Inclusion of Oceanic Whitetip Shark *Carcharhinus longimanus* in Appendix II

Proponent: Brazil, Colombia and United States of America

Summary: The Oceanic Whitetip Shark *Carcharhinus longimanus* is distributed worldwide in tropical and subtropical open ocean surface (epipelagic) waters between 42°N and 35°S. It has a relatively long life span (13ï 22 years), late age (4ï 7 years) and large size (168ï 200 cm total length) at maturity, relatively long generation time (around 10 years), long gestation time (9ï 12 months) and small litter size (5ï 9 pups). Its overall productivity is low (0.08ï 0.12 yr^{-1}). The species appears to show considerably more site fidelity than most pelagic sharks, and often associates with entities such as buoys, drifting objects and pods of cetaceans.

The Oceanic Whitetip Shark is retained as a valuable secondary catch for fins (and in some cases meat) throughout its range, mainly by longline and purse seine fleets targeting tuna and Swordfish *Xiphias gladius*. There are also a few small-scale targeted fisheries in the Gulf of Aden and the Pacific coast of Central America**.** The fins are in international trade and anecdotal information from traders indicates that their value is high. As with other shark species, information on quantities in trade is limited, chiefly because shark trade is not documented at species level in the Harmonized Commodity Description and Coding System (Harmonized System). However, on the basis of surveys of Hong Kong markets, it was estimated that in 2000 between 0.2 and 1.2 million Oceanic Whitetip Sharks were traded globally.

Historically abundant, various studies have indicated declines, some extreme, in recent decades. In the Central Pacific, there was a 93% decline in standardised catch rates between 1995 and 2010. In the Northwest Atlantic, two separate analyses of the same dataset for 1992ï 2005 indicated declines of 57% or 70%; two analyses of a different Northwest Atlantic dataset for the same period indicated a decline of 9% or 50%. A decline of 99% in the Gulf of Mexico from the 1950s to the late 1990s has been reported, although the methodology behind the analysis has been questioned. One study shows a recent decline of 40% in the Indian Ocean; however, the species is known to be taken there and is suspected to be undergoing similar declines to those experienced elsewhere. The Oceanic Whitetip Shark was assessed by IUCN in 2006 as Vulnerable globally and Critically Endangered in the Northwest Atlantic and Western Central Atlantic.

A large proportion of Oceanic Whitetip Shark by-catch by pelagic longlines is alive when brought on to the vessel (>75% in the US longline fishery, 76ï 88% in the Fijian longline fishery) and most individuals would be likely to survive if released unharmed.

Fins from Oceanic Whitetip Sharks are reported to be highly distinctive and easily identified by non-specialists.

The USA is the only country that has implemented any specific national protection for the Oceanic Whitetip Shark, through a combined pelagic quota of 488 t for Oceanic Whitetip Shark, Common Thresher *Alopias vulpinus* and mako *Isurus* spp. Internationally, the Oceanic Whitetip Shark is listed in Annex I, Highly Migratory Species, of the UN Convention on the Law of the Sea. While some countries and Regional Fisheries Management Organisations (RFMOs) have established regulations on the catch or finning of sharks, it is not clear how effective the implementation of these measures is. The International Commission for the Conservation of Atlantic Tunas, the Inter-American Tropical Tuna Commission and the Western and Central Pacific Fisheries Commission have established regulations banning retention on board, transshipment and landing of Oceanic Whitetip Sharks in fisheries covered by their respective agreements. Some other RFMOs have adopted prohibitions on finning, requiring the full use of sharks and promoting the release of live by-catch shark.

The Oceanic Whitetip Shark is proposed for inclusion in Appendix II under *Resolution Conf. 9.24 (Rev. CoP15)* Annex 2 a because it is caught as a valuable secondary catch (and occasionally targeted) for its fins, which are large and have a high international trade value, and because some populations have exhibited marked declines in population size. The proposed listing would include an annotation to delay entry into effect of the inclusion by 18 months to enable Parties to

resolve related technical and administrative issues.

Analysis: The Oceanic Whitetip Shark is retained as a valuable secondary catch, driven by the value of the fins in international trade. The species is of low productivity and is consequently sensitive to over-exploitation. There are significant documented declines in major parts of its range, particularly in the Central Pacific and Northwest Atlantic. Little information is available on the status of populations in the Indian Ocean, but similar declines are expected. Information from 2000 indicates that large numbers of Oceanic Whitetip Shark fins were entering trade at that time, and there are no indications that demand has lessened since then. It would therefore appear that the species meets the criteria for inclusion in Appendix II under *Resolution Conf. (Rev. CoP15)* Annex 2 a Criterion A in the Atlantic and Pacific Oceans, in that regulation of the trade is required to ensure that the species does not become eligible for inclusion in Appendix I, assuming that some sub-populations do not already. In the Indian Ocean it would appear that the species meets Criterion B in the Indian Ocean, where regulation of trade is required to ensure that harvest from the wild is not reducing populations to a level where survival might be threatened by continued harvest or other influences.

Supporting Statement (SS)	Additional information
Range	
The Oceanic Whitetip Shark is distributed worldwide in epipelagic tropical and subtropical waters between latitudes 30°N and 35°S. It is found in the following FAO Fishing Areas: 21, 27, 31, 34, 41, 47, 51, 57, 61, 71, 77, 81, 87.	*In the western North Atlantic it is known to follow warm Gulf Stream currents as far as 42°N (Grubbs* in litt., *2012).* *American Samoa; Angola; Anguilla; Antigua and Barbuda; Argentina; Aruba; Australia; Bahamas; Bangladesh; Barbados; Belize; Benin; Bermuda; Bouvet Island; Brazil; British Indian Ocean Territory (Chagos Archipelago); Brunei Darussalam; Cambodia; Cameroon; Cape Verde; Cayman Islands; Chile; China; Christmas Island; Cocos (Keeling) Islands; Colombia; Comoros; Congo, The Democratic Republic of the; Cook Islands; Costa Rica; Côte d'Ivoire; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Falkland Islands (Malvinas); Faroe Islands; Fiji; France; French Guiana; French Polynesia; French Southern Territories (the); Gabon; Gambia; Ghana; Grenada; Guadeloupe; Guam; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Heard Island and McDonald Islands; Honduras; Hong Kong; India; Indonesia; Israel; Jamaica; Japan; Jordan; Kazakhstan; Kenya; Liberia; Macao; Madagascar; Malaysia; Maldives; Marshall Islands; Martinique; Mauritania; Mauritius; Mexico; Montserrat; Morocco; Myanmar; Nauru; Netherlands Antilles; New Caledonia; Nicaragua; Niger; Niue; Northern Mariana Islands; Oman; Pakistan; Palau; Panama; Papua New Guinea; Peru; Philippines; Pitcairn; Portugal; Puerto Rico; Réunion; Saint Helena, Ascension and Tristan da Cunha; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; Sao Tomé and Principe; Saudi Arabia; Senegal; Seychelles; Sierra Leone; Singapore; Slovenia; Solomon Islands; Somalia; South Africa; Spain; Sri Lanka; Sudan; Suriname; Taiwan, Province of China; Tanzania, United Republic of; Thailand; Togo; Tokelau; Tonga; Trinidad and Tobago; Turks and Caicos Islands; Tuvalu; USA; United States Minor Outlying Islands (Johnston I., Wake Is.); Uruguay; Vanuatu; Venezuela; Viet Nam; Virgin Islands, British (Baum* et al., *2006).*

Supporting Statement (SS)	Additional information

IUCN Global Category

Supporting Statement (SS)	Additional information
Global: Vulnerable. North-western and Central Atlantic Ocean: Critically Endangered.	*Global: Vulnerable A2ad+3d+4ad (ver 3.1, assessed in 2006).* Northwest Atlantic and Western Central Atlantic: Critically Endangered.

Biological and trade criteria for inclusion in Appendix II (Res. Conf. 9.24 (Rev. CoP15) Annex 2 a)

A) Trade regulation needed to prevent future inclusion in Appendix I

Supporting Statement (SS)	Additional information
Biological Characteristics Max age: 13 years Reproductive cycle: 2 years Gestation 9-12 months Litter size: 1-14 with a mean of 5-6 depending on geographic location Age of maturity: 4-5 years (North Pacific); 6-7 years (equatorial Western Atlantic) Size at maturity: females 168-196 cm; males 175-189 cm Generation time: 10-11.4 years In the western equatorial Atlantic Ocean, population growth rates have been calculated to be between 0.08-0.09 yr^{-1} and another study found population growth rates of 0.087 yr^{-1}. These indicate that Oceanic Whitetip Shark populations are vulnerable to depletion and will be slow to recover from overexploitation. Ecological risk and productivity assessments determined that this species ranked 5th in their susceptibility to pelagic fisheries among 12 other Atlantic Ocean species. It has also been determined that Oceanic Whitetip Sharks have a moderate intrinsic recovery potential when compared to 26 other species of sharks, while another study found that population growth rates were low to moderate when compared to eight other pelagic species.	Biological Characteristics *Maximum reported age = 22 years (Smith* et al.*, 1998, as cited in IUCN and TRAFFIC, 2010).* *Another study has cited maximum age as 14 years for males (m) and 17 years for females (f) for both the Pacific and Atlantic Oceans (Dulvy* et al.*, 2008). Size at maturity was 175–200 cm (f) and 175–190 cm (m), generation time of 11 years and productivity of 0.110 yr^{-1}.* *García-Cortés* et al. *(2012) report a mean litter size in the Indian Ocean of 8.9 with a range of 1–20 (N=104 litters).* *Productivity = 0.094 (0.060–0.137) and classed as "highly vulnerable" in comparison with 10 other elasmobranchs (Cortes* et al.*, 2010).* *More recent data have shown that productivity = 0.121 (0.104–0.137), generation time = 10.4 years, and female longevity = 17 years in the South Atlantic (ICCAT, 2012).* *Grubbs (*in litt.*, 2012): Oceanic Whitetips associate with entities like buoys, specific isobaths, cetacean pods and drifting objects and they seem to exhibit much more site fidelity than most pelagic sharks. In Hawaii, the same sharks are often seen at the same offshore buoys over long periods. In the Bahamas, there are areas where large numbers of adult Oceanic Whitetip Sharks are known to aggregate. Lucy Howey-Jordan and colleagues recently tagged >50 adult Oceanic Whitetips off one small point near Cat Island, Bahamas. This behaviour can potentially make Oceanic Whitetip Sharks more susceptible to local extirpation than most wide-ranging species. For this reason, fisheries that target insular slopes and seamounts, such as those in the Marshall Islands (Bromhead* et al.*, 2012), may be of greater concern, even if overall landings are relatively low. This behaviour also may explain some of the interannual variability in fishery dependent data sets and adds uncertainty to any analysis of relative abundance data, especially from fishery-dependent sources. A very small shift in fishing effort geographically or in depth can translate to very large changes in relative abundance indices that are not reflective of population changes.*

Supporting Statement (SS)	Additional information
	*Grubbs (*in litt.*, 2012): Like many sharks, Oceanic Whitetip Sharks apparently segregate sexually and ontogenetically (See García-Cortés* et al.*, 2012). Shifts in the distribution of the fishery can have dramatic effects on the portion of the population that is captured and overall sustainability. For example, a fishery in an area dominated by adult, pregnant females may be of much greater conservation concern than a fishery executed in an area inhabited by large juveniles.*
<u>Historic accounts</u> This species was historically described as the most common pelagic shark throughout the warm-temperate and tropical waters of the Atlantic and beyond the continental shelf in the Gulf of Mexico.	*<u>Historical accounts</u>* *According to Berkeley and Campos (1988, as cited in Baum* et al.*, 2006), Oceanic Whitetip Sharks constituted 2.1% of the shark by-catch in the Swordfish fishery along the east coast of Florida in 1981 to 1983.*
The abundance of Oceanic Whitetip Sharks appears to be patchy in the south and central Atlantic, but evidence suggests it is declining where it was formerly abundant. In equatorial areas, this was the second most abundant species caught by Brazilian longline vessels between 1992 and 1997 and were present in 4.72% of tropical eastern Atlantic French and Spanish tuna purse-seine sets.	*The Oceanic Whitetip Shark was one of the most common pelagic sharks beyond the continental shelf in the Gulf of Mexico (Wathne 1959, as cited in Baum* et al.*, 2006) and throughout the warm-temperate and tropical waters of the Atlantic and Pacific (Strasburg 1957, as cited in Baum* et al.*, 2006).*
In the central tropical Pacific, tuna longline survey data from the early 1950s indicated Oceanic Whitetip Sharks constituted 28% of the total shark catch in fishing south of 10 ºN. Oceanic Whitetip Shark catch rates ranged from 2 to 29 (mean 12.44) sharks per 1000 hooks with dragnet sets (all depths combined) in each 10°x10° area surveyed. Japanese research longline records during 1967ï 68 indicate that Oceanic Whitetip Sharks were still among the most common shark species taken by tuna longline vessels in tropical oceans. It was the second most abundant species, comprising 22.5% of the shark catch in the western Pacific, but the third most abundant, after silky sharks, *Carcharhinus falciformis*, at 21.3% of the shark catch in the eastern Pacific.	*There is anecdotal information that Oceanic Whitetips were very abundant in the middle decades of last century in the Atlantic (Backus* et al.*, 1956 and references therein). For example, Backus* et al. *(1956) write: "Until recently little has been known about the common, pelagic shark,* Pterolamiops longimanus*—previous name for* Carcharhinus longimanus*. Data gathered during recent offshore cruises show it to be abundant and widely distributed in the warm waters of the western North Atlantic".*
<u>Declines</u> Summary of population and abundance trend data for Oceanic Whitetip Sharks	*<u>Declines</u>*

Year	Location	Data	Trend
A - 1992-2005	Northwestern Atlantic	Logbook	57% decline*
B - 1992-2003	Northwestern Atlantic	Logbook	70% decline*
C - 1992-2003	Northwestern Atlantic	Observer Logbook	9% decline*
1954-1957 and1995-1999	Gulf of Mexico	Fishery Survey and Logbook	99% decline*

Year range for A should be 1992–2000.

Year range for B should be 1992–2005.
A+B and C+D (below) analysed the same data sets but reported different results.
D - An analysis of US pelagic longline fishery observer data showed a 50% decline between 1992 and 2005 in the Northwest Atlantic, but the high degree of inter-annual variability in the individual year estimates limits what can reasonably be inferred about the relative abundance of these species (Baum and Blanchard, 2010).

Supporting Statement (SS)	**Additional information**

1951-1958 and1999-2002	Central Pacific	Fishery Survey and Observer Logbook	90% decline*
1967ï 1970 and1992ï 1995	Central Pacific	Fishery Survey	No changes
1967ï 1970 and1992ï 1995	Central Pacific	Fishery Survey	40-80% increase
1967ï 1970 and 1992ï 1995	Central Pacific	Fisher Survey	30-50% decline
1996 ï 2006	Eastern Pacific	Observer logbook	~90% decline (inferred from figure)
E - 1995ï 2000 and 2004-2006	Central Pacific	Observer logbook	78% decline in deep water sets 54% decline in shallow water
1995 - 2010	Hawaii-based pelagic longline	CPUE	90% #
2000 - 2009	Indian Ocean	CPUE	~40% #
1954-1957 and1995-1999	Gulf of Mexico	Mean size	35 decline%
1951-1958 and1999-2002	Central Pacific	Mean Size	50% decline

*Indicates the data have been statistically standardised to correct for factors unrelated to abundance.
These declines were included in the text of the SS.

The SS notes that for the 99% decline between 1954/57 and 1995/99 changes in fishing gear and practices over this period were not fully taken into consideration in the analysis, and there is currently debate as to whether or not these changes may have resulted in an overestimation of the magnitude of these declines. Nevertheless,

E—This 78% decline is outdated. Walsh and Clarke (2011) presented an updated analysis of this data set to 2010. They suggested there was a 90% decline in standardised catch rates between 1995 and 2010 in the Central Pacific. Also, they provide an update and correction to the shallow (91% Catch Per Unit Effort (CPUE) decline) versus *deep (89.6% CPUE decline). However, these declines in CPUE may not reflect equally severe declines in the population (Grubbs* in litt.*, 2012). The authors show that sea surface temperature is a very important explanatory variable for CPUE and there was a shift in the fleet to cooler waters in later years. Much more effort in later years was outside the thermal range of Oceanic Whitetip Sharks. Therefore both a population decline and fleet behaviour may be responsible for the CPUE decline.*

The note about these data may not be valid (Grubbs in litt.*, 2012)—taking a trend from an analysis of one 12-year data set and extrapolating it back 40 years is questionable.*

Supporting Statement (SS)	Additional information
when trends in abundance from the former analyses (1992 - 2000) are extrapolated back to the mid-1950s, they match abundance declines in the latter analysis for Oceanic Whitetip Sharks.	<u>*Additional declines*</u> *CPUE of the Oceanic Whitetip Shark in a Swordfish fishery off Florida's coast was 0.87 in 1981/1983 and 0.32 during 1992/2000, a decline of 63%. However, sampling was very different from one time period to the next and Beerkircher* et al. *(2002) state that "such significant spatial and vessel differences reduce direct comparability" between the time periods. An ongoing decline in CPUE within the latter time period was noted (Berkeley and Campos 1988; Beerkircher* et al.*, 2002, cited in IUCN and TRAFFIC, 2010) but the authors noted that while the nominal CPUE for Oceanic Whitetip Sharks declined over the period, the weighted CPUE index actually increased.* *Clarke* et al. *(2012) found an annual decline of 17% over 1995–2010 in the Central Pacific. This equates to a 93% decline over the period as a whole. These estimates did take account of operational changes in the fishery (i.e. these declines are estimated based on standardised catch rates). Median lengths of the Oceanic Whitetip Shark also declined significantly.*
<u>Additional Information</u>	<u>*Additional Information*</u>
<u>Atlantic Ocean</u>	<u>*Atlantic Ocean*</u> *Guitart Manday (1975, as cited in Baum* et al.*, 2006) demonstrated a marked decline in the Oceanic Whitetip Shark landings in Cuba from 1971 to 1973.*
<u>Pacific Ocean</u> In 2012 a study concluded that the species is overexploited, and there is consistent evidence of declines in catch, CPUE, size composition, spawning biomass, recruitment and total biomass from 1995-2009. Estimated fishing mortality was found to have increased to levels far in excess of fishing mortality rateat maximum sustainable yield (FMSY) (F = fishing mortality rate; FCURRENT / FMSY = 6.5) and across the entire model estimated mortality values were much higher than FMSY. In 2007, the Oceanic Whitetip Shark was categorizsed as being at ñmediumò ecological risk for both deep and shallow longline sets in the Pacific Ocean, and in 2011 the western and central Pacific Ocean population was described as being in a depleted state.	
<u>Indian Ocean</u> The Indian Ocean Tuna Commission (IOTC) states ñThe population dynamics and stock structure of Oceanic Whitetip Sharks in the Indian Ocean are not known.ò	

Supporting Statement (SS)	Additional information
B) Regulation of trade required to ensure that harvest from the wild is not reducing population to level where survival might be threatened by continued harvest or other influences	
Trade International shark trade information is not documented to the species level for sharks in the Harmonized Commodity Description and Coding System (Harmonized System). Therefore, species-specific information about quantity or value of imports or exports is not available in the Harmonized System. In addition, most parties do not report catches to species level to FAO or Regional Fisheries Management Organisations (RFMO).	*Trade*
However, information on the trade in Oceanic Whitetip Shark fins can be obtained by examining the Hong Kong fin market, whose global trade in fins represented 65-80% from 1980-1990 and 44-59% of the market from 1996-2000.	*The estimates of Oceanic Whitetips represented in the Hong Kong shark fin market are based on an assumption that Hong Kong comprised 44–59% of the global trade not of the Hong Kong market itself (Clarke* in litt.*, 2012).*
Using commercial data on weights and sizes of traded fins, the Chinese category for Oceanic Whitetip Shark, coupled with DNA and Bayesian statistical analysis to account for missing records, it was estimated that between 220 000 and 1 210 000 Oceanic Whitetip Sharks were traded globally in 2000.	*Given the method of calculation this should be rounded to 0.2 to 1.2 million (Clarke* in litt.*, 2012).* *The weight traded was 1.8% (1.6–2.1%) of the annual trade (Clarke* et al.*, 2006).* *Oceanic Whitetips in the Western and Central Pacific Fisheries Commission (WCPFC) area are more frequently retained whole than they are finned or discarded. This is unlikely to be due to the enforcement of finning regulations as these were not widely enforced during the study period (see Clarke* et al.*, 2012): rather, it suggests that the Oceanic Whitetip meat has sufficient value to warrant retention (Clarke* in litt.*, 2012).*
As the meat is of generally low value, Oceanic Whitetip Shark fins are retained because of their high value (USD45 to USD85 per kg) in international trade.	*The figures documenting the value of fins cannot be verified because no citation was provided in the supporting statement.* *An average wholesale auction price for dried/unprocessed Oceanic Whitetip Shark fins in 2001 was USD122/kg (range USD27–357/kg) (Clarke 2009, as cited in IUCN and TRAFFIC, 2010).*
Inclusion in Appendix II to improve control of other listed species	
A) Specimens in trade resemble those of species listed in Appendix II under Res. Conf. 9.24 (Rev. CoP15) Annex 2 a or listed in Appendix I	
Oceanic Whitetip Shark fins are so distinctive that it is also easy for non-experts to identify the fins. A recent fin identification guide showed the steps for distinguishing an Oceanic Whitetip Shark fin from any other type of shark fin. The large rounded fins with white parts help to confirm identity via simple observation.A fin guide exists for the identification of the fins in trade.	*A survey of sharks contained within the Princeton Field Guide "Sharks of the World" (Compagno* et al.*, 2005) revealed that 26 out of 461 species in the guide had white-tipped first dorsal fins. None of them are broadly rounded like those of the Oceanic Whitetip, however (Chapman* in litt.*, 2012).*

Supporting Statement (SS)	Additional information
Six shark species of the Order Carcharhiniformes have white-tipped fins, but it is unlikely that they will be taken for Oceanic Whitetip Shark fins. These six species are *Hemitriakis leucoperiptera, Hemigaleus microstoma, Paragaleus leucolomatus, Carcharhinus albimarginatus, C. amblyrhynchos and Triaenodon obesus*. Nonetheless, these six species are rarely caught in pelagic fisheries and have not been identified on the Hong Kong fin market. While all these species have white-tipped fins, those of Oceanic Whitetip Sharks are larger and generally more broadly rounded, whereas fins on the aforementioned species are falcate (sickle-shaped), the tips are pointed and the white markings are on the tip and the trailing edge.	*While these six species have not been genetically identified nor quantitatively estimated from the Hong Kong shark fin market, Clarke (*in litt.*, 2012) notes that there is anecdotal information that at least some of them are used and predicts that all of them would be found if a complete survey could be performed, although perhaps an unlikely event, given that these species are not particularly abundant, but it remains a possibility that look-alike issues may arise. Clarke (*in litt.*, 2012) observes that the fin guide does not provide a complete key for the Oceanic Whitetip and does not focus on those fins which are most likely to be mistakenly identified as those of Oceanic Whitetip. A visual identification guide that specifically addresses the issue of how to distinguish fins of these six species fins from the Oceanic Whitetip's fins would help.*

Other information

Threats

The Oceanic Whitetip Shark is retained as a valuable secondary catch for their fins throughout their range, mainly in tuna and swordfish fisheries. Demand from international shark fin markets is the driving economic force behind the retention and mortality of Oceanic Whitetip Sharks. There are also a few small-scale fisheries in the Gulf of Aden and the Pacific coast of Central America that target the species. When carcasses are not discarded at sea, Oceanic Whitetip Sharks are utilised for human consumption. The meat is consumed fresh, smoked or dried and salted. Fins may be dried and utilised locally. It has also been reported that Oceanic Whitetip Shark meat is eaten fresh and smoked in Mexico and the US, and fresh, dried and salted in the Seychelles and Sri Lanka. The livers are sometimes also harvested for oil, and the skin used as leather.	*Oceanic Whitetips in the Western and Central Pacific Fisheries Commission (WCPFC) area are more frequently retained whole than they are finned or discarded. This is unlikely to be due to the enforcement of finning regulations, as these were not widely enforced during the study period (see Clarke* et al.*, 2012): rather, it suggests that the Oceanic Whitetip meat has sufficient value to warrant retention (Clarke* in litt.*, 2012).*

Conservation, management and legislation

National Bans on shark finning has been implemented by 21 countries and the European Union (EU), as well as by nine Regional Fisheries Management Organisations. These may help somewhat in reducing shark mortality. Colombia - Shark fishing is prohibited in the Colombian Caribbean (San Andres, Providencia and Santa Catalina Archipelago) and shark finning is banned throughout Colombia. US ï combined pelagic quota of 488 metric tonnes for Oceanic Whitetip Shark, Common Thresher and mako US ï Atlantic sharks must be landed with their fins naturally attached. Oceanic Whitetip Sharks could benefit from legislation enacted by French Polynesia	*National* *Shark fishing prohibition* *Mexico—Pacific Ocean May 1st to July 31st; Gulf of Mexico and Caribbean Seas—May 1st to June 30th; Campeche Banks August 1st to 31st* *By-catch mitigation strategies for Australian pelagic fisheries that capture the species include a trip limit of 20 sharks per boat, restrictions on finning sharks at sea, and the banning of wire traces (Gilman* et al.*, 2007, cited in IUCN and TRAFFIC, 2010; Clarke, 2011).*

Supporting Statement (SS)	Additional information
(2006), Palau (2003, 2009), the Maldives (2010), Honduras (2011), the Bahamas (2011), Tokelau (2011) and the Marshall Islands (2011) prohibiting shark fisheries throughout their Exclusive Economic Zones (EEZ) but the benefit of these prohibitions has not been established. Other countries have protected areas where shark fishing is prohibited, such as Isla del Coco in Costa Rica, Isla Malpelo in Colombia, the Galápagos Islands in Ecuador, the Banc d'Arguin National Park in Mauritania and the Protected Marine Areas in Guinea-Bissau.	
Bangladesh - At present, the government does not allow trade or any type of trophy involving this species.	
<u>International</u> Oceanic Whitetip Sharks are listed in Annex I, Highly Migratory Species, of the UN Convention on the Law of the Sea.	*<u>International</u>*
ICCAT (International Commission for the Conservation of Atlantic Tuna), IATTC (Inter-American Tropical Tuna Commission), WCPFC and the Indian Ocean Tuna Commission (IOTC) and some other RFMOs have adopted prohibitions on finning, requiring the full use of sharks and promoting the release of live by-catch sharks.	*While prohibitions on finning have recently been established by a number RFMOs, the effectiveness of these prohibitions to reduce shark catch has not been definitively demonstrated and a number of loopholes can remain that allow nations to continue this practice. For example, in the WCPFC (Clarke* et al.*, 2012), coastal nations are allowed to establish their own alternative measures in their EEZ, and implementation of the prohibition is the responsibility of the coastal state: of all 32 WCPFC members, only half had confirmed full implementation of the finning prohibition and few were able to provide information on the degree of compliance. Furthermore, in the WCPFC there is evidence that even if the prohibition were fully implemented it would not actually lead to a reduction in catch; results of this study indicated that Oceanic Whitetip, Silky, and Mako Sharks in longline fisheries were more likely to be retained than finned.*
Retaining on board, transshipping, landing, storing, selling, or offering for sale any part of Oceanic Whitetip Sharks is prohibited in fisheries covered by the ICCAT Convention and the IATTC. In addition, in WCPFC Convention areas retaining on board, transshipping and landing of Oceanic Whitetip Sharks is prohibited. OSPESCA (Central America Fisheries and Aquaculture Organization) member countries in Central America issued the OSP-05-11 regulation with respect to finning in the region.	*In addition, some RFMOs have established prohibitions on the retention of sharks (ICCAT and IATTC for Oceanic Whitetip and Silky Shark, WCPFC for Oceanic Whitetip). While these measures "are likely to reduce shark mortality to a greater extent than finning prohibitions, gear-retrieval practices can have a large effect on shark mortality…It would therefore not be correct to assume that no retention will result in no mortality" (Clarke* et al.*, 2012).* *The WCPFC prohibition will be as of 1 January 2013 (Clarke* in litt.*, 2012).* *Satellite and conventional tagging show that Oceanic Whitetips move long distances and cross international boundaries, which indicates that marine protected areas and domestic regulations in the absence of broader international management can only provide partial protection for this species. Musyl* et al. *(2011) fitted 16 individuals with pop-off satellite tags in the Central Pacific and documented displacements from point-of-origin of up to 4285 km within a year. Howey-Jordan* et al. *(in revision) fitted 12 individuals with similar satellite tags and recorded displacements of 290 to 1940 km*

Supporting Statement (SS)	Additional information
	after periods of one to nine months, with individuals reaching the northern Lesser Antilles, the US EEZ and the Windward Passage. From 1962 to 1997, 73 Oceanic Whitetips were conventionally tagged and four were recaptured as part of the US National Marine Fisheries Service Cooperative Shark Tagging Program. The documented distances travelled were as high as 2811 km (Kohler et al.*, 1998).*
Captive Breeding/Artificial Propagation	
n/a	
Other comments	
Despite their prevalence in pelagic fisheries, catches are unrecorded or unreported and, in many cases, not reported to species level; Oceanic Whitetip Shark catch thus may be higher than documented for some areas. For example, an analysis of trade data suggests that catches reported to ICCAT may seriously underestimate (by 50-fold) the actual catch of this species in the Atlantic Ocean.	*This statement regarding a 50-fold underestimation of the actual catch of this species is attributed to Clarke (2008), however this gives a comparison between trade estimates and ICCAT catch reporting for Blue Shark and Shortfin Mako Sharks, not for Oceanic Whitetip Sharks.* *Catch of the Oceanic Whitetip Shark has declined between 2000 and 2006 from 638 t to 14 t. However, trends in the data are difficult to interpret: this could be a decline in abundance or deterioration in reporting of catch data. Furthermore, declines in overall shark catch may reflect the impact of stricter national and/or regional controls on shark catch and by-catch, or on fisheries for species in which sharks are taken as by-catch (Lack and Sant, 2009).*
A large proportion of the Oceanic Whitetip Sharks caught on pelagic longlines are alive when brought to the vessel (more than 75%) in the US Atlantic longline fishery, and 65%ï 88% in the Fijian longline fishery. Thus, most would likely survive if released unharmed, in accordance with several RFMO shark resolutions.	*Oceanic Whitetips released from longlines or after being captured on similar gear typically survive, based on satellite-tagging results in the Pacific and Atlantic (Musyl* et al.*, 2011, Howey-Jordan* et al.*, in revision).* *Clarke* et al. *(2011) indicate mortality rates at haulback of 0% for the Atlantic and 31% for the Western and Central Pacific.*
Atlantic Ocean Information collected by at-sea scientific observers on US-flagged longline vessels in the northwestern Atlantic Ocean indicates that Oceanic Whitetip shark is the 8th most likely pelagic species to be caught. However, the scant abundance of this species likely reflects the distribution of the fishery, as most US-flagged vessels fish at the northernmost part of the Oceanic Whitetip Sharkõs range. The US reports that very few Oceanic Whitetip Sharks are landed by commercial fisheries. Except for two peaks of about 1250 and 1800 fish landed in 1983 and 1998, respectively, total catches have never exceeded 450 individuals per year. Oceanic Whitetip Sharks comprised less than 1% of the shark by-catch of the Japanese Atlantic longline fleet during 1995ï 2003, and 0.2% of Atlantic shark catch by the Spanish fleet in 1999. However, the proportion of the catch of Oceanic Whitetip Sharks increases in areas of the Atlantic Ocean that are more tropical than	*Atlantic Ocean* *Oceanic Whitetip Sharks are significant in by-catch of Brazilian longline fisheries in the South Atlantic (Hazin* et al.*, 2008, cited in previous proposal analysis).*

Supporting Statement (SS)	Additional information
temperate. For example, Oceanic Whitetip Sharks were present in 4.72% of eastern tropical Atlantic French and Spanish tuna purse-seine sets.	
It has been reported that the Uruguayan longline fleet observer programme in 1998ï 2003 recorded catch rates of 0.006 sharks/1000 hooks in Uruguayan and adjacent high seas south Atlantic waters (latitude 26°ï 37°, 16ï 23°C), but catch rates increased to 0.09 sharks/1,000 hooks in international waters off western equatorial Africa.	
This species has been recorded as part of the catch of longline industrial fisheries in the Colombian Caribbean, with mean catch sizes of 128 +/- 62.35 cm TL for juveniles that could be impacting possible development areas.	
Similarly infrequent records of individuals of this species are obtained by Brazilian and Ecuadorian Atlantic longline fleets. The species comprised less than 1% of the shark by-catch of the Japanese Atlantic longline fleet during 1995ï 2003, and 0.2% of Atlantic shark catch by the Spanish fleet in 1999.	
<u>Pacific Ocean</u> According to the Inter-American Tropical Tuna Commission (IATTC), Oceanic Whitetip Sharks are most often taken as by-catch by ocean purse-seine fisheries. Information collected by observers between 1993 and 2004 indicates Oceanic Whitetip Sharks made up 20.8% of the total shark by-catch. Total observed numbers over the 11-year period indicated that 32 000 sharks were caught in combined dolphin, unassociated, and floating object purse-seine sets. Sampling coverage of the western Pacific Ocean purse-seine fishery by IATTC observers varied by set type, but was generally greater than 60% of the sets of large vessels since 1994.	*<u>Pacific Ocean</u>* *Recent average annual catches of sharks by tuna longline vessels fishing in the Republic of the Marshall Islands (RMI) are estimated to be between 1583 and 2274 t. Although 22 shark species have been recorded by the observer programme for this fishery, 80% of the annual catch comprises only five species: Blue Shark* Prionace glauca*, Silky Shark* Carcharhinus falciformis*, Bigeye Thresher Shark* Alopias superciliosus*, Pelagic Thresher* Shark Alopias pelagicus *and Oceanic Whitetip Shark* Carcharhinus longimanus *(Bromhead* et al.*, 2012). Furthermore, while Oceanic Whitetip Sharks were 8% of the catch, 59.7% were retained and 97.4% of those discarded were finned.*
It has been estimated that by-catch in longline fisheries equal 7253 Oceanic Whitetip Sharks (about 145 t) annually in the north Pacific, and 539 946 sharks (1799 t) in the central and south Pacific.	*These estimates, derived from Bonfil (1994), are likely to be over 20 years old.*
Recent increases in longline fishery effort along with the purse-seine fishery in the equatorial region of the western and central Pacific could imply large increases in fishing mortality over the last two decades.	*Clarke* et al. *(2012) found an annual decline of 17% over the period 1995–2010 in the Central Pacific. This equates to a 93% decline over the period as a whole. These estimates did take account of operational changes in the fishery (i.e. these declines are estimated based on standardised catch rates).*
<u>Indian Ocean</u> While catches of Oceanic Whitetip Sharks are not reported to the Indian Ocean Tuna Commission (IOTC), information on the catch level for this species can be derived from other studies. In the Maldives, it has been reported that Oceanic Whitetip Sharks are taken commercially by pelagic shark longliners and as by-catch by tuna fisheries and that this represented 23% of all sharks caught. Oceanic Whitetip	*<u>Indian Ocean</u>* *The lack of information on Oceanic Whitetip Shark catches to the Indian Ocean Tropical Tuna Commission is likely to be because species-level reporting is not required in this region (McManus 2009, cited in IUCN and TRAFFIC, 2010).*

Supporting Statement (SS)	Additional information
Sharks were present in 16% of French and Spanish tuna purse-seine sets in the western Indian Ocean.	<u>*Other*</u> *Traders in Hong Kong sort Oceanic Whitetip Shark fins into a separate market category, Liu Qiu (Clarke* et al.*, 2006, cited in IUCN and TRAFFIC, 2010). A genetic study of 23 Liu Qiu fins showed all were correctly identified as Oceanic Whitetip Shark (Clarke* et al.*, 2006).* *The value of Oceanic Whitetip fins could encourage retention of the carcass when there are finning regulations. It could also encourage illicit landing or finning in contravention of RMFO regulations if enforcement is weak. CITES would add another layer of surveillance and enforcement to bolster these other management measures (Chapman* in litt.*, 2012).* *Clarke* et al. *(2012) reported that Oceanic Whitetips were generally landed, as opposed to being finned, in the Central Pacific. This raises doubts that finning restrictions alone would reduce landings of this species. The high value of fins encourages landing of whole fish even if the meat is not especially valuable (Chapman* in litt.*, 2012).*

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