

APPENDIX 16

EXECUTIVE SUMMARY: INDO-PACIFIC SAILFISH (2020)



Table 1. Status of Indo-Pacific sailfish (*Istiophorus platypterus*) in the Indian Ocean

Area ¹	Indicators		2020 stock status determination
Indian Ocean	Catch 2019 ² (MT)	29,872	
	Average catch 2015-2019 (MT)	30,306	
	MSY (1,000 MT) (80% CI)	23.9 (16.1 – 35.4)	
	F _{MSY} (80% CI)	0.19 (0.14 - 0.24)	
	B _{MSY} (1,000 MT) (80% CI)	129 (81–206)	
	F ₂₀₁₇ /F _{MSY} (80% CI)	1.22 (1 – 2.22)	
	B ₂₀₁₇ /B ₀ (80% CI)	1.14 (0.63 – 1.39)	
	B ₂₀₁₇ /B ₀ (80% CI)	0.57 (0.31 – 0.70)	

¹ Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence

² Proportion of catches estimated or partially estimated by IOTC Secretariat in 2018: 26%

Colour key	Stock overfished ($B_{year}/B_{MSY} < 1$)	Stock not overfished ($B_{year}/B_{MSY} \geq 1$)
Stock subject to overfishing ($F_{year}/F_{MSY} > 1$)	17%	60%
Stock not subject to overfishing ($F_{year}/F_{MSY} \leq 1$)	5%	16%
Not assessed/Uncertain		

The percentages are calculated as the proportion of model terminal values that fall within each quadrant with model weights taken into account

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Stock status. No new stock assessment for Indo-Pacific sailfish was carried out in 2020, thus, the stock status is determined on the basis of the 2019 assessment using the C-MSY model. The data poor stock assessment techniques indicated that F was above F_{MSY} ($F/F_{MSY}=1.22$) and B is above B_{MSY} ($B/B_{MSY}=1.14$). Another alternative model using the Stock Reduction Analysis (SRA) techniques produced similar results. The stock appears to show a continued increase in catches which is a cause of concern (**Fig. 1**), indicating that fishing mortality levels may be becoming too high (**Fig. 2**). However, both assessment models rely on catch data only, and the catch series is highly uncertain. In addition, aspects of the biology, productivity and fisheries for this species, combined with the data poor status on which to base a more formal assessment, are also a cause for concern. On the weight-of-evidence available in 2019, the stock status cannot be assessed and is determined to be uncertain.

Outlook. Catches since 2009 have exceeded the estimated MSY, and have also increased by 58% between 2008 and 2017. This increase in coastal gillnet catches and fishing effort in recent years is a substantial cause for concern for the Indian Ocean stock, however there is not sufficient information to evaluate the

effect this will have on the resource. It is also noted that 2019 catches (29,872 MT) exceed the catch limit prescribed in Resolution 18/05 (25,000 MT).

Management advice. The catch limits as stipulated in Resolution 18/05 have been exceeded. The Commission should provide mechanisms to ensure that catch limits are not exceeded by all concerned fisheries. Research emphasis on further developing possible CPUE indicators from gillnet fisheries, and further exploration of stock assessment approaches for data poor fisheries are warranted. Given the limited data being reported for coastal gillnet fisheries, and the importance of sports fisheries for this species, efforts must be made to rectify these information gaps. The lack of catch records in the Persian Gulf should also be examined to evaluate the degree of localised depletion in Indian Ocean coastal areas.

The following key points should also be noted:

- **Maximum Sustainable Yield (MSY):** Estimate for the Indian Ocean stock is 23,900 MT.
- **Provisional reference points:** Although the Commission adopted reference points for swordfish in Resolution 15/10 on target and limit reference points and a decision framework, no such interim reference points have been established for Indo-Pacific sailfish.
- **Main fishing gear (average catches 2015-19):** Gillnets account for around 70% of total catches in the Indian Ocean, followed by lines (coastal longline, troll and hand lines) (24%), with remaining catches recorded under longlines and other gears (**Fig. 1**).
- **Main fleets (average catches 2015-19):** If we exclude the Republic of Tanzania (whose catch data have been repeated in recent years by the Secretariat, due to the lack of explicit reporting from the country), then three quarters of the total catches of Indo-Pacific sailfish are accounted for by four countries situated in the Arabian Sea: I.R. Iran (gillnets): 34%; India (gillnets and trolling): 26%; Pakistan (gillnets): 8%; and Sri Lanka (gillnets and fresh longline): 8%.

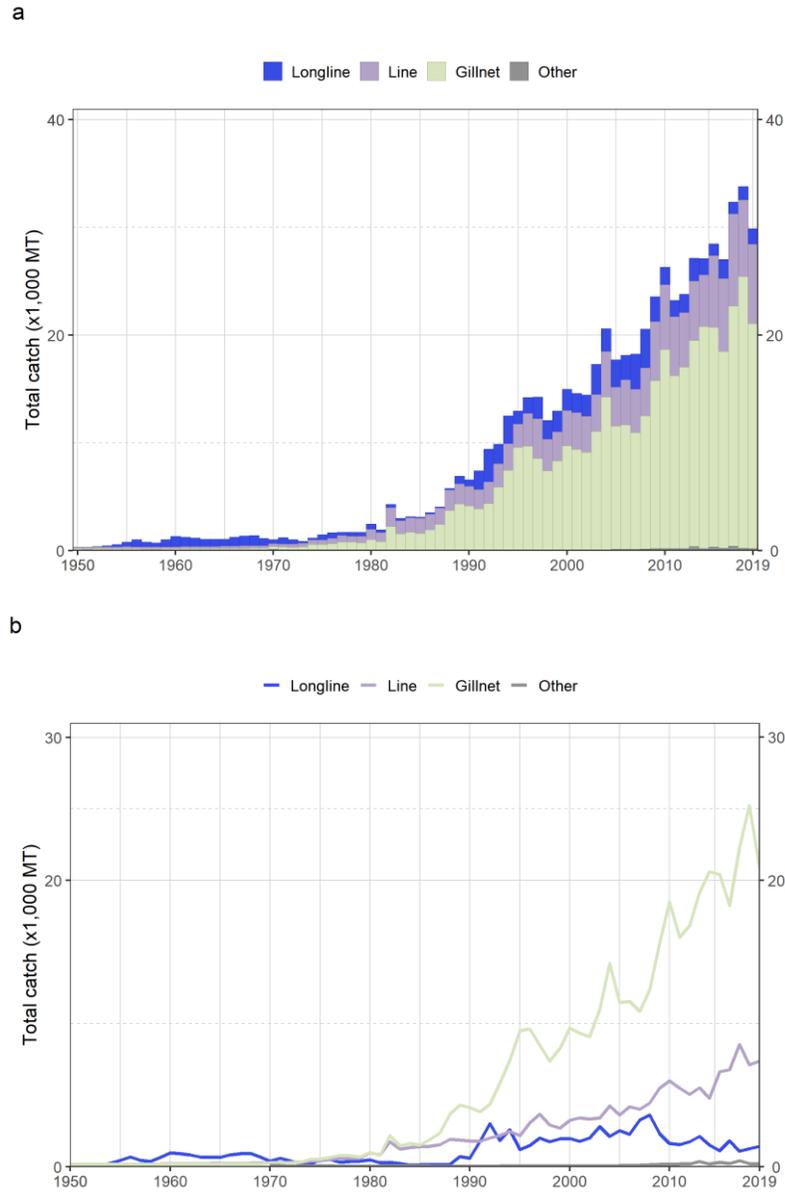


Fig. 1. Annual time series of (a) cumulative and (b) individual nominal catches (MT) by gear group for Indo-Pacific sailfish during 1950–2019. Longline: deep-freezing and fresh longlines, swordfish and sharks-targeted longlines; Line: coastal longline, handline, troll line; Gillnet: coastal and offshore gillnets, driftnet; Other: all remaining gears

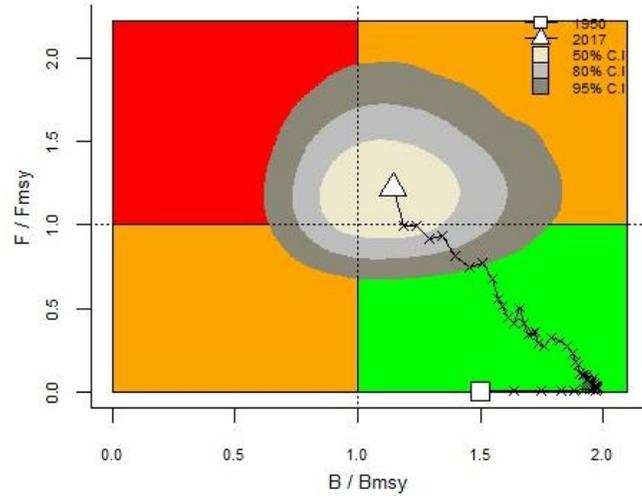


Fig. 2. Indo-Pacific sailfish: Stock reduction analysis (C-MSY Method) of aggregated Indian Ocean assessment Kobe plot (contours are the 50, 65 and 90 percentiles of the 2017 estimate). Black lines indicate the trajectory of the point estimates (blue circles) for the biomass (B) ratio and fishing mortality (F) ratio for each year 1950–2017