiburones" (sharks)
Australia	Y	Chondrichthyes
Sri Lanka	N	Lack of definition of "shark" to incorporate all Chondrichthyes was a final drafting error in the 2015 regulations – will be rectified in future
Venezuela	Y	"Class Elasmobranchii, including sharks, skates, rays, and chimaeras" [an error, as chimaeras constitute the separate Subclass Holocephali and are not included in Subclass Elasmobranchii]
Costa Rica	N	"tiburones" (sharks)
South Africa	Y	The Marine Living Resources Act 1998 requires permits for fishing Chondrichthyes. Charlene da Silva (*in litt.*) informs that FB and FNA in licensing provisions are for sharks in the various fisheries regulated and exclude skates and rays, including guitarfishes, and chimaeras
Canada	Y	Legislation accessed does not define "shark;" separate laws/policies have been established for FNA for sharks and subsequently for skates
Chile	N	"tiburones" (sharks)

Results: "Sharks" Defined for Purposes of FB: 12. "Sharks "Not Defined for Purposes of FB: 9

Attachment M*

COMMISSION
SIXTEENTH REGULAR SESSION
Port Moresby, Papua New Guinea
5 – 11 December 2019

CONSERVATION AND MANAGEMENT MEASURE FOR SHARKS

Conservation and Management Measure 2019-04

The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC), in accordance with the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (the Convention);

Recognizing the economic and cultural importance of sharks in the western and central Pacific Ocean (WCPO), the biological importance of sharks in the marine ecosystem as key predatory species, the vulnerability of certain shark species to fishing pressure, and the need for measures to promote the long-term conservation, management and sustainable use of shark populations and fisheries;

Recognizing the need to collect data on catch, effort, discards, and trade, as well as information on the biological parameters of many species, to enable effective shark conservation and management;

Recognizing further that certain species of sharks and rays, such as basking shark and great white shark, have been listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Adopts, in accordance with Article 5, 6 and 10 of the Convention, that:

I. Definitions

1. (1) Sharks: All species of sharks, skates, rays and chimaeras (Class Chondrichthyes)
(2) Full utilization: Retention by the fishing vessel of all parts of the shark excepting head, guts, vertebrae and skins, to the point of first landing or transshipment
(3) Finning: Removing and retaining all or some of a shark's fins and discarding its carcass at sea

II. Objective and Scope

2. The objective of this Conservation and Management Measure (CMM) is, through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation and sustainable use of sharks.

3. This CMM shall apply to: (i) sharks listed in Annex 1 of the 1982 Convention and (ii) any other sharks caught in association with fisheries managed under the WCPF Convention.

4. This measure shall apply to the high seas and exclusive economic zones of the Convention Area.

5. Nothing in this measure shall prejudice the sovereignty and sovereign rights of coastal States, including for traditional fishing activities and the rights of traditional fishers, to apply alternative measures for the purpose of exploring, exploiting, conserving and managing sharks, including any national plan of action for the conservation and management of sharks, within areas under their national jurisdiction. When Commission Members, Cooperating Non-Members, and Participating Territories (CCMs) apply alternative measures, the CCMs shall annually provide to the Commission, in their Part 2 Annual Report, a description of the measures.

III. FAO International Plan of Action for the Conservation and Management of sharks

6. CCMs should implement, as appropriate, the FAO International Plan of Action for the Conservation and Management of Sharks (IPOA). For implementation of the IPOA, each CCM should, as appropriate, include its National Plan of Action for sharks in Part 2 Annual Report.

IV. Full utilization of shark and prohibition of finning

7. CCMs shall take measures necessary to require that all sharks retained on board their vessels are fully utilized. CCMs shall ensure that the practice of finning is prohibited.

8. In order to implement the obligation in paragraph 7, in 2020, 2021 and 2022, CCMs shall require their vessels to land sharks with fins naturally attached to the carcass.

9. Notwithstanding paragraph 8, in 2020, 2021 and 2022, CCMs may take alternative measures as listed below to ensure that individual shark carcasses and their corresponding fins can be easily identified on board the vessel at any time:

(1) Each individual shark carcass and its corresponding fins are stored in the same bag, preferably biodegradable one;
(2) Each individual shark carcass is bound to the corresponding fins using rope or wire;
(3) Identical and uniquely numbered tags are attached to each shark carcass and its corresponding fins in a manner that inspectors can easily identify the matching of the carcass and fins at any time. Both the carcasses and fins shall be stored on board in the same hold. Notwithstanding this requirement, a CCM may allow its fishing vessels to store the carcasses and corresponding fins in different holds if the fishing vessel maintains a record or logbook that shows where the tagged fins and correspondingly

tagged carcasses are stored, in a manner that they are easily identified by inspectors.

10. In case that a CCM wishes to allow its fishing vessels operating on the high seas to use any measure other than the three alternatives in paragraph 9 (1) – (3), it shall present it to TCC. If TCC endorses it, it shall be submitted to the subsequent annual meeting for endorsement.

11. All CCMs shall include in their Part 2 Annual Report information on the implementation of the measures in paragraph 8 or paragraph 9 as applicable for review by TCC. The report by CCMs shall contain a detailed explanation of implementation of paragraph 8 or paragraph 9 as applicable including how compliance has been monitored. CCMs are encouraged to report to TCC any enforcement difficulties that they encountered in the case of the alternative measures and how they have addressed risks such as monitoring at sea, species substitution, etc. The TCC in 2023 shall, taking into account these reports, advise the Commission on the effectiveness of the measures set out in paragraph 9 as alternatives to the obligation contained in paragraph 7, and recommend measures for consideration and possible adoption at the 2023 annual meeting of the Commission.

12. CCMs shall take measures necessary to prevent their fishing vessels from retaining on board (including for crew consumption), transshipping, and landing any fins harvested in contravention of this CMM.

13. CCMs shall take measures necessary to ensure that both carcasses and their corresponding fins are landed or transshipped together, in a manner that allows inspectors to verify the correspondence between an individual carcass and its fins when they are landed or transshipped.

V. Minimizing bycatch and practicing safe release

14. For longline fisheries targeting tuna and billfish, CCMs shall ensure that their vessels comply with at least one of the following options:

(1) do not use or carry wire trace as branch lines or leaders; or

(2) do not use branch lines running directly off the longline floats or drop lines, known as shark lines. See **Annex 1** for a schematic diagram of a shark line.

15. The implementation of the measures contained in paragraph 11 above shall be on a vessel by vessel or CCM basis. Each CCM shall notify the Commission of its implementation of paragraph 14 by March 31, 2021 and thereafter whenever the selected option is changed.

16. For longline fisheries targeting sharks, CCMs shall develop and report their management plans in their Part 2 Annual Report.

17. The Commission shall adopt and enhance bycatch mitigation measures and develop new or amend, if necessary, existing Shark Safe Release Guidelines[1] to maximize the survival of sharks that are caught and are not to be retained. Where sharks are unwanted bycatch they should be released alive using techniques that result in minimal harm, taking into account the safety of the crew. CCMs should encourage their fishing vessels to use any Commission adopted guidelines for

[1] The Commission adopted at WCPFC15 Best Handling Practices for the Safe Release of Sharks (other than Whale Sharks and Mantas/Mobulids)

the safe release and handling of sharks.

18. CCMs shall ensure that sharks that are caught and are not to be retained, hauled alongside the vessel before being cut free in order to facilitate a species identification. This requirement shall only apply when an observer or electronic monitoring camera is present, and should only be implemented taking into consideration the safety of the crew and observer.

19. Development of new WCPFC guidelines or amendment to existing guidelines for safe release of sharks should take into account the health and safety of the crew.

VI. Species specific requirements

20. Oceanic whitetip shark and silky shark
    (1) CCMs shall prohibit vessels flying their flag and vessels under charter arrangements to the CCM from retaining on board, transshipping, storing on a fishing vessel or landing any oceanic whitetip shark, or silky shark, in whole or in part, in the fisheries covered by the Convention.
    (2) CCMs shall require all vessels flying their flag and vessels under charter arrangements to the CCM to release any oceanic whitetip shark or silky shark that is caught as soon as possible after the shark is brought alongside the vessel, and to do so in a manner that results in as little harm to the shark as possible, following any applicable safe release guidelines for these species.
    (3) Subject to national laws and regulations, and notwithstanding (1) and (2), in the case of oceanic whitetip shark and silky shark that are unintentionally caught and frozen as part of a purse seine vessels' operation, the vessel must surrender the whole oceanic whitetip shark and silky shark to the responsible governmental authorities or discard them at the point of landing or transshipment. Oceanic whitetip shark and silky shark surrendered in this manner may not be sold or bartered but may be donated for purpose of domestic human consumption.
    (4) Observers shall be allowed to collect biological samples from oceanic whitetip sharks and silky shark caught in the Convention Area that are dead on haulback in the WCPO, provided that the samples are part of a research project of that CCM or the SC. In the case that sampling is conducted as a CCM project, that CCM shall report it in their Part 2 Annual Report.

21. Whale shark
    (1) CCMs shall prohibit their flagged vessels from setting a purse seine on a school of tuna associated with a whale shark if the animal is sighted prior to the commencement of the set.
    (2) CCMs shall prohibit vessels flying their flag and vessels under charter arrangements to the CCM from retaining on board, transshipping, or landing any whale shark caught in the Convention Area, in whole or in part, in the fisheries covered by the Convention.
    (3) For fishing activities in Parties to Nauru Agreement (PNA) exclusive economic zones, the prohibition in paragraph (1) shall be implemented in accordance with the Third Arrangement implementing the Nauru Agreement as amended on 11 September 2010.
    (4) Notwithstanding sub-paragraph (1) above, for fishing activities in exclusive economic

zones of CCMs north of 30 N, CCMs shall implement either this measure or compatible measures consistent with the obligations under this measure. When CCMs apply compatible measures, the CCMs shall annually provide to the Commission, in their Part 2 Annual Report, a description of the measure.

(5) CCMs shall require that, in the event that a whale shark is incidentally encircled in the purse seine net, the master of the vessel shall:
   (a) ensure that all reasonable steps are taken to ensure its safe release.; and
   (b) report the incident to the relevant authority of the flag State, including the number of individuals, details of how and why the encirclement happened, where it occurred, steps taken to ensure safe release, and an assessment of the life status of the whale shark on release.

(6) In taking steps to ensure the safe release of the whale shark as required under sub-paragraph (5)(a) above, CCMs shall encourage the master of the vessel to follow the WCPFC Guidelines for the Safe Release of Encircled Whale Sharks (WCPFC Key Document SC-10)[2].

(7) In applying steps under sub-paragraphs (1), (5)(a) and (6), the safety of the crew shall remain paramount.

(8) The Secretariat shall report on the implementation of this paragraph on the basis of observer reports, as part of the Annual Report on the Regional Observer Programme.

VII. Reporting requirements

22. Each CCM shall submit data on the WCPFC Key Shark Species[3] for Data Provision in accordance with Scientific Data to be Provided to the Commission (WCPFC Key Document Data-01).

23. CCMs shall advise the Commission (in their Part 2 Annual Report) on implementation of this CMM in accordance with Annex 2.

VIII. Research

24. CCMs shall as appropriate, support research and development of strategies for the avoidance of unwanted shark captures (e.g. chemical, magnetic and other shark deterrents), safe release guidelines, biology and ecology of sharks, identification of nursery grounds, gear selectivity, assessment methods and other priorities listed under the WCPFC Shark Research Plan.

25. The SC shall periodically provide advice on the stock status of key shark species for assessment and maintain a WCPFC Shark Research Plan for the assessment of the status of these stocks. If possible, this should be done in conjunction with the Inter-American Tropical Tuna

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[2] Originally adopted on 8 December 2015. The title of this decision was amended through the Commission decision at WCPFC13, through adopting the SC12 Summary Report which contains in paragraph 742: "SC12 agreed to change the title of 'Guidelines for the safe release of encircled animals, including whale sharks' to 'Guidelines for the safe release of encircled whale sharks'."

[3] The WCPFC Key Shark Species for Data Provision are designated per the Process for Designating WCPFC Key Shark Species for Data Provision and Assessment (WCPFC Key Document SC-08) and are listed in Scientific Data to be Provided to the Commission (WCPFC Key Document Data-01).

Commission.

IX. Capacity building

26. The Commission should consider appropriate assistance to developing State Members and participating Territories for the implementation of the IPOA and collection of data on retained and discarded shark catches.

27. The Commission shall consider appropriate assistance to developing State Members and participating Territories for the implementation of this measure, including supplying species identification guides for their fleets and guidelines and training for the safe release of sharks, and including, in accordance with Article 7 of the Convention, in areas under national jurisdiction.

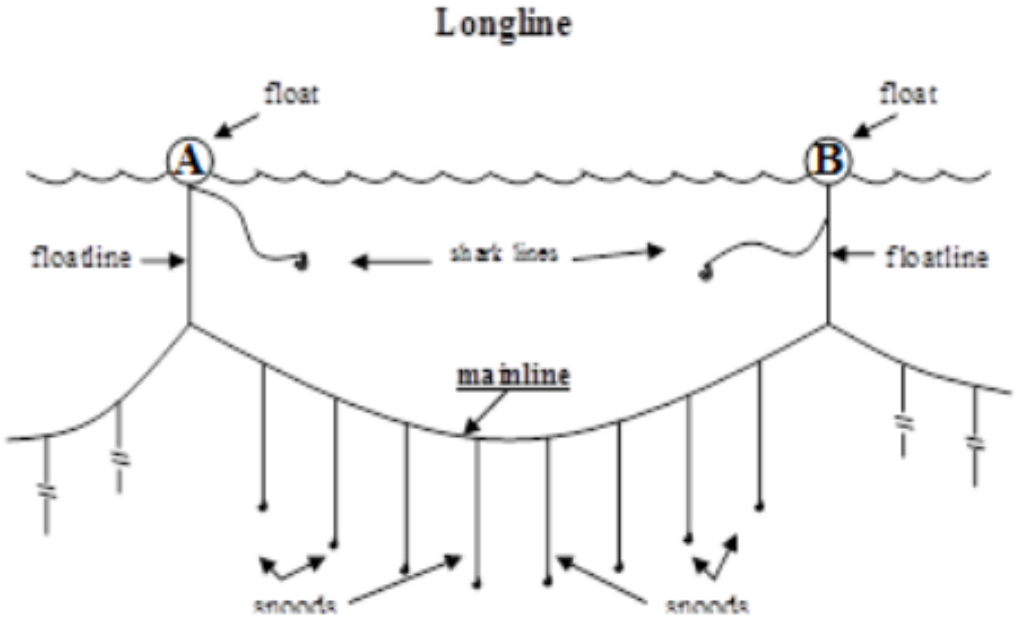
X. Review

28. On the basis of advice from the SC and/or the TCC, the Commission shall review the implementation and effectiveness of this CMM, including species specific measures, taking into account, *inter alia*, any recommendation from the SC or TCC, in 2023, and amend it as appropriate.

29. This CMM shall become effective on November 1st 2020[4] and shall replace CMM 2010-07, 2011-04, 2012-04, 2013-08, and 2014-05 at that time.

[4] This CMM shall not apply to Indonesia before November 1st 2021. Until then, all the existing CMMs related to sharks and rays shall apply to Indonesia.

Annex 1: Schematic diagram of a shark line



Annex 2: Template for reporting implementation of this CMM

Each CCM shall include the following information in Part 2 of its annual report:

1. Description of alternative measures in para 5, if applicable

2. Results of their assessment of the need for a National Plan of Action and/or the status of their National Plans of Action for the Conservation and Management of Sharks, as appropriate

3. Details of National Plan of Action, as appropriate, for implementation of IPOA Sharks in para 6 that includes:
   (1) details of NPOA objectives; and
   (2) species and fleet covered by NPOA as well as catches thereby
   (3) measures to minimize waste and discards from shark catches and encourage the live release of incidental catches of sharks;
   (4) work plan and a review process for NPOA implementation

4. With respect to para 9:
   (1) Whether sharks or shark parts are retained on board their flag vessels, and if so, how they are handled and stored
   (2) In case that CCMs retain sharks and choose to apply a requirement for fins to be naturally attached to carcasses
      - Their monitoring and enforcement systems relating to this requirement
   (3) In case that CCMs retain sharks and choose to apply measures other than a requirement for fins to be naturally attached to carcasses
      - Their monitoring and enforcement systems relating to this requirement
      - A detailed explanation of why the fleet has adopted its fin-handling practice;

5. The management plan in para 16 that includes:
   (1) specific authorizations to fish such as a license and a TAC or other measure to limit the catch of shark to acceptable levels;
   (2) measures to avoid or reduce catch and maximize live release of species whose retention is prohibited by the Commission;

6. A report on sampling programs for oceanic whitetip sharks and silky shark as a CCM project as referred to in para 20 (4)

7. Estimated number of releases of oceanic whitetip shark and silky shark caught in the Convention Area, including the status upon release (dead or alive), through data collected from observer programs and other means.

8. Description of compatible measures as referred to in para 21 (4)

9. Any instances in which whale sharks have been encircled by purse seine nets of their flagged vessels, including the details required under para 21 (5)(b).
