Appendix XIII
Executive Summary: Silky Shark

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**Status of the Indian Ocean silky shark (FAL: *Carcharhinus falciformis*)**

**TABLE 1**.Silky shark: Status of silky shark (*Carcharhinus falciformis*) in the Indian Ocean.

|  |  |  |
| --- | --- | --- |
| **Area1** | **Indicators** | **2018 stock status determination** |
| Indian Ocean | Reported catch 2017: Not elsewhere included (nei) sharks2 2017:Average reported catch 2013-17: Av. not elsewhere included (nei) sharks2 2013-17: | 2,175 t56,883 t2,967 t51,712 t |  |
| MSY (1,000 t) (80% CI):FMSY (80% CI):SBMSY (1,000 t) (80% CI):Fcurrent/FMSY (80% CI):SBcurrent/SBMSY (80% CI):SBcurrent/SB0 (80% CI): | unknown |

1Boundaries for the Indian Ocean = IOTC area of competence

2Includes 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(SByear/SBMSY< 1) | Stock not overfished (SByear/SBMSY≥ 1) |
| Stock subject to overfishing(Fyear/FMSY> 1) |  |  |
| Stock not subject to overfishing (Fyear/FMSY≤ 1) |  |  |
| Not assessed/Uncertain |  |

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

|  |  |  |
| --- | --- | --- |
| **Common name** | **Scientific name** | **IUCN threat status3** |
| **Global status** | **WIO** | **EIO** |
| Silky shark | *Carcharhinus falciformis* | Near Threatened | Near Threatened | Near Threatened |

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

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

Sources: IUCN 2007, 2012

**Indian Ocean stock – Management Advice**

***Stock status.*** 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 1). The ecological risk assessment (ERA) conducted for the Indian Ocean by the WPEB and SC in 2018[[1]](#footnote-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. 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 ‘Near Threatened’ applies to silky shark in the western and eastern Indian Ocean and globally (Table 2). There is a paucity of information available on this species but several studies have been carried out for this species in the recent years. 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 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.*** Maintaining or increasing effort can probably result in 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. 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 16/06), these need to be further implemented by the Commission so as to better inform scientific advice.

The following key points should also be noted:

* **Maximum Sustainable Yield (MSY)**: Unknown.
* **Reference points**: Not applicable.
* **Main fishing gear** (2013-17): Gillnet; longline (fresh), longline-coastal, longline (deep-freezing)
* **Main fleets** (2013-17): Sri Lanka; I.R. Iran; Taiwan,China.

**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.

1. [↑](#footnote-ref-1)