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Agenda Item 7.2

PROPOSAL FOR THE INCLUSION OF ALL SPECIES OF THRESHER SHARK, GENUS *Alopias*, IN CMS APPENDIX II

Summary

The European Union and its 28 Member States has submitted a proposal for the inclusion of all species of thresher sharks, genus *Alopias*, in CMS Appendix II at the 11th Meeting of the Conference of the Parties (COP11), 4-9 November 2014, Quito, Ecuador.

An advanced unedited version of the proposal, as received from the proponent Party, is reproduced under this cover for its early consideration by the Scientific Council. It will be replaced by the final version as soon as possible.

PROPOSAL FOR INCLUSION OF SPECIES ON THE APPENDICES OF THE CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

A. PROPOSAL: Inclusion of all species of thresher shark**,** Genus *Alopias*, on Appendix II.

Summary: The bigeye thresher *(Alopias superciliosus),* common thresher (*Alopias vulpinus),* and pelagic thresher (*Alopias pelagicus)* are all listed by the IUCN on its Red List of Threatened Species as Vulnerable to extinction globally, due to severe, continued declines in their populations around the world.

Alopias spp. are large, highly migratory oceanic and coastal sharks found nearly worldwide in tropical and temperate seas. They all exhibit particularly low productivity and growth rates meaning they have a high susceptibility to anthropogenic pressure and show slow recovery from overexploitation.

Alopias spp. are caught and killed in both target and bycatch fisheries in domestic waters and the high seas globally. Catch is often unmanaged or only managed over part of their range. *Alopias spp.* fins are an important component of the global shark fin trade, with the last comprehensive study of the trade identifying them as accounting for approximately 2.3 % of sharks in the Hong Kong market. This is equivalent to up to four million thresher sharks per year (Clarke *et al*. 2006 A and B).

A listing on Appendix II of CMS would provide additional support for introducing collaborative management of these species by Range States, through CMS itself and through possible inclusion of *Alopias vulpinus, A. pelagicus and A. superciliosus*. on the CMS global Memorandum of Understanding (MoU) on the conservation of migratory sharks. It would also complement and encourage improved fisheries management efforts within the Regional Fisheries Management Organisations (RFMOs).

In line with CMS Resolution 3.1 paragraph 2 on the listing of species in the Appendices of the Convention, this proposal covers *Alopias superciliosus, Alopias vulpinus and Alopias pelagicus* separately, with information on each species detailed in every subsection. The three separate proposals have been drafted and submitted as one due to the high level of overlap in the characteristics, threats and declines facing *Alopias spp*., and the fact that catch of *Alopias spp* is often reported at a genus level.

B. PROPONENT: The European Union and its 28 Member States

C. SUPPORTING STATEMENT

1. Taxon:

1.1	**Class:**	Chondricthyes, subclass Elasmobranchii
1.2	**Order:**	Lamniformes
1.3	**Family:**	Alopiidae
1.4	**Genus:**	Alopias
	Species:	*Alopias superciliosus* (bigeye thresher) Lowe, 1841, *Alopias vulpinus* (common thresher) Bonnaterre 1788, *Alopias pelagicus (*pelagic thresher) Nakamura, 1935.
1.5	**Common Name**:	

*Figure 1a: Alopias superciliosus (*Bigeye Thresher*)*

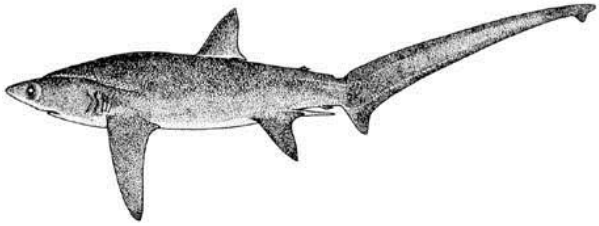


*Figure 1b: Alopias pelagicus (*Pelagic Thresher)

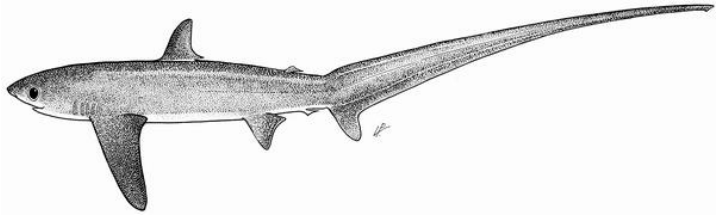
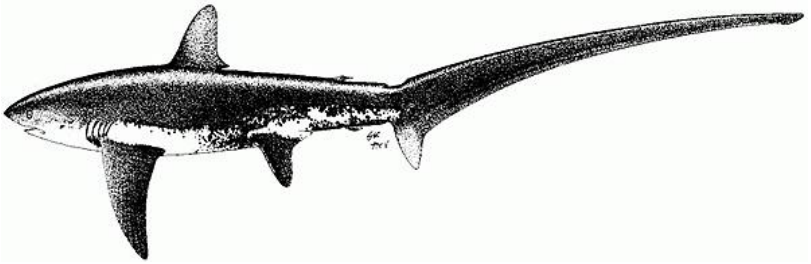


Figure 1c: Alopias vulpinus (Common Thresher)



Figures 1a-1c from FAO.org

2. Biological data

2.1 Distribution and populations

Although comprehensive data are lacking for all *Alopias spp.* they are all considered to be highly migratory oceanic and coastal species found nearly worldwide in tropical and temperate seas.

A. superciliosus is circumglobal in distribution. Ongoing analysis has indicated no structuring of populations of *A. superciliosus* within the Pacific Ocean, but significant genetic divergence between Atlantic and Indo-Pacific populations (Trejo 2005). The existence of separate Indian Ocean and Pacific Ocean stocks is as yet unconfirmed.

A. vulpinus is more widely distributed and is also circumglobal in distribution. It can be found in tropical to cold-temperate seas, but is most common in temperate waters (Compagno 2001) and most abundant in waters up to 40 or 50 miles offshore (Strasburg 1958; Gubanov 1972; Moreno *et al*. 1989; Bedford 1992). Genetic studies and comparisons of biological characteristics (fecundity and length at maturity) of specimens from different regions of the world show that although migratory, *A. vulpinus* appears to exhibit little to no immigration and emigration between geographic areas; namely between the Pacific and northwest Atlantic populations (Gubanov 1972; Moreno*et al*. 1989; Bedford 1992; Trejo 2004). In the absence of records of transatlantic migrations a single northeast Atlantic and Mediterranean stock of *A. vulpinus* is assumed (ICES 2007).

In the Northeast Atlantic, *A. vulpinus* has been recorded from Norway to the Mediterranean and Black Seas, and off Madeira and the Azores, with juveniles caught in UK waters in the English Channel and southern North Sea (Ellis 2004). *A. superciliosus* has been recorded

from Portugal, Spain, the UK (Thorpe 1997), Madeira, the Azores, and in the Mediterranean Sea (ICES 2007).

A. pelagicus is truly oceanic (primarily inhabiting the open ocean) and wide-ranging throughout the Indo-Pacific, Australasia region north to Japan, and the Pacific coast of Mexico and northern South America. It has not been recorded in the Atlantic Ocean (Compagno 1984).

Few data are available for *A. pelagicus* throughout its epipelagic range. It is not known whether Indian and Pacific Ocean populations are isolated although it is considered likely that this species migrates between Central America and the Gulf of California.

Figure 2.1a - Global distribution of Alopias vulpinus:

Figure 2.1b - Global distribution of Alopias pelagicus:

Figure 2.1c Global distribution of Alopias superciliosus

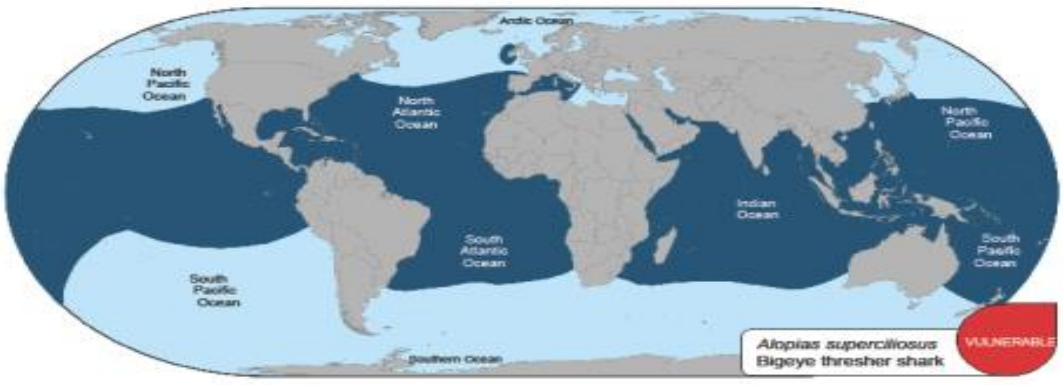


Fig. 2.1a-c; World distribution maps for thresher sharks courtesy of IUCN.

2.2 Life history and conservation status

Of the *Alopias spp.*, *A. superciliosus* has the lowest fecundity and thus, exceptionally low potential annual rate of population increase (0.002-0.009 or 1.6%) under sustainable exploitation (Smith *et al.* 2008; Cortés 2008; Dulvy *et al.* 2008). This makes them particularly vulnerable to any level of fisheries exploitation, whether targeted or caught as bycatch in fisheries for other species. Alopias spp. have been identified as among the shark species most at risk from anthropogenic pressure worldwide (Oldfield *et al* 2012).

A. superciliosus is a viviparous species usually bearing only two embryos per litter (Compagno 2001). They have a gestation period of 12 months with females reaching sexual maturity at around 12 - 14 years (332 - 341cm) and males slightly earlier between 9 - 10 years (270 - 288cm), and a lifespan of 20-21 years (Liu *et al.* 1998; Moreno and Moron 1992; Compagno 2001).

A. vulpinus is the largest of the three species reaching up to 600cm in length. They have a 9 month gestation period with an average litter size of 4 and an age of maturity of 3-4 years for females and 4-5 years for males (Compagno 2001., Oldfield *et al* 2012).

Data are scarcer for *A. pelagicus*, which is the smallest of the thresher sharks, reaching up to 375cm in length. They have an average litter size of 2 and females reach sexual maturity at 8-9 years and males at 7-8 years (Amorim *et al*., Goldman *et al*., Reardon *et al*. – IUCN Red List Assessments for *Alopias spp*.).

All members of genus *Alopias* are listed as Vulnerable globally on the IUCN Red List of Threatened Species, because of their declining populations. Table 2.2a provides a summary of IUCN global and regional assessments of status:

Table 2.2a - Summary of most recent IUCN global and regional assessments of population status for Alopias spp:

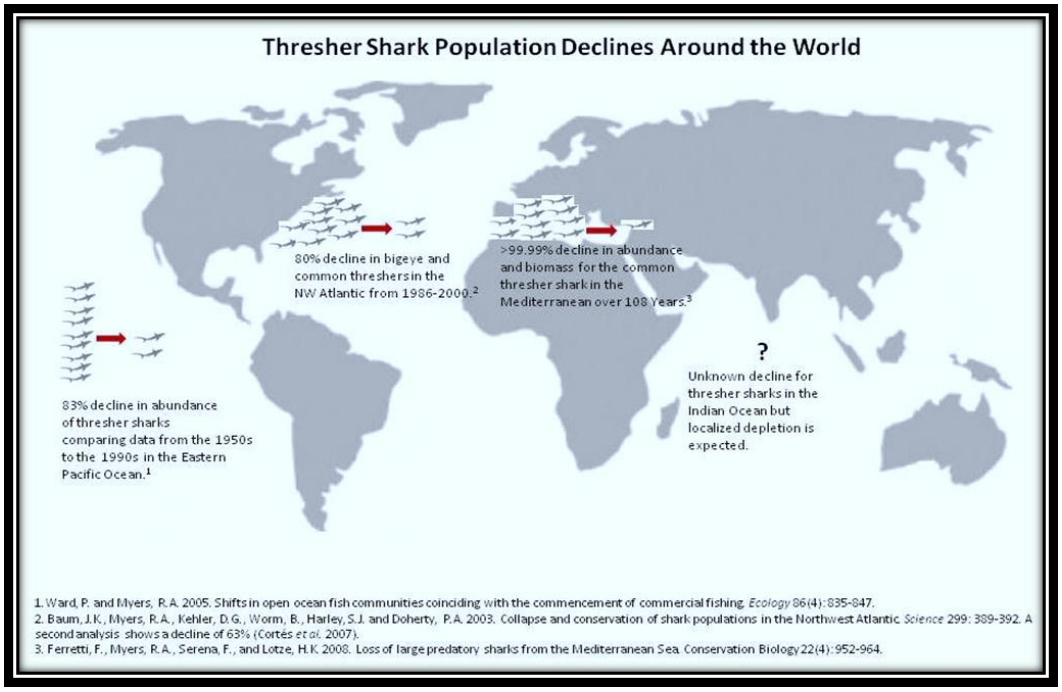
	A. superciliosus	***A. vulpinus***	***A. pelagicus***
Global	Vulnerable	Vulnerable	Vulnerable
Eastern central Pacific	Vulnerable	Near Threatened	Not assessed
Northwest Atlantic	Endangered	Vulnerable	Not assessed
Western central Atlantic	Endangered	Vulnerable	Not assessed
Southwest Atlantic	Near Threatened	Not available	Not assessed
Mediterranean Sea	Data Deficient	Vulnerable	Not assessed
Indo-west Pacific	Vulnerable	Data Deficient	Not assessed

These Red List statuses are the result of a combination of slow life history characteristics, hence low capacity to recover from moderate levels of exploitation, and high levels of largely unmanaged and unreported mortality in target and bycatch fisheries, that have combined to produce severe global population declines. These declines are documented in Table 2.2b and Figure 2.2c.

Table 2.2b - Summary of maximum decline by area - Alopias spp[1]. (IUCN Red List[2])

Ocean/Sea	IUCN estimated stock decline
Atlantic	50-80% dependent on sub-region
Indian	Limited data -No confirmed separation from the pacific stock
Pacific	83%
Mediterranean	99%

Figure 2c: Thresher shark declines



2.3 Habitat

A. superciliosus is found in all warm and temperate areas of the world's oceans on the continental shelf and in the epipelagic zone, they are also occasionally encountered in shallow coastal waters (Stillwell and Casey 1976; Compagno 2001; Nakano *et al*. 2003; Weng and Block 2004). This species is one of the few sharks to exhibit diel vertical migratory behaviour, generally moving to shallow depths at night to feed (<100 m) and inhabiting deeper waters (between 400 to 600m) during the day (Nakano *et al*. 2003; Weng and Block 2004; Stevens *et al*. 2010). They occur in surface temperatures of 16–25 °C (61–77 °F), but have been tracked as far down as 723m (2,372 ft), where temperatures are around 5 °C (41 °F) (Nakano *et al*. 2003).

A. vulpinus is also found in all warm and temperate areas of the world's oceans with a noted tolerance for colder waters (Moreno *et al*. 1989). Whilst found in both coastal and oceanic

[1] Data aggregated to genus level which reflects the fact that fisheries data on thresher sharks are generally reported by genus by observers and in logbooks.

[2] I UCN summary based on data cited in figure 2c.

waters, it is most abundant 40-50 miles offshore (Moreno *et al*. 1989: Bedford 1992), ranging between surface waters and 366m depth (Compagno 1984).

A. pelagicus is less widely distributed than *A. superciliosus* and *A. vulpinus* being found only in the Pacific and Indian Oceans. It is believed to be highly migratory and is epipelagic from the surface to at least 152m depth (Compagno 2001). Factors such as temperature and oceanic currents influence greatly its distribution, for example it is found near the Equator in winter, but not in summer (Dingerkus 1987).

2.4 Migrations

Family *Alopiidae* is listed in Annex 1 (Highly Migratory Species) of the UN Convention on the Law of the Sea (UNCLOS) due to their regular, cyclical and predictable migrations across international boundaries. The CMS Secretariat commissioned Review of Migratory Condricthian Fishes also noted that their migrations are not well studied, but that all *Alopias spp.* are likely migratory within at least parts of their range (Review of Migratory Condricthian Fishes - IUCN Shark Specialists Group/CMS – 2007, Fowler, S. 2014 (in press)).

Whilst little is known of the full geographical movements of *A. supercilious*, one study (Weng and Block 2004) documented one individual moving from the Northeast coast of the US to the Gulf of Mexico, a straight-line distance of 2,767 km (1,719 mi), while another noted tagged *A. supercilious* moving across international boundaries in Central America (Kohin *et al*. 2006). A study in the USA also demonstrated the movements of *A. superciliosus* using tag and recapture studies, recording the movement of the species from the US EEZ to both international waters and Central American countries EEZ's (Kohler *et al*. 1998).

A. vulpinus is noted as a highly migratory species, with seasonal migrations taking place annually - with studies demonstrating that its range in the northeastern Pacific extends from California (USA), well into Mexican waters (Cartamil *et al*. 2010).

Studies on A. pelagicus have indicated that this species migrates between Central America and US waters in the Gulf of California, with genetic studies of *A. pelagicus* indicating that there is gene flow between populations in Mexico and Ecuador, and possible population links as far as Taiwan (Province of China) waters (Trejo 2004).

3. Threat data

3.1 Direct threats

3.1a. Overview of threats

The principal threat to *Alopias spp.* globally is overexploitation from unsustainable catch in target and bycatch fisheries. *Alopias spp.* are frequently caught by offshore longline and pelagic gillnet fisheries, but are also fished with anchored bottom and surface gillnets, and caught as a bycatch of other gear including bottom trawls and fish traps (Maguire *et al.* 2006).

Key habitat areas, such as nursery grounds identified in some inshore temperate regions (see section 3.2) are also at risk, in particular from fishing pressure. None of the potential key habitat areas for *Alopias spp* have any specific protection measures in place.

Like many sharks, catches of *Alopias spp.* are hugely under-reported globally (Clarke *et al*. 2006; Worm *et al.* 2013) and trend data on a species specific level is lacking due to the paucity of data. However, an analysis by the United Nations Fish and Agriculture Organisation (FAO) states: 'unless demonstrated otherwise, it is prudent to consider these species as being fully exploited or overexploited globally' (Maguire *et al*. 2006). Furthermore, recent work by TRAFFIC to develop an assessment framework for exposure and management risk found *Alopias spp* to be in the highest risk category with regard to the level of management in place and their intrinsic vulnerability (Lack, M. *et al* 2014).

Alopias spp. have been widely caught in offshore longlines by the former USSR, Japan, Taiwan (Province of China), Brazil, Uruguay, USA, and others. The northwestern Indian Ocean and eastern Pacific are especially important fishing areas (Compagno 2001).

Their intrinsic biological characteristics make *Alopias spp* particularly vulnerable to a range of anthropogenic threats across their range. The entire genus is vulnerable *with A. superciliosus* having the lowest intrinsic rebound potential and least resistance to fishery pressure (Amorim *et al*.; Goldman *et al*.; Reardon *et al*. – IUCN Red List Assessments for *Alopias spp*., Oldfield *et al* 2012., Lack, M. *et al* 2014). They are considered as having a low capacity to recover from even small levels of exploitation due to their slow life history characteristics, with their population doubling time estimated at around 25 years (Smith *et al*. 2008). This is further compounded by their epipelagic habitat occurring within the range of many largely unregulated gillnet and longline fisheries, resulting in high levels of largely unmanaged and unreported mortality (Dulvy *et al*. 2008).

The demand for shark fins from the largely unregulated shark fin trade is the driver behind this overexploitation of *Alopias spp.,* with Clarke *et al.* (2006 A) reporting that they compose at least 2.3% of Hong Kong trade in a market study using DNA-based species identification techniques. This level of fins in international trade equates to up to four million thresher sharks being killed and traded per year (Clarke *et al*. 2006 B).

3.1b. Atlantic and Mediterranean catch

A. superciliosus and *A. vulpinus* are often grouped together in catch data making it difficult to distinguish the status of each population, although *A. superciliosus* is the more common of the two species found in this region. Observed declines in the Northwest Atlantic region suggest the population has collapsed with estimates for *A. superciliosus* and *A. vulpinus* indicating an 80% decrease since the late 1980s (Baum *et al*. 2003 along with Amorim *et al*.; Goldman *et al*.; Reardon *et al*. – IUCN Red List Assessments for *Alopias spp*.).

Cortés *et al*. (2010) undertook an Ecological Risk Assessment (ERA) of pelagic sharks in Atlantic pelagic longline fisheries, which identified *A. superciliosus* as one of the shark species most at risk from overexploitation in the Atlantic. Studies in the Southeastern United States also show severe declines in the species, with decreases in Catch Per Unit Effort (CPUE) indicating that the population of *A. superciliosus* has declined by 70% from historic levels (Beerkircher *et al*. 2002).

The International Council for the Exploration of the Sea (ICES) (2007) noted that the management of *Alopias vulpinus* in the Atlantic is of concern due to the lack of management measures in place. Parallels can be drawn with the USA Pacific targeted fishery which, also lacking in management measures, experienced rapid declines and eventual closure in the 1990's as a direct result of overfishing (Hanan *et al*. 1993).

Estimates indicate a decline of over 99% in abundance *of A. vulpinus* in the Mediterranean in just over 100 years (Ferratti *et al*. 2008), and it is now considered scarce or rare as a result of fishing pressure.

3.1c. Pacific Ocean catch

In the Eastern Central Pacific, trends in abundance and biomass of *Alopias spp.* indicate a decline in abundance of 83%, and a decline in biomass to approximately 5% of virgin levels (Ward and Meyers 2005).

Reported landings in the drift gillnet fishery for *A. vulpinus* off the west coast of the USA in the late 1970s collapsed from a peak of 1,089.5t in 1982 to less than 300t by the late 1980s (a decline of 70%). This fishery was effectively eliminated by restrictions on the use of gillnets by 1990, and the population has slowly recovered to just below 50% of the initial subpopulation size.

A. pelagicus is fished in the Central Pacific, and has been an important catch for Taiwan, Province of China (Liu *et al*. 2006; Liu *et al*. 2013). A spawner-per-recruit (SPR) analysis of the Taiwanese catch of *A. pelagicus* suggests this stock is overexploited (Liu *et al.* 2006). An additional study also concluded that the stock is overexploited, and highlighted the extreme vulnerability of *A. pelagicus*, and the urgent need for measures that would ensure sustainable utilisation of the stock (Tsai *et al*. 2010).

All *Alopias spp*. are included on the WCPFC list of key shark species, however a lack of detailed, species specific catch data has led to no stock assessments being produced to date (WCPFC Scientific Committee report 2013).

3.1d. Indian Ocean catch

Little detailed information is available on *Alopias spp.* in this region, with catches under-reported and pelagic fishing effort high. A recent review of fisheries in the Indian Ocean reported that sharks in this region are considered to be fully to over-exploited. Given that *A. superciliosus* has high biological vulnerability and a low intrinsic rate of increase, coupled with the continued high levels of exploitation in this region and the declines observed in other areas of its range, declines can be inferred (Amorim *et al*.; Goldman *et al*.; Reardon *et al*.; – IUCN Redlist Assessments for *Alopias spp*.).

The stock status is, like all shark stocks in the Indian Ocean, highly uncertain. In response to these uncertainties an Ecological Risk Assessment (ERA) has been developed by the Indian Ocean Tuna Commission (IOTC) Scientific Committee to quantify which shark species are most at risk from the high levels of pelagic longline fishing pressure (IOTC Scientific Committee advice on pelagic and bigeye thresher sharks -2013).

In this ERA, the IOTC Scientific Committee noted that *A. pelagicus* and *A. superciliosus* received high vulnerability rankings (No. 2 and No. 3 respectively) for longline gear as they are characterised as two of the least productive shark species, and are highly susceptible to catch in longline fisheries. They also noted that the available evidence indicates considerable risk to the status of the Indian Ocean *Alopias spp.* stocks at current effort levels.

3.2 Habitat destruction

Overall, critical habitats and the threats they face are largely unknown for all *Alopias spp*.

However, nursery grounds in some inshore temperate regions have been identified for some *Alopias spp.* in the Adriatic Sea, northeastern Atlantic, western Mediterranean (Alboran Sea), southern California, and South Africa (Moreno *et al*. 1989; Compagno 2001; Notabartolo Di Sciara and Bianchi 1998). A nursery area for *A. superciliosus* is suspected in the waters off the southwestern Iberian Peninsula (Moreno and Moron 1992). Also, the same authors observed aggregations of gravid females of *A. vulpinus* in the Strait of Gibraltar.

It is important to note that none of these suspected key habitat areas have any specific protection measures for *Alopias spp.*

The establishment of marine protected areas within EEZs in domestic waters may also provide a degree of habitat protection, however there is no protection for critical pelagic high seas habitats, which is highly significant given the highly migratory, pelagic nature of all *Alopias spp.* This is explored further in section 3.4 on threats to migratory routes.

3.3 Indirect threat (e.g. reduction of breeding success by pesticide contamination)

High levels of ecosystem contaminants (PCBs, organo-chlorines and heavy metals) that bio-accumulate and are bio-magnified at high trophic levels are associated with infertility in sharks (Stevens *et al*. 2005), but their specific impacts on *Alopias spp.* are unknown.

3.4 Threat connected especially with migrations

There is little or no protection for these species in much of their critical high seas habitat. This is a significant and ongoing threat to all *Alopias spp.* given their wide ranging, migratory, pelagic nature, and the fact that the major threat to their populations is unregulated catch by high seas operating longline vessels targeting tuna, swordfish, and other shark species (Maguire *et al.* 2006, along with Amorim *et al*.; Goldman *et al*.; Reardon *et al*. – IUCN Redlist Assessments for *Alopias spp*.).

The Indian Ocean Tuna Commission (IOTC) has adopted a measure that prohibits all retention of all *Alopias spp* when caught, and the International Commission for the Conservation of Atlantic Tunas (ICCAT) has prohibited the retention of *A. superciliosus.* *However, no other international protection exists for these species, making them vulnerable over much of their range when they migrate.*

3.5 National and international utilization

Although often noted as an incomplete record of global catch (Worm *et al* 2013), the following details the data on *Alopias spp*. catch reported to the FAO in 2010 (the year with the most recent complete data):

- Americas - 3,519 tonnes (Brazil, Ecuador, USA, smaller amounts from Mexico and Trinidad and Tobago)
- Africa - 12 tonnes (Namibia and South Africa)
- Asia – 13,610 tonnes (Indonesia, Korea)
- Oceana - 19 tonnes (New Zealand)

Markets exist internationally for *Alopias spp*. meat, which is cooked, smoked or dried-salted, and lesser markets for its skin (for leather), and liver oil (for vitamin A). However, the principal driver of catch and then trade in these species is the international demand for shark

fins. (Worm *et al*. 2013; FAO landings data; Clarke *et al*. 2006 A and B; and Amorim *et al*.; Goldman *et al*.; Reardon *et al*. – IUCN Redlist Assessments for *Alopias spp*.).

In many areas where immediate refrigeration or freezing facilities are not available, meat is often salted and dried, in particular in eastern and southern Africa where it is used primarily to supply domestic and intra-regional demand. Frozen shark meat for export from the Seychelles and the processing of juvenile sharks into meat dough in Somalia has also been reported. Similarly in Southeast Asia, both fins and meat are considered valuable and traded as either frozen or salted and dried. In the Philippines, *Alopias spp.* meat historically sold for around €2.75/kg and dried fins for €18.30/kg (TRAFFIC 1996).

In East Asia processed forms of shark meat are common, for example, in Taiwan (Province of China). Most shark meat is used in the domestic production of minced fish products, such as fish balls and tempura. In Japan *Alopias spp.* are marketed frozen, whilst in China the meat is used to produce salted shark meat, canned meat, and shark meatballs (Parry-Jones *et al*.; 1996).

A recent study in Taiwan (Province of China) shows that *Alopias spp*. are heavily consumed in Taiwan, with 23% of sampled shark products coming from *A. pelagicus*. The study notes that the stock of *A. pelagicus* in the region has reduced by 34.3% over the past 20 years and that the stock is both under high fishing pressure and overexploited (Liu S-YV 2013).

4. Protection status and needs

4.1 National and International protection status

A number of countries and territories have banned the retention of all sharks, notably Palau, Maldives, Honduras, The Bahamas, Marshall Islands, French Polynesia, New Caledonia and the Cook Islands. Several U.S. states and territories in the Pacific have also taken steps to curb the shark fin trade with California, Hawaii, Oregon, Washington, Guam, and the Commonwealth of the Northern Mariana Islands banning the sale, possession, and trade of shark fins.

In terms of *Alopias spp*. specific domestic measures, few are in place worldwide. The Philippines has afforded legislative protection for *Alopias spp.* (Batangas City, Ordinance Resolution 9, series 2008). Management has also been put in place in the form of prohibitions on landings based on scientific advice in the Northwest Atlantic US waters. A prohibition on retaining *Alopias spp.* when caught has also been put in place by Spain.

In response to growing concern over the status of large pelagic sharks, a number of RFMOs have undertaken stock assessments for species with sufficient data. They have also taken measures to improve data collection to species level, reduce bycatch, control finning, and prohibit landings of the most threatened species.

In 2009, the International Commission for the Conservation of Atlantic Tunas (ICCAT) advised against directed fisheries for *Alopias spp.*, and prohibited any retention, landing and sale of *A. superciliosus*. The Indian Ocean Tuna Commission (IOTC) has also prohibited the retention, landing, and sale of any part or whole carcass of all species of the family *Alopiidae*.

The conservation and management of sharks in EU waters falls under the remit of the European Common Fishery Policy, which manages fish stocks through a system of annual catch quotas and effort control. The Community Action Plan for the Conservation and Management of Sharks (EU COM 2009) establishes a goal of rebuilding depleted shark

stocks utilised by the EC fleet within and outside EC Waters. However, there is no specific management of *Alopias spp.* under the Common Fisheries Policy in EC and international waters, aside from that transposed from ICCAT and IOTC.

4.2 Additional protection needs

All *Alopias spp.* are in need of conservation action as a matter of urgency wherever they are found, due to their particularly vulnerable biology, the significant declines seen in their populations (detailed in section 3), the high demand for products from *Alopias spp*. worldwide, and the lack of regulation or protection for these species across most of their range. While the measures listed in 4.1 provide some protection for *Alopias spp.* they do not extend throughout their entire range, nor is international trade regulated despite up to four million thresher sharks being killed and subsequently traded on an annual basis (Clarke 2006 B).

Alopias spp. are likely to be pushed closer to extinction until globally applicable, enforceable measures are put in place worldwide to protect them from overexploitation.

An Appendix II CMS listing would aid in the development and implementation of such measures, by emphasising the need for coordinated management of thresher sharks in all range states. This can be reinforced if *Alopias* spp. are subsequently listed on the CMS MoU on the conservation of migratory sharks.

A CMS Appendix II listing would also ensure that international co-operation is prioritised, with additional Regional Fisheries Management Organisation (RFMO) measures to prohibit or strictly regulate catch needed urgently across the range of all *Alopias spp.* Additionally, to complement fisheries management measures, Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II listings could be considered to aid in regulating international trade in *Alopias spp.* products - ensuring they are sustainable, and from a legally obtained source.

The Review of Migratory Chondrichthyan Fishes - IUCN Shark Specialist Group/CMS (2007) noted that: *'A CMS Appendix II listing could help drive the improvements in national and regional management that are so urgently needed; for example by prompting improved synergies between environment and fisheries management authorities, since so few of the latter appear to consider the thresher sharks a priority for action. Because these species are very similar in appearance and have a partly overlapping distribution, it would seem most practical to seek to list all three on CMS.'*

This is reinforced by a recent study, which identifies *Alopias spp.*as species that would benefit from international co-operation and protection through listing on both CMS and CITES (Sant *et al*. 2012)

5. Range States

All three species of thresher shark occur 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 Alopias spp are present in domestic waters and those fisheries nations operating on the high seas.[3]

a) Common thresher shark *(Alopias vulpinus)*

ALBANIA, ALGERIA, ARGENTINA, AUSTRALIA, Bahamas, BELGIUM, Brazil, Canada, CHILE, China, Colombia, Cuba, CYPRUS, CÔTE D'IVOIRE, CUBA, DENMARK, DJIBOUTI, ECUADOR, EGYPT, FRANCE, GABON, GAMBIA, GERMANY, GREECE, GUINEA, GUINEA-BISSAU, INDIA, Indonesia, IRELAND, ISRAEL, ITALY, Japan, KENYA, Kiribati, Lebanon, LIBERIA, LIBYA, Maldives, MALTA, MAURITANIA, MAURITIUS, Mexico, MONACO, MONTENEGRO, MOROCCO, MOZAMBIQUE, Namibia, NETHERLANDS, NEW ZEALAND, Nicaragua, NORWAY, Oman, PAKISTAN, PANAMA, PHILIPPINES, PORTUGAL, Republic of Korea, SENEGAL, SERBIA, Sierra Leone, SLOVENIA, SOMALIA, SOUTH AFRICA, SPAIN, SRI LANKA, Suriname, SWEDEN, SYRIAN ARAB REPUBLIC, Taiwan, Province of China, Thailand, Trinidad and Tobago, TUNISIA, Turkey, UNITED KINGDOM, UNITED REPUBLIC OF TANZANIA, URUGUAY, United States of America, Venezuela, Viet Nam, YEMEN.

b) Bigeye thresher shark (*Alopias superciliosus)*

ANGOLA, ARGENTINA, AUSTRALIA, Bahamas, Brazil, CHILE, CUBA, ECUADOR, FRANCE, GUINEA, Japan, MADAGASCAR, Maldives, Mexico, MOROCCO, NEW ZEALAND, PERU, PORTUGAL, SENEGAL, SOMALIA, SOUTH AFRICA, SPAIN, SRI LANKA, Taiwan – Province of China, UNITED KINGDOM, URUGUAY Viet Nam, United States of America, Venezuela.

c) Pelagic thresher shark (*Alopias pelagicus*)

China, ECUADOR, EGYPT, ERITREA, FRANCE, INDIA, ISLAMIC REPUBLIC OF IRAN, Japan, KENYA, MADAGASCAR, Mexico, Micronesia, MOZAMBIQUE, Myanmar, Oman, PAKISTAN, SOMALIA, SAUDI ARABIA, SOUTH AFRICA, SRI LANKA, Sudan, Tahiti, Taiwan, Province of China, UNITED KINGDOM OVERSEAS TERRITORIES, UNITED REPUBLIC OF TANZANIA, United States of America, YEMEN.

6. Comments from Range States

To be determined

7. Additional remarks

8. References

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[3] CMS members indicated in capitals. Without prejudice to the provisions on application of the CMS to Overseas Territories/Autonomous Regions of Parties.

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