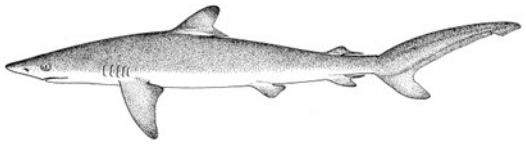
APPENDIX XI
EXECUTIVE SUMMARY: SILKY SHARK (2025)



CITES APPENDIX II species

Table A 1. Status of silky shark (*Carcharhinus falciformis*) in the Indian Ocean.

Area[1]	Indicators		2018 stock status determination
Indian Ocean	Catch (2024) (t) Catch of NEI sharks (2024) (t) Mean annual catch (2020-2024) (t) Mean annual catch of NEI sharks (2020-2024) (t)	1,591[2] 15,742[3] 2,062 24,929[3]	
	MSY (1,000 t) (80% CI) F_{MSY} (80% CI) SB_{MSY} (1,000 t) (80% CI) $F_{current}/F_{MSY}$ (80% CI) $SB_{current}/SB_{MSY}$ (80% CI) $SB_{current}/SB_0$ (80% CI)	unknown	

[1]Stock boundaries defined as the IOTC area of competence; [2]Proportion of catch fully or partially estimated for 2024: 0%; [3]NEI includes all other shark catches reported to the IOTC Secretariat, which may contain this species, i.e., RSK: Requiem sharks nei; SKH: Various sharks nei

Colour key	Stock overfished (SB_{year}/SB_{MSY}< 1)	Stock not overfished (SB_{year}/SB_{MSY}≥ 1)
Stock subject to overfishing (F_{year}/F_{MSY}> 1)		
Stock not subject to overfishing (F_{year}/F_{MSY}≤ 1)		
Not assessed/Uncertain		

Table A 2. Silky shark: IUCN threat status of silky shark (*Carcharhinus falciformis*) in the Indian Ocean.

Common name	**Scientific name**	**IUCN threat status[4]**		
		Global status	**WIO**	**EIO**
Silky shark	*Carcharhinus falciformis*	Vulnerable	-	-

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

[4]The process of the threat assessment from IUCN is independent from the IOTC and is presented for information purpose only

Sources Rigby 2021

INDIAN OCEAN STOCK – MANAGEMENT ADVICE

Stock status. In 2026, several length-based, data-limited assessment methods were applied to silky shark including YPR, SPR, LBSPR, and FISHBLICC analyses. These analyses used size-frequency data from the IOTC databases, together with compiled life-history parameters. The LB-SPR estimates indicated that current fishing mortality on the silky shark longline fishery is likely close to the SPR 20% limit, while the silky shark purse seine fishery showed spawning potential much lower than the SPR 20% limit. It is cautioned however, that the purse seine fishery mainly caught juvenile silky sharks, the estimated spawning potential is likely to be overly pessimistic (as the LB-SPR method assumes full vulnerability of adults to the fishery).

There remains considerable uncertainty about the relationship between abundance and the nominal CPUE series from the main longline fleets, and about the total catches over the past decade (**Table A A1**). The ecological risk assessment (ERA) conducted for the Indian Ocean by the WPEB and SC in 2018 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 (Murua *et al.* 2018). Silky shark received a high vulnerability ranking (No. 2) in the ERA rank for longline gear because it was estimated to be one of the least productive shark species, and with a high susceptibility to longline gear. Silky shark was estimated to be the fifth most vulnerable shark species in the ERA ranking for purse seine gear, due to its low productivity and high susceptibility to purse seine gear. The current IUCN threat status of this species globally is 'Vulnerable' (**Table A A2**). There is a paucity of information available on this species, but several studies have been carried out for this species in the recent years. CPUE derived from longline fishery observations indicated a decrease from 2009 to 2011 with a stable pattern onward. A preliminary stock assessment was run in 2018 but could not be updated in 2019. This assessment is extremely uncertain, however, and so the population status of silky sharks in the Indian Ocean is considered uncertain. Silky sharks are commonly taken by a range of fisheries in the Indian Ocean. Because of their life history characteristics – they are relatively long lived (over 20 years), mature relatively late (at 6–12 years), and have relativity few offspring (<20 pups every two years), the silky shark can be vulnerable to overfishing. Despite the lack of data, there is some anecdotal information suggesting that silky shark abundance has declined over recent decades, including from Indian longline research surveys, which are described in the IOTC Supporting Information for silky shark sharks. There is no quantitative stock assessment or basic fishery indicators currently available for silky shark in the Indian Ocean therefore the stock status is **unknown**.

Outlook. 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. 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 silky shark has declined in the southern and eastern areas and may have resulted in localised depletion there.

Management advice. Despite the absence of stock assessment information, the Commission should consider taking a cautious approach by implementing some management actions for silky sharks. 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.

Mitigation measures should be taken to reduce at-vessel and post release mortality, including consideration of potential gear modifications in longline fleets targeting tuna and swordfish. Noting that

a recent study (Bigelow et al. 2021) concluded in WCPFC that banning both shark lines and wire leaders has the potential to reduce fishing mortality by 30.8% for silky shark.

The following key points should also be noted:

- **Maximum Sustainable Yield (MSY)**: Unknown.
- **Reference points**: Not applicable.
- **Main fisheries (mean annual retained catch 2020-2024)**: silky shark are caught using gillnet (32.7%), followed by line (29%) and longline (21%). The remaining catches taken with other gears contributed to 17.3% of the total catches in recent years (Fig. 1).
- **Main fleets (mean annual retained catch 2020-2024):** the majority of silky shark catches are attributed to vessels flagged to Indonesia (26.4%) followed by Sri Lanka (20.2%) and Taiwan,China (14.6%). The 9 other fleets catching silky shark contributed to 38.7% of the total catch in recent years (Fig. 2).

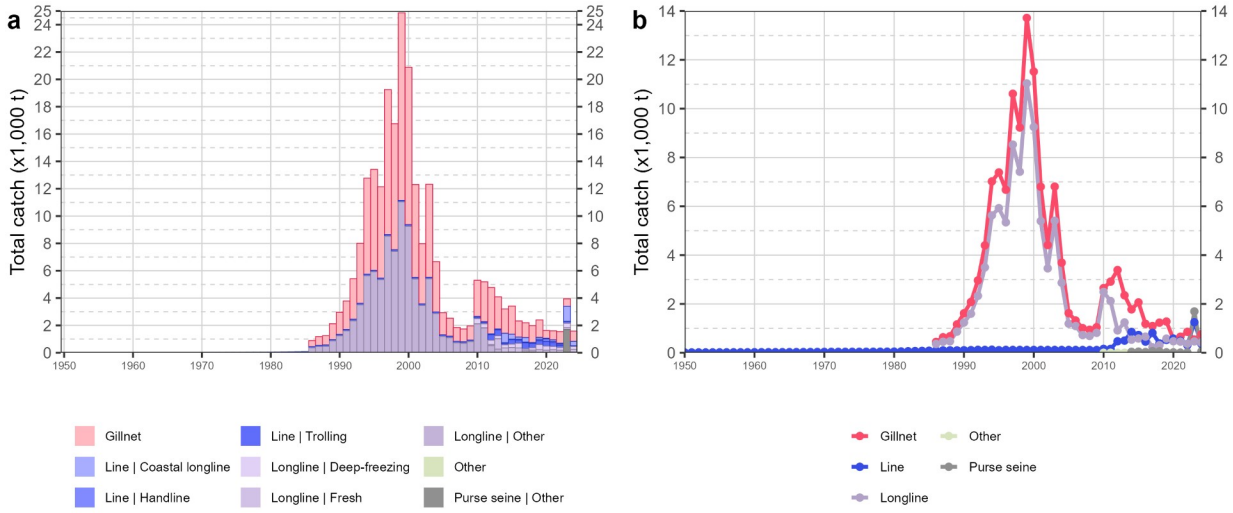


Figure 1. Annual time series of (a) cumulative retained catches (metric tonnes; t) by fishery and (b) individual retained catches (metric tonnes; t) by fishery group for silky shark during 1950-2024. FS = free-swimming school; LS = school associated with drifting floating objects. Purse seine | Other: coastal purse seine, purse seine of unknown association type, ring net; Longline | Other: swordfish and sharks-targeted longlines; Other: all remaining fishing gears.

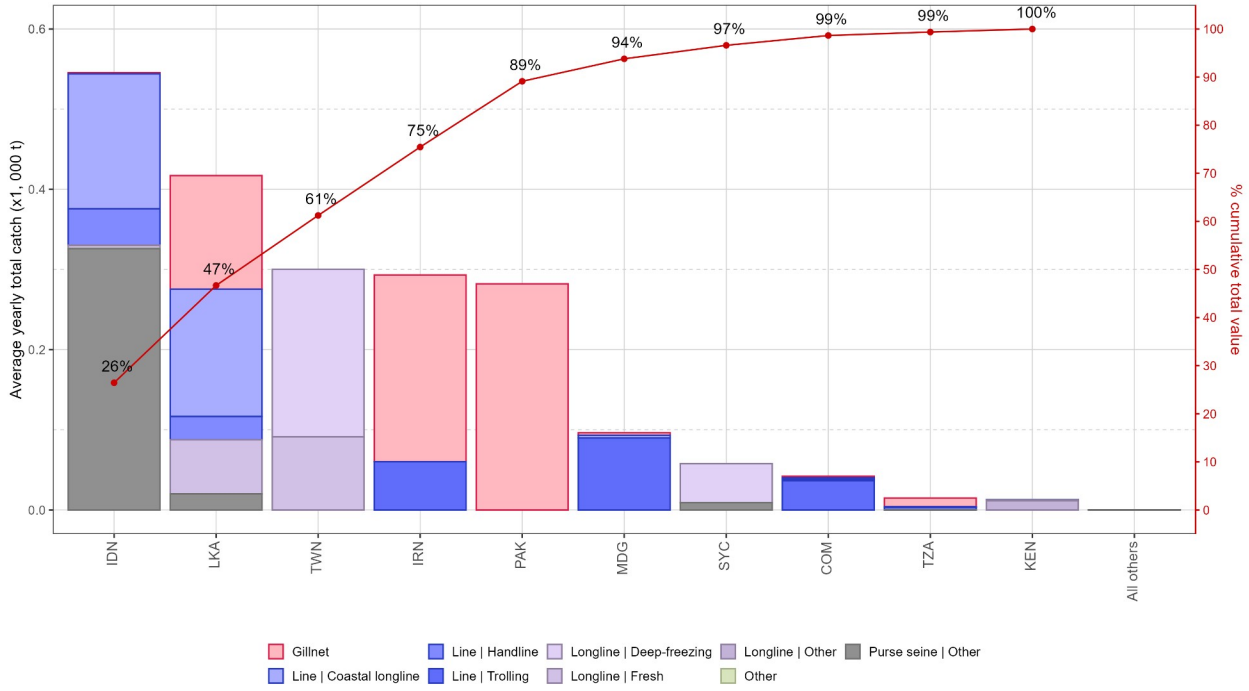


Figure 2. Mean annual retained catches (metric tonnes; t) of silky shark by fleet and fishery between 2020 and 2024, with indication of cumulative catches by fleet. FS = free-swimming school; LS = school associated with drifting floating objects. Purse seine | Other: coastal purse seine, purse seine of unknown association type, ring net; Longline | Other: swordfish and sharks-targeted longlines; Other: all remaining fishing gears.

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