UN environment

CMS

CONVENTION ON MIGRATORY SPECIES

Distribution: General

UNEP/CMS/COP12/Doc.25.1.22/Rev.1
13 October 2017

Original: English

12th MEETING OF THE CONFERENCE OF THE PARTIES
Manila, Philippines, 23 - 28 October 2017
Agenda Item 25.1

PROPOSAL FOR THE INCLUSION OF THE BLUE SHARK (*Prionace glauca*) ON APPENDIX II OF THE CONVENTION

Summary:

The Governments of Samoa and Sri Lanka have jointly submitted the attached proposal* for the inclusion of the Blue Shark (*Prionace glauca*) in Appendix II of CMS.

Rev.1 includes amendments submitted by the proponents to make the proposal more precise, in accordance with Rule 21, paragraph 2 of the Rules of Procedure for meetings of the Conference of the Parties (UNEP/CMS/COP12/Doc.4/Rev.1), and taking into account the recommendations of the Second Meeting of the Sessional Committee of the Scientific Council, contained in UNEP/CMS/COP12/Doc.25.1.18/Add.1.

PROPOSAL FOR INCLUSION OF THE BLUE SHARK (*Prionace glauca*) ON APPENDIX II OF THE CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

A. PROPOSAL:

Inclusion of all populations of Blue Sharks (*Prionace glauca*) in Appendix II.

B. PROPONENT: Samoa and Sri Lanka

C. SUPPORTING STATEMENT

1. Taxonomy

1.1	Class:	Chondrichthyes
1.2	Order:	Carcharhiniformes
1.3	Family:	Carcharhinidae
1.4	Genus &Species:	*Prionace glauca* (Cantor, 1849)
1.5	Scientific synonyms:	
1.6	Common name(s):	
	English:	Blue Shark
	French:	Peau bleue,
	Spanish	Tiburón azul.

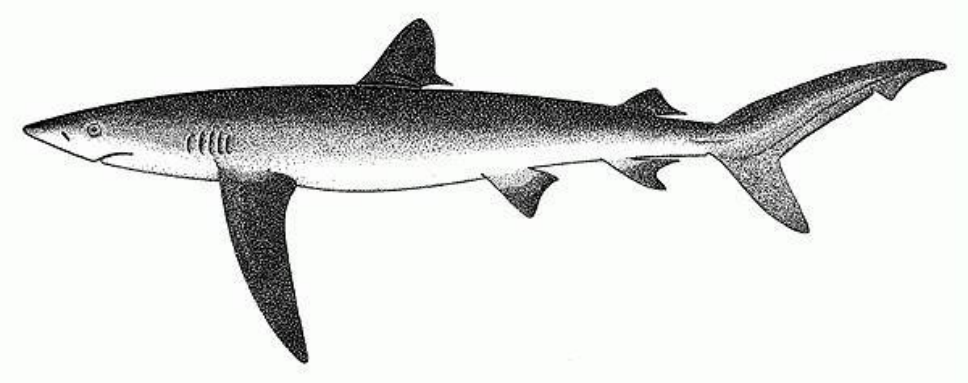

Figure 1. Blue Shark illustration from FAO.org. (Maximum size = 380 cm TL)

2. Overview

The Blue Shark, *Prionace glauca,* is among the world's most highly migratory fish species. It occurs as transboundary stocks, and is distributed circumglobally in tropical, subtropical, and warm-temperate waters, both on the high seas and within EEZs. Due to significant declines to below historic levels, Blue Shark is listed on the IUCN Red List of Threatened Species as Near Threatened globally and in European waters, and Critically Endangered in the Mediterranean.

Samoa values the crucial role that shark species play in our ecosystem, and are aware of the high levels of Blue Shark catch that occur Pacific-wide. Despite these catches, data is still limited in some regions. The Western and Central Pacific Fisheries Commission (WCPFC) attempted to conduct a stock assessment in 2016, but concluded that the data was insufficient to provide management advice (Takeuchi et al. 2016).

Because of this, no action has been taken to manage this species in the WCPO region. Although Blue Sharks occur worldwide and are caught in large numbers, there has been little protection offered elsewhere either. Recent fisheries stock assessments in the Atlantic and Pacific have very high levels of uncertainty; although populations may not yet be experiencing overfishing, scientific advice is that fishing pressure should not be increased. Samoa and Sri Lanka considers that a CMS listing would encourage Governments around the world to act to conserve this iconic species by taking precautionary, regionally coordinated action to ensure that Blue Shark fisheries are sustainable throughout their migratory range.

P. glauca is vulnerable to fishing pressure, both through targeted fisheries and as bycatch, but lacks management over much of its range. Global capture production has increased

dramatically since 2000 and the Blue Shark proportion of total chondrichthyan species landed increased from 4 to 14% from 1998–2011. Additionally, their fins remain the most heavily traded of all species in the Hong Kong fin trade.

With limited intergovernmental and domestic action globally to limit catches to sustainable levels, and continued catch increases, unregulated fishing pressure is the primary threat to *P. glauca* globally.

Given this growing global fishing pressure, and the species' highly migratory nature, a listing in Appendix II of CMS would provide additional support for introducing collaborative management of this species by Range States, through CMS itself, Regional Fisheries Management Organizations (RFMOs), and through its inclusion in Annex 1 of the CMS Memorandum of Understanding (MOU) on the Conservation of Migratory Sharks.

3. Migrations

3.1 Kinds of movement, distance, the cyclical and predictable nature of the migration

The Blue Shark exhibits complex cyclical and predictable migratory movements that cross international borders and are related to distribution of prey and reproductive cycles (Nakano and Stevens 2008). Tag-recapture information from 1962-2000 indicated that Blue Sharks are likely the widest ranging circum-global chondrichthyan species (Kohler et al 2002). This species undertakes far-ranging migrations across multiple State jurisdictions and through the high seas (Figure 1). For example, a Blue Shark tagged in waters southeast of Shinnecock Inlet, New York was recaptured approximately 560 miles east of Natal, Brazil 1.4 years later (Kohler et al 2002), presumably after completing at least one clockwise circumnavigation of the northern Atlantic Ocean (see below).

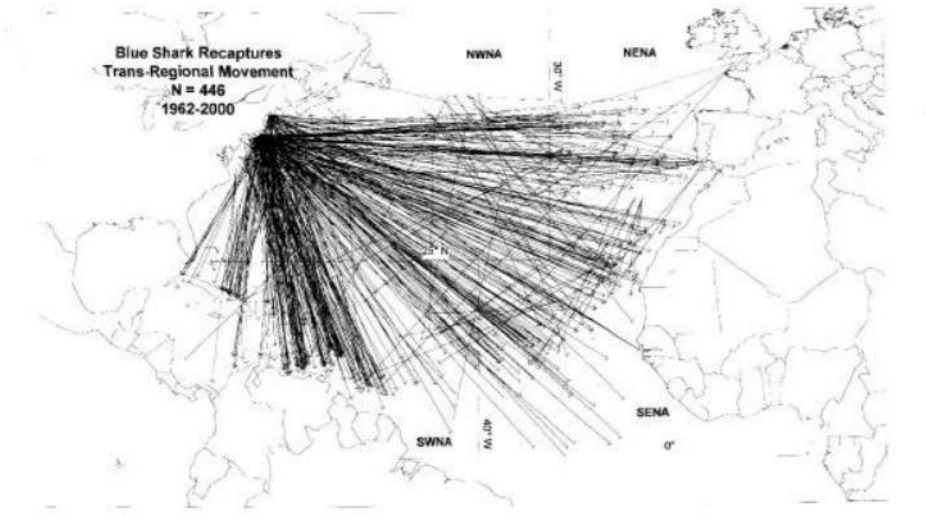

Figure 2. Recapture distribution for trans-regional movements of the Blue Shark, *Prionace glauca*, across Northwestern North Atlantic (NWNA), Southwestern North Atlantic (SWNA), Northeastern North Atlantic (NENA) and Southeastern North Atlantic (SENA) 1962-2000 (From Kohler et al. 2002).

Multiple studies indicate a north-south movement for Blue Sharks in the North Pacific, with mating peaking in July around 20-30ºN and pregnant females moving north and giving birth the following summer near 35-45ºN. (Strasburg 1958, Mishima 1981, Nakano 1994, Nakano and Nagaswa 1996). Sub-adult females then remain in the nursery ground and expand their distribution to the region directly north, including the Gulf of Alaska, while the sub-adult males move south of the nursery ground. Once mature, these sharks join the reproductively-active population and migrate south to the subtropics and tropics (Nakano and Seki 2003).

In the Northeast Atlantic, Blue Sharks undergo seasonal latitudinal migrations on both sides of the ocean. They migrate between 30-50ºN latitude, based on tag-recapture data, with larger females migrating south and in July or the beginning of August, smaller sharks, mostly male, follow (Clarke and Stevens 1974 – in Nakano and Seki 2003). Through tagging studies, Blue

Sharks have also been shown to complete regular clockwise trans-Atlantic migrations using the major current systems (Compagno 1984; Stevens 1976,1990; Casey 1985; Kohler 2002).

3.2 Proportion of the population migrating, and why that is a significant proportion

Juvenile, sub-adult and adult Blue Sharks all migrate, generally segregated by sex and age. Blue Shark migration patterns are linked to reproductive cycles, with mature individuals moving across country borders. For example, in the western North Atlantic, beginning in April *P. glauca* move from wintering grounds, eastward of the northern margin of the Gulf Stream, and migrate north toward to the mating/feeding grounds of the continental shelf in the northwestern North Atlantic (Casey 1985). In late summer and fall, most of the Blue Sharks along the eastern North American coast begin moving to areas south and offshore including the southeastern United States, Caribbean Sea, and areas across the Atlantic (Kohler 2002).

Tagging studies indicate distinct seasonal latitudinal migrations that take place for discrete proportions of the Blue Shark population (Kohler 2002). Tagged juveniles are often recaptured closer to tagging locations than mature individuals, which cover longer distances. Mature Blue Sharks move to mating and feeding grounds at various times throughout the year, leaving this proportion of the population vulnerable to fishing pressure.

4. Biological data

4.1 Distribution (current and historical)

P. glauca are circum-global and widespread in temperate and tropical waters from 60˚N to 50˚S latitude, more specifically in the following regions, the Western Atlantic: Newfoundland to Argentina. Central Atlantic. Eastern Atlantic: Norway to South Africa, Mediterranean. Indo-West Pacific: South Africa and southern Arabian Sea to Indonesia, Japan, Australia, New Caledonia and New Zealand. Central Pacific. Eastern Pacific: Gulf of Alaska to Chile (Compagno 1984; Nakano and Stevens 2008). They are oceanic and epipelagic, found from the surface to 600 m. Their relative abundance increases with latitude and is generally lowest in warm equatorial waters (Strasburg, 1958; Nakano, 1994; Stevens and Wayte, 1999).

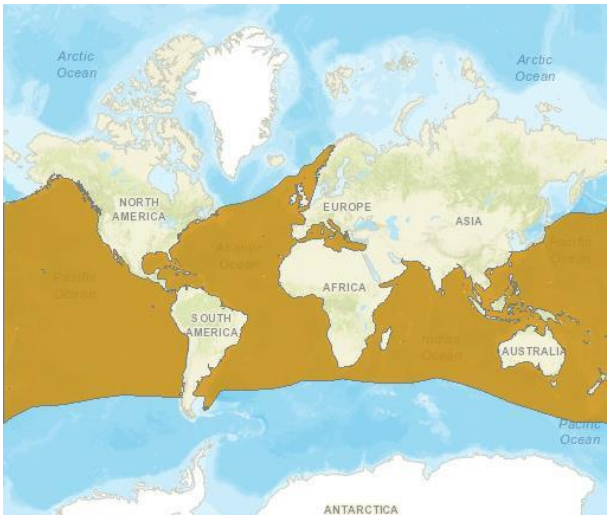

Figure 3. World distribution map for Blue Sharks, *Prionace glauca*, source: IUCN Red List

4.2 Population (estimates and trends)

Several stock assessments have been carried out for the species, in the Atlantic and Pacific. The stock assessment of Blue Shark conducted in 2008 by the International Commission for the Conservation of Atlantic Tuna (ICCAT) for the North and South Atlantic finds the biomass is above that which permits MSY and the stocks are not over-exploited and overfishing is not occurring (ICCAT 2009). While the Blue Shark Stock Assessment Session at ICCAT in 2015 made similar conclusions, the report acknowledges there is still significant uncertainty surrounding the data and overfishing of the stocks cannot be ruled out (ICCAT 2015; Clarke et al. 2011). The ICCAT assessment is not due to be reviewed nor scientific advice on catches revised until 2021.

Table 1. Status of *P. glauca* from regional studies.

Status	Ocean	Method	Reference
Moderate declines (53%) in CPUE of Blue Sharks	Western North Atlantic	A historical index of abundance for the Blue Shark.	Aires-da-Silva et al. (2008)
Moderate declines (53%) in CPUE of Blue Sharks	Northwest Atlantic	Inferring shark population trends from generalized linear mixed models of pelagic longline catch and effort data.	Baum and Blanchard (2010)
60% decline in CPUE	Northwest Atlantic	GLM using data from U.S. pelagic longline fleets targeting swordfish and tunas	Baum et al. (2003)
5.5% annual decline in abundance since 1995 & 1998	Atlantic Canada	Commercial and recreational CPUE data	Campana et al. (2006)
80% decline in CPUE for males since the mid-1980s	Western North Atlantic	Fishery independent survey for pelagic sharks in the 1977-1994	Simpfendorfer et al. (2002)

The European regional Red List assessment (quoted here *verbatim* from Sims et al. 2015) notes that a variety of catch rate analyses for the North Atlantic show consistent declines, but there is uncertainty as to the most likely decline rate. Analysis of logbook data from the U.S. pelagic longline fishery indicated that Blue Sharks declined by 60% between 1986 and 2000 (1.5 generation spans) (Baum *et al*. 2003), and Canadian standardised catch rate indices suggest a 5-6% decline per year since 1995 in the North Atlantic (Campana *et al*. 2006). Similarly, fishery-independent survey data indicate an 80% decline in males from the mid-1980s to early 1990s (Hueter and Simpfendorfer 2008). Cortes (2007) reports an 88% decline since 1986. Blue Shark standardized catch rates have decreased by 53% (CI: 38–64%) between 1992 and 2005 (Baum and Blanchard 2010). An analysis over a longer observation window (1950–2000) using multiple sources of data suggested that CPUE of Blue Shark declined by 30% (Aires-da-Silva *et al*. 2008). This overall 30% of decline comprised two periods: an initial stage of stable abundance or even increase at the end of the 70s, and a second period of rapid decline. From recent catch patterns and Western Atlantic surveys, these most recent declines have been the steepest. These trend estimates end in the early 2000s, prior to the recent increase in catches of Blue Sharks, particularly in the Eastern Central Atlantic.

ICCAT scientists have recommended capping Atlantic Blue Shark catches, particularly in the South Atlantic where the stock is of particular concern. No action has been taken in response to these recommendations.

Sims et al. (2016) notes that the Blue Shark has declined in abundance since the mid-20th century by three to four orders of magnitude in the Mediterranean. Ferretti *et al.* (2008) reported that this species was regularly caught in the Camogli tuna trap in small numbers, but has not been caught at all over the past six decades. Recent observations from the same gear confirm that no individuals were taken from 2006 to the present day (Cattaneo-Vietti *et al.* 2014). The Blue Shark was the most abundant of the large predatory sharks taken in pelagic fisheries in the Mediterranean Sea, but catch rates in the region have declined considerably. In the northern Ionian Sea, there were significant declines in abundance and biomass over 21 years (1978–99). In Spanish waters, catch rates in biomass declined steeply over 25 years as well (1979–2004). Pelagic fishing pressure in the region remains high and catches unregulated. Taking into consideration other local trend estimates in abundance and biomass, a meta-analytical estimate of these trend analyses suggested that the abundance of the Blue Shark has declined by ~78–90% over the past 30 years (three-generation period) (Sims et al. 2016).

The population decline in the Mediterranean region may be partly attributed to the exploitation of immature individuals. During a study of large pelagic fisheries in the Mediterranean Sea from 1998–99, 91.1% of 3,771 Blue Shark individuals measured were <215 cm total length (TL) and 96.3% were <257 cm TL, indicating that the majority had not yet reached maturity (Megalofonou *et al*. 2005a). These data indicate that the Blue Shark is unlikely to have had sufficient opportunity to reproduce in these waters before capture in fisheries, leaving this discrete subpopulation depleted, with questionable population regrowth. The Mediterranean population is assessed as Critically Endangered.

In the North Pacific, a stock assessment conducted by the National Marine Fisheries Service finds there is some probability (around 30%) that the population is overfished and a lesser probability overfishing is occurring, but there is considerable uncertainty in the data (Kleiber et al. 2009). It is further noted the population is at least close to MSY level and fishing mortality may be approaching MSY in the future (Kleiber et al. 2009). Using standardized catch rate, Clarke et al. (2012) determined North Pacific Blue Sharks have experienced substantial declines in abundance of >5% per year. Similarly, Polovina et al. (2009) finds the catch rates of Blue Shark declined 3% per year (1996-2006). These analyses, in addition to the increasing dominance of Blue Shark in the global fin trade and their targeting by large commercial fleets in the North Pacific, indicate the stock assessment may be limited in its ability to predict depletion of a stock (Clarke et al. 2011).
The Western Central Pacific Fisheries Commission Scientific Committee recently conducted a stock assessment for Blue Shark in the southwestern Pacific and concluded based on the poor data quality it will not be used for management advice, suggesting standardized catch rates can provide a better understanding of potential trends in abundance (Takeuchi et al. 2016).
Observer data from the Pacific Ocean spanning 1995-2010 showed an overall 14% decline in CPUE in the northern hemisphere and non-significant results in the southern hemisphere (Clarke et al. 2012).

In the Indian Ocean, the Indian Ocean Tuna Commission (IOTC) notes that there remains considerable uncertainty about the relationship between abundance, CPUE series and total catches over the past decade. The ecological risk assessment (ERA) conducted for the Indian Ocean by the WPEB and SC in 2012 (IOTC–2012–SC15–INF10 Rev_1) consisted of a semi-quantitative risk assessment analysis to evaluate the resilience of shark species to the impact of a given fishery, by combining the biological productivity of the species and its susceptibility to each fishing gear type. Blue Sharks received a medium vulnerability ranking (No. 10) in the ERA rank for longline gear because it was estimated as the most productive shark species, but was also characterised by the second highest susceptibility to longline gear.

The IOTC Scientific Committee notes that maintaining or increasing effort can result in further declines in biomass, productivity and CPUE. The impact of piracy in the western Indian Ocean has resulted in the displacement and subsequent concentration of a substantial portion of longline fishing effort into certain areas in the southern and eastern Indian Ocean. It is therefore unlikely that catch and effort on Blue Shark will decline in these areas in the near future, and may result in localized depletion (IOTC Scientific Committee 2014).

4.3 Habitat (short description and trends)

P. glauca are found in oceanic and epipelagic habitats throughout temperate and tropical waters from the surface to a depth of 600 m (Nakano and Stevens 2008). Occasionally they are found closer to shore where the continental self is narrower. They prefer temperatures of 12–20ºC and are found at great depths in tropical waters (Last and Stevens, 1994).

4.4 Biological Characteristics

Blue Sharks are viviparous, with a gestation period between 9-12 months and litter size ranging from 1-68 pups (average 34) (Zhu et al. 2011; Nakano 1994). Reproductive characteristics differ between oceans, but in general males mature between 4-6 years and females between 5-7 years old, with the maximum age being 20 years (Pratt 1979; Nakano and Stevens 2008; Nakano 1994) (Table 1). Typically, both four to five-year-old females mate, but only five-year-olds are mature enough to store sperm, which they do for a year, after which time they fertilize their eggs, and give birth 9-12 months later (Nakano and Stevens 2008). This species has a higher intrinsic rate of population increase than that of many other large pelagic sharks.

Table 2. Life history characteristics noted by region for *P. glauca*

Region	Size at sexual maturity (cm TL)	Age at sexual maturity (years)	Litter size	Gestation period	Reference
Southeastern Pacific			13-68 (mean 35)		Zhu et al. 2011

North Pacific	Female: 140-160 cm Male: 130-160 cm	Male: 4-5 years Female: 5-6 years	1-62 (25.6)		Nakano 1994
Northwest Atlantic	Male: 218 cm Female: 221	Male: 4-6 years Female: 5-7 years		9-12 months	Pratt 1979; Nakano and Stevens 2008

4.5 Role of the taxon in its ecosystem

Prionace glauca is a high trophic level (TL) predator that primarily feeds on pelagic fishes and squids. Cortés (1999) assigned the species a TL of 4.1; higher than average for shark species. The Blue Shark may have benefited from competitive release, following the more significant stock reductions of larger pelagic shark species, and it may now be fulfilling their former ecosystem roles.

5. Threat data

5.1 IUCN Red List Assessment (if available)

The Blue Shark is assessed as Near Threatened globally in the IUCN Red List (Stevens 2009, publication date of the 2005 assessment), Near Threatened in European waters (Sims et al. 2015), and Critically Endangered in the Mediterranean (Sims et al. 2016).

5.2 Equivalent information relevant to conservation status assessment

Stock assessments for Blue Sharks have been undertaken (or attempted) in the Atlantic, Mediterranean, Pacific and Indian oceans (See section 4.2). All indicate population declines. However, there remains a substantial amount of uncertainty regarding the data used in these assessments (and for sharks, in general). The indices of abundance used in these stock assessments are derived from fisheries-dependent sources with incomplete or unreliable catch and effort data. Recommendations for future stock assessments also include better information for estimating natural mortality and other sources of stock depletion, such as unreported catch and discard mortality.

Byrne et al. (2017) documented fishery interactions and estimated fishing mortality in shortfin mako sharks (*Isurus oxyrhyinchus*) in the North Atlantic using satellite telemetry. Their results suggest that fishing mortality for this population was significantly higher than reported previously in the North Atlantic. This has implications for the conservation and management of other species, like Blue Sharks. The fact that stock assessments may considerably underestimate fishing mortality would imply that shark populations assessed at or just above sustainable levels may actually be experiencing overfishing to some degree

5.3 Threats to the population (factors, intensity)

Because Blue Sharks are one of the most wide-ranging of the highly migratory shark species, they interact with fisheries using a variety of gear types. They are particularly vulnerable to pelagic longline fisheries targeting tuna and/or swordfish, where they are the dominant shark species captured and can make up a significant proportion of the total catch (Coelho et al., 2017).

Blue Sharks' proportion of total chondrichthyan landings have tripled, increasing from 4% to 14%, from 1998–2011 (Figure 4.) (Erickson and Clarke 2015). This species is also a major component of bycatch landings from international fishing fleets. Information collected from Portuguese longliners targeting swordfish and operating in the Atlantic Ocean indicate that *Prionace glauca* is one of two main shark species captured (Stevens 2009).

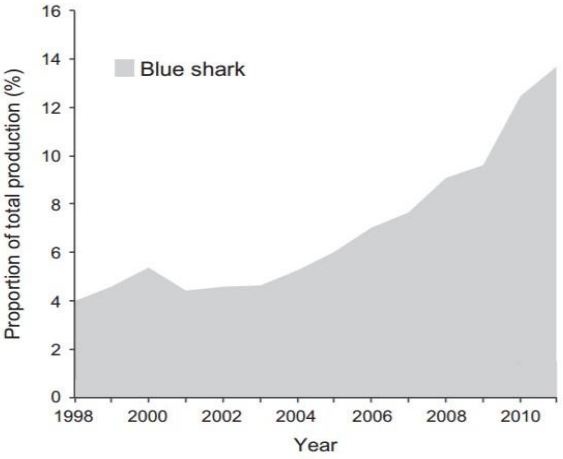

Figure 4. Proportion of total global chondrichthyan capture production comprising Blue Shark (*Prionace glauca*) during 1998–2011 (FAO data, modified from Erickson & Clarke 2015)

Data regarding discards from high-sea fleets are frequently underestimated or unreported, and information on discards can be unreliable. In the Canadian Atlantic, the unreported bycatch of Blue Sharks is estimated to be about 100 times larger than the reported catch (Campana et al. 2002). Worldwide, *P. glauca* is the most frequently discarded fish species across commercial pelagic longline fishing activities (Campana 2009).

Data from ICCAT show an increase in overall landings, almost doubling from 43,000t to 73,000t during 2005-2011 in the Atlantic (Figure 5). They have since fallen to less than 40,000t. For the South Atlantic stock the assessment noted "that future increases in fishing mortality could push the stock to be overfished and experiencing overfishing" and recommended that catch levels should not increase beyond those of recent years. Fishing pressure from international fleets is a major source of mortality for the North Atlantic stock, a single well mixed population. The ICCAT assessment also stated that while the North Atlantic stock is unlikely to be overfished, there was also a high level of uncertainty (ICCAT 2015).

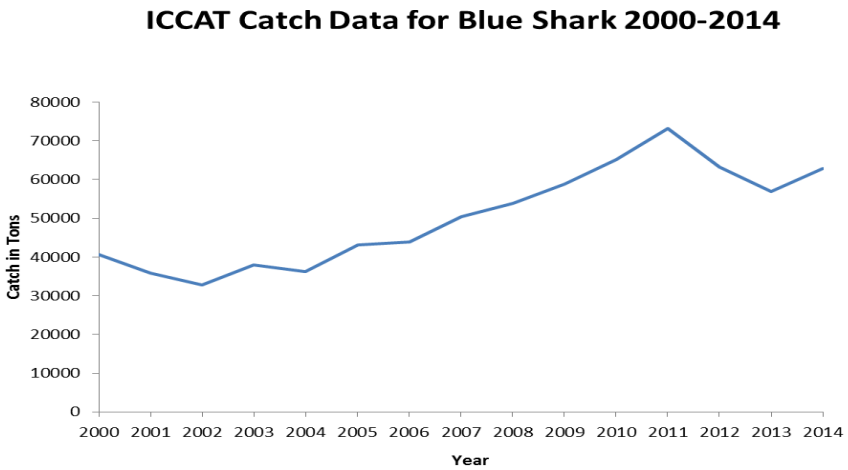

Figure 5. Catch data for Blue Sharks in the Atlantic (ICCAT)

P. glauca are also caught by sport fishermen, particularly in the United States, Europe and Australia (Stevens 2009). Smaller commercial fisheries that target *P. glauca,* such as the seasonal longline fishery for juveniles of 50-150 cm near Vigo, Spain, also exist (Stevens 2009).

Globally, there is a large Asian market for shark fins and a growing international demand for meat and other shark products including shark liver oil. This species is traded in very large quantities for its meat, particularly to the large markets in Spain and Brazil. Hong Kong is considered the world's largest shark fin market, representing at least 50% of the global trade (Clark 2004, 2016). Blue Sharks are the dominant species in the Hong Kong market, comprising 17.3%, the largest proportion by weight, of fins auctioned in Hong Kong (Clarke 2006). More recently, in 2015, Blue Shark remained the most important species in the fin trade composing 34.1-64.2% of the total fin trade (Fields et al 2017 in press). Blue Shark meat is also valued in some markets (e.g. Spain, Brazil).

5.4 Threats connected especially with migrations

Blue Sharks undertake long distance migrations across international waters and this is likely the most frequently caught large shark in the world's ocean (Stevens et al 2000). This species' habitat is wide ranging, mostly across pelagic high seas, where the major Regional Fisheries Management Organizations (ICCAT, IATTC, IOTC or WCPFC) have not yet limited catches for this species. In November 2016, ICCAT agreed to consider setting a cap for catches in the North Atlantic, should these exceed recent levels of 39,000 t.

6. Protection status and species management

6.1 National protection status

National or territory-level protection measures are in place for all species of sharks, including Blue Sharks, in several jurisdictions including range states. These jurisdictions where shark fishing is prohibited include American Samoa, the Bahamas, the British Virgin Islands, Bonaire, the Cayman Islands, the Cook Islands, the Federated States of Micronesia, French Polynesia, Israel, Kiribati, the Maldives, the Marshall Islands, New Caledonia, Northern Marianas Islands, Palau, Saba, and St. Maarten.

New Zealand manages this species through a quota system, while the United States has federal regulations imposing a base annual quota (currently 273.0 mt dw) for commercial Blue Shark take. Several U.S. states have additional regulations governing Blue Shark take.

The EU has included this species in Council Regulation (EU) 2017/127 of 20 January 2017, fixing for 2017 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters. The Regulation took the catch level at which ICCAT would consider a cap on North Atlantic Blue Shark catches, and transposed this into a catch limit of 39,102t for the Atlantic north of 5º, noting that this is not allocated to CPCs and that the EU's share is therefore undetermined.

6.2 International protection status

The national management measures and prohibitions for Blue Sharks (see 6.1) are of limited efficacy in scope and range, given the circum-global, migratory nature of this species. As noted above, none of the major oceanic RFMOs have yet adopted catch limits for this species, although ICCAT has indicated that it may be prepared to do so in part of its geographical region of competence, if North Atlantic catches rise above recent levels.

Additionally, *P. glauca* is the main species in the global shark fin trade, and global landings have nearly tripled since 2000 – but the species is not listed under the Convention on the International Trade in Endangered Species (CITES), and no RFMO has put in place management measures that would bind fishing countries to work together to ensure that *P. glauca* is managed sustainably.

As no protections currently exist that extend throughout *P. glauca*'s entire range, nor is international trade regulated, populations of this highly migratory transboundary species are likely to continue to decline until globally applicable, enforceable measures are introduced to prevent overexploitation.

An Appendix II CMS listing would raise the awareness of the need for management of Blue Sharks in all range states, particularly through collaborative regional and international management across the whole species' range. It would ensure that international co-operation is prioritized, including through the adoption of regional fisheries management organization (RFMOs) measures to regulate catches.

6.3 Management measures

Many states have developed a National Plan of Action (NPOA) for sharks and some have Regional POAs. However, these plans are often non-binding. Accordingly, besides the

complete protection for sharks in a handful of jurisdictions, management measures for Blue Shark are virtually nonexistent.

6.4 Habitat conservation

Several jurisdictions have closed their waters to shark fishing, including American Samoa, the Bahamas, the British Virgin Islands, Bonaire, the Cayman Islands, the Cook Islands, the Federated States of Micronesia, French Polynesia, Honduras, Israel, Kiribati, the Maldives, the Marshall Islands, New Caledonia, Northern Marianas Islands, Palau, Saba, and St. Maarten. However, while these are spatial closures, they do not include any specific habitat protection beyond providing a large area where targeted shark fishing is prohibited. Because Blue Shark habitat occurs mainly in warm temperate waters of the high seas, much of its range is unprotected.

6.5 Population monitoring

There are no formal programmes dedicated specifically to monitoring of Blue Shark, although they are recorded by pelagic fisheries monitoring and landings observation activities. Monitoring of the proportion of Blue Sharks in the international shark fin trade through Hong Kong is now underway (Fields et al. 2017 in press).

7. Effects of the proposed amendment

7.1 Anticipated benefits of the amendment

While the measures listed in 4.1 provide some protection for *P. glauca,* they do not extend throughout their entire range, nor is international trade regulated. *P. glauca* is likely to become overfished globally unless enforceable measures are put in place worldwide to protect this species from overexploitation.

An Appendix II CMS listing would raise the awareness of the need for the management of Blue Sharks by all range and fishing States. It would also ensure that international co-operation is prioritized, with measures adopted by Regional Fisheries Management Organization (RFMO) and put in place to regulate catches in every ocean.

The Review of Migratory Chondrichthyan Fishes – IUCN SSG/CMS (2007) noted that:
There is no disagreement, however, over the urgency of introducing management for this species; unfortunately no large-scale collaborative/regional management actions currently seem likely, other than those delivered through shark finning bans. The Blue Shark is certainly in urgent need of collaborative management by range States and through regional fisheries bodies, but appears not to be a high priority for action at present. A CMS Appendix II listing could help to drive the improvements in national and regional management that are required if this species is to be managed sustainably.

One decade later, the situation remains unchanged.

7.2 Potential risks of the amendment

No potential risks to Blue Shark conservation are foreseen from an Appendix II listing.

7.3 Intention of the proponent concerning development of an Agreement or Concerted Action

The governments of Samoa and Sri Lanka will promote and enhance national, regional and international coordination, collaboration and partnership for Blue Shark conservation and management. If this proposal is successful, Samoa, which is already a Signatory to the CMS Memorandum of Understanding for the Conservation of Migratory Sharks (Sharks MOU), will work with other Signatories to consider *P. glauca* for listing, where co-operative domestic and international action to improve its conservation status can be prioritized under the MOU's aim to achieve and maintain a favourable conservation status for migratory sharks throughout their range.

The Governments of Samoa and Sri Lanka propose working with Range States on developing concerted actions upon listing In Appendix II of the Convention and recommend the interim actions in Table 3 for the conservation of the Blue Shark:

Table 3: Proposed interim Concerted Actions for the Blue Shark, *Prionace glauca*				
Activity	**Outputs/Outcome**	**Timeframe**	**Responsibility**	**Funding**
Support the inclusion of Blue Sharks in the Sharks MOU	Blue Sharks proposed for inclusion Sharks MOU at MOS3.	End 2018	Range State Parties who are also Signatories to the Sharks MOU; Cooperating Partners to the Sharks MOU	No funding needed
Sri Lanka signs the Sharks MOU	Sri Lanka becomes the newest Signatory to the Sharks MOU and is able to support future actions for the Blue Shark	2017	Sri Lanka	No funding needed
Encourage Range States to sign the Sharks MOU	Additional Range States	Ongoing	Range States	No funding needed
Encourage CMS Parties, who are also Parties to their respective RFMOs, to develop precautionary catch limits for Blue Sharks.	Markedly reduce landings of Blue Shark to sustainable levels enabling stocks to replenish, reduce incidental catch, increase awareness.	2018/2019	Range State Parties; NGOs, with Samoa leading at WCPFC. and Sri Lanka supporting at IOTC	No funding needed
Encourage interdepartmental coordination at national level	Range States improve coordination and collaboration between respective CMS Focal Departments and the national Fisheries Department for improved implementation of proposed shark management activities.	2017/2018	Range State Parties	No funding needed
Identify opportunities for domestic/regional management measures.	Signatories to work together to discuss and identify potential domestic/regional management measures to ensure any Blue Shark fisheries are sustainable.	2018/2019	Shark MoU Signatories, led by Sri Lanka and Samoa.	No funding needed.

8. Range States

P. glauca occurs in areas beyond national jurisdiction, therefore CMS Article I h) should be considered in determining a Range State:

“A Range State in relation to a particular migratory species means any State […] that exercises jurisdiction over any part of the range of that migratory species, or a State, flag vessels of which are engaged outside national jurisdictional limits in taking that migratory species.”

A Range State is, therefore, considered to be any nation where Blue Sharks are present in domestic waters and also those fishing nations operating on the high seas.

Parties to CMS:

Angola, Antigua and Barbuda, Australia, Bangladesh, Benin, Brazil, Cabo Verde, Cameroon, , Chile, Congo, Cook Islands, Costa Rica (Cocos I.), Cote d’Ivoire, Cuba, Democratic Republic of the Congo, Djibouti, Ecuador, Egypt, Equatorial Guinea, Eritrea, France –(French Polynesia, Clipperton I., Guadeloupe, Guyana, Martinique, New Caledonia), Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Honduras, India, Israel, Jordan, Madagascar, Mauritius, Netherlands (Aruba, Curacao), Mozambique, New Zealand, Nigeria, Palau, Panama, Peru, Philippines, Portugal (Madeira), Samoa, Sao Tomé and Principe, Saudi Arabia, Senegal, Somalia, South Africa, Spain (Canary Is.), Sri Lanka, Togo, United Kingdom (British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands), United Republic of Tanzania, Yemen.

Other Range States:

Bahamas, Barbados, Belize, China, Colombia, Comoros, Dominica, Dominican Republic, El Salvador, Grenada, Haiti, Indonesia, Jamaica, Japan, Kiribati, Lebanon, Malaysia, Maldives, Marshall Islands, Mexico (Revillagigedo Is.), Micronesia, Federated States of, Nicaragua, Oman, Papua New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sierra Leone, Sudan, Suriname, Thailand, Trinidad and Tobago, USA (American Samoa, Guam, Hawaiian Is., Northern Mariana Is., Puerto Rico, US Virgin Is.), Venezuela.

9. Consultations

10. Additional remarks

11. References

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