



## Status of the Indian Ocean oceanic whitetip shark (OCS: *Carcharhinus longimanus*)

### CITES APPENDIX II species

**TABLE 1.** Oceanic whitetip shark: Status of oceanic whitetip shark (*Carcharhinus longimanus*) in the Indian Ocean.

Area <sup>1</sup>	Indicators	2018 stock status determination
Indian Ocean	Reported catch 2017:	48 t
	Not elsewhere included (nei) sharks <sup>2</sup> 2017:	56,883 t
	Average reported catch 2013-17:	230 t
	Av. not elsewhere included 2013-2017 (nei) sharks <sup>2</sup> :	51,712 t
	MSY (1,000 t) (80% CI):	unknown
	F <sub>MSY</sub> (80% CI):	
	SB <sub>MSY</sub> (1,000 t) (80% CI):	
	F <sub>current</sub> /F <sub>MSY</sub> (80% CI):	
	SB <sub>current</sub> /SB <sub>MSY</sub> (80% CI):	
	SB <sub>current</sub> /SB <sub>0</sub> (80% CI):	

<sup>1</sup>Boundaries for the Indian Ocean = IOTC area of competence

<sup>2</sup>Includes all other shark catches reported to the IOTC Secretariat, which may contain this species (i.e., SHK: sharks various nei; RSK: requiem sharks nei)

Colour key	Stock overfished (SB <sub>year</sub> /SB <sub>MSY</sub> < 1)	Stock not overfished (SB <sub>year</sub> /SB <sub>MSY</sub> ≥ 1)
Stock subject to overfishing (F <sub>year</sub> /F <sub>MSY</sub> > 1)		
Stock not subject to overfishing (F <sub>year</sub> /F <sub>MSY</sub> ≤ 1)		
Not assessed/Uncertain		

**TABLE 2.** Oceanic whitetip shark: IUCN threat status of oceanic whitetip shark (*Carcharhinus longimanus*) in the Indian Ocean.

Common name	Scientific name	IUCN threat status <sup>3</sup>		
		Global status	WIO	EIO
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	Vulnerable	–	–

IUCN = International Union for Conservation of Nature; WIO = Western Indian Ocean; EIO = Eastern Indian Ocean

<sup>3</sup>The process of the threat assessment from IUCN is independent from the IOTC and is presented for information purpose only

Sources: IUCN 2007, Baum et al. 2006

CITES - In March 2013, CITES agreed to include oceanic whitetip shark to Appendix II to provide further protections prohibiting the international trade; which will become effective on September 14, 2014.

### INDIAN OCEAN STOCK – MANAGEMENT ADVICE

**Stock status.** There remains considerable uncertainty about the relationship between abundance, standardised CPUE series and total catches over the past decade (Table 1). The ecological risk assessment (ERA) conducted for the Indian Ocean by the WPEB and SC in 2018<sup>1</sup> 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. Oceanic whitetip shark received a medium vulnerability ranking (No. 9) in the ERA rank for longline gear because it was estimated as one of the least productive shark species, but was only characterised by a medium susceptibility to longline gear. Oceanic whitetip shark was estimated as being the 11<sup>th</sup> most vulnerable shark species to purse seine gear, as it was characterised as having a relatively low productive rate, and medium susceptibility to the gear.

The current IUCN threat status of ‘Vulnerable’ applies to oceanic whitetip sharks globally (Table 2). There is a paucity of information available on this species in the Indian Ocean and this situation is not expected to improve in the short to medium term. Oceanic whitetip sharks are commonly taken by a range of fisheries in the Indian Ocean. Because of their life history characteristics – they are relatively long lived, mature at 4–5 years, and have relatively few offspring (<20 pups every two years), the oceanic whitetip shark is likely vulnerable to overfishing. Despite the limited amount of data, recent studies (Tolotti et al., 2016) suggest that oceanic whitetip shark abundance has declined in recent years (2000 - 2015) compared with historic years (1986 - 1999). Available pelagic longline standardised CPUE indices from Japan and EU, Spain indicate conflicting trends as discussed in the IOTC Supporting Information for oceanic whitetip sharks. There is no quantitative stock assessment and limited basic fishery indicators currently available for oceanic whitetip sharks in the Indian Ocean therefore the stock status is **unknown** (Table 1).

**Outlook.** Maintaining or increasing effort with associated fishing mortality can result in declines in biomass, productivity and CPUE. Piracy in the western Indian Ocean 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. Some longline vessels have returned to their traditional fishing areas in the northwest Indian Ocean, due to the increased security onboard vessels, with the exception of the Japanese fleet which has still not returned to the levels seen before the start of the piracy threat. It is therefore unlikely that catch and effort on oceanic whitetip sharks declined in the southern and eastern areas, and may have resulted in localised depletion there.

**Management advice.** A cautious approach to the management of oceanic whitetip shark should be considered by the Commission, noting that recent studies suggest that longline mortality at haulback is high (50%) in the Indian Ocean (IOTC-2016-WPEB12-26), while mortality rates for interactions with other gear types such as purse seines and gillnets may be higher. While mechanisms exist for encouraging CPCs to comply with their recording and reporting requirements (Resolution 18/07), these need to be further implemented by the Commission, so as to better inform scientific advice. IOTC Resolution 13/06 *on a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries*, prohibits retention onboard, transshipping, landing or storing any part or whole carcass of oceanic whitetip sharks. Given that some CPCs are still reporting oceanic whitetip shark as landed catch, there is a need to strengthen mechanisms to ensure CPCs comply with Resolution 13/06.

The following key points should be also noted:

- **Maximum Sustainable Yield (MSY):** Not applicable. Retention prohibited.
- **Reference points:** Not applicable.
- **Main fishing gear (2013-17):** Gillnet; gillnet-longline.
- **Main fleets (2013-2017):** Comoros; I.R. Iran; Sri Lanka; India; and Maldives; (Reported as discarded/released alive by China, Maldives, Korea, France, Mauritius, Australia, South Africa, Sri Lanka, Japan).

#### LITERATURE CITED

Murua H, Santiago, J, Coelho, R, Zudaire I, Neves C, Rosa D, Semba Y, Geng Z, Bach P, Arrizabalaga, H., Baez JC, Ramos ML, Zhu JF and Ruiz J. (2018). Updated Ecological Risk Assessment (ERA) for shark species caught in fisheries managed by the Indian Ocean Tuna Commission (IOTC). IOTC–2018–SC21–14\_Rev\_1.

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