APPENDIX 16
EXECUTIVE SUMMARY: SWORDFISH (2025)

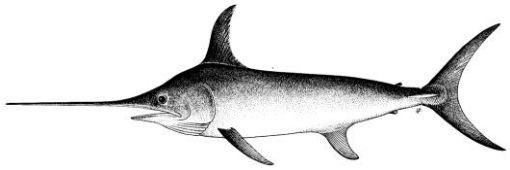

TABLE 1. Status of swordfish (*Xiphias gladius*) in the Indian Ocean

Area[1]	Indicators		2023 stock status determination[3]
Indian Ocean	Catch 2024 (t) Average catch 2020-2024 (t)	28,097[2] 26, 836	97%
	MSY (1,000 t) (80% CI) F_{MSY} (80% CI) SB_{MSY} (1,000 t) (80% CI) F_{2021}/F_{MSY} (80% CI) SB_{2021}/SB_{MSY} (80% CI) SB_{2021}/SB_{1950} (80% CI)	30 (26–33) 0.16 (0.12–0.20) 55 (40–70) 0.60 (0.43–0.77) 1.39 (1.01–1.77) 0.35 (0.32–0.37)	

[1] Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence
[2] Proportion of 2024 catch estimated or partially estimated by IOTC Secretariat: 6%
[3] 2021 is the final year that data were available for this assessment

Colour key	Stock overfished ($SB_{year}/SB_{MSY} < 1$)	Stock not overfished ($SB_{year}/SB_{MSY} \geq 1$)
Stock subject to overfishing ($F_{year}/F_{MSY} > 1$)	0.2%	0
Stock not subject to overfishing ($F_{year}/F_{MSY} \leq 1$)	2.8%	97%
Not assessed/Uncertain/Unknown		

INDIAN OCEAN STOCK – MANAGEMENT ADVICE

Stock status. No new stock assessment was carried out for swordfish in 2025, thus the stock status is determined on basis of the 2023 assessment. Two models were applied to the swordfish stock (ASPIC and Stock Synthesis (SS3)), with the SS3 stock assessment selected to provide scientific advice (as done previously). An update of the JABBA model was also conducted during the WPB meeting. The reported SS3 stock status is based on a grid of 48 model configurations designed to capture the uncertainty relating to steepness of the stock recruitment relationship (0.7, 0.8, and 0.9), recruitment variability (two levels), CPUE series (2 options), growth (2 options) and weighting of length composition data (two options). A number of the options included in the final grid were selected from a range of additional sensitivity runs that were conducted to explore uncertainties. In considering the assessment results, the WPB has expressed concern over whether the Japanese longline CPUE index accurately represents the change in abundance in the north-western region, which may require further investigation. Further, the south-western region, which is one of the sub-regions used in the model, exhibits a declining biomass trend which indicates higher depletion in this region, compared to other regions. Overall, median spawning biomass in 2021 was estimated to be 35% (80% CI: 32-37%) of the unfished levels (**Table 1**) and 1.39 times

(80% CI: 1.01-1.77) the level required to support MSY. Median fishing mortality in 2021 was estimated to be 60% (80% CI 43%-77%) of the FMSY level, and catch in 2021 (23,237 t) was well below the estimated MSY level of 29,856 t (80% CI: 26,319-33,393t). Taking into account the characterized uncertainty, and on the weight-of-evidence available in 2023, the swordfish stock is determined to be ***not overfished*** and ***not subject to overfishing*** (**Table 1**, **Fig. 3**). Noting that the IOTC has now agreed on a swordfish Management Procedure (Res. 24/08) to provide TAC recommendations, the stock assessment is no longer to be used to inform TACs.

Management Procedure.
A revised management procedure for Indian Ocean Swordfish was adopted under Resolution 25/07 by the IOTC Commission in May 2025 following revision to correct a small error, and was applied to determine a recommended TAC for Swordfish for 2026, 2027 and 2028 of 30,527 t. A review of evidence for exceptional circumstances was conducted in 2025 following the adopted guideline (IOTC-2021-SC24-R, appendix 6A) as per the requirements of Resolution 25/07. The review did not identify any exceptional circumstances impacting on the application of the MP.
Outlook. The significant decrease in recent longline catch and effort from 2019 to 2022 (a 33% reduction from 35,256t to 23,597t) substantially lowered the fishing pressure on the Indian Ocean stock as a whole, prior to an increase in 2023 and 2024. The recent average catch of swordfish of 27,651t (for 2020-2024) is below the MP recommended TAC of 30,527 t for 2026-2028. Achieving the objectives of the Commission for this stock will require effective implementation of the MP TAC advice by the Commission going forward.

***Management advice*.**
The TAC recommended from the application of the MP specified in Resolution 25/07 for the period 2026-2028 is 30,527t, which is around 12% higher than the catch in 2023 (26,836t). Noting that the Commission did not adopt an implementing measure for the TAC in 2025, the SC urgently recommended that the Commission adopt an implementing measure for the TAC in 2026.

The following key points should also be noted:

- **Maximum Sustainable Yield (MSY)**: estimate for the Indian Ocean is 29,856 t.
- **Provisional reference points**: noting that the Commission in 2015 agreed to Resolution 15/10 *on target and limit reference points and a decision framework*, the following should be noted:
    a. **Fishing mortality**: current fishing mortality is considered to be below the provisional target reference point of F_{MSY} and below the provisional limit reference point of $1.4*F_{MSY}$ (**Fig. 2**).
    b. **Biomass**: current spawning biomass is considered to be above the target reference point of SB_{MSY}, and therefore above the limit reference point of $0.4*SB_{MSY}$ (**Fig. 2**).
- **Main fisheries (mean annual catch 2020-2024)**: swordfish are caught using longline (54.1%), followed by line (29.5%) and gillnet (15.9%). The remaining catches taken with other gears contributed to 0.5% of the total catches in recent years (**Fig. 1**).
- **Main fleets (mean annual catch 2020-2024)**: the majority of swordfish catches are attributed to vessels flagged to Sri Lanka (24.4%) followed by Taiwan,China (14%) and Indonesia (9.7%). The 28 other fleets catching swordfish contributed to 51.7% of the total catch in recent years (**Fig. 2**).

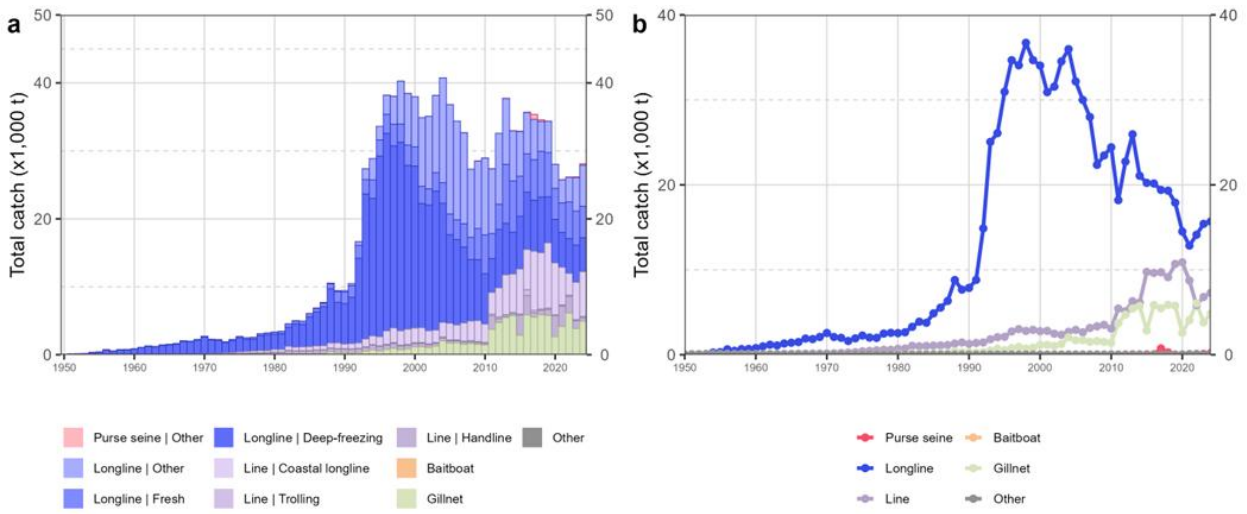

Fig. 1. Annual time series of (a) cumulative retained catches (metric tonnes; t) by fishery and (b) individual retained a catches (metric tonnes; t) by fishery group for swordfish during 1950–2024. Purse seine | Other: coastal purse seine, large-scale purse seine, and ring net; Longline|Other: swordfish and sharks-targeting longlines; Other: all remaining fishing gears

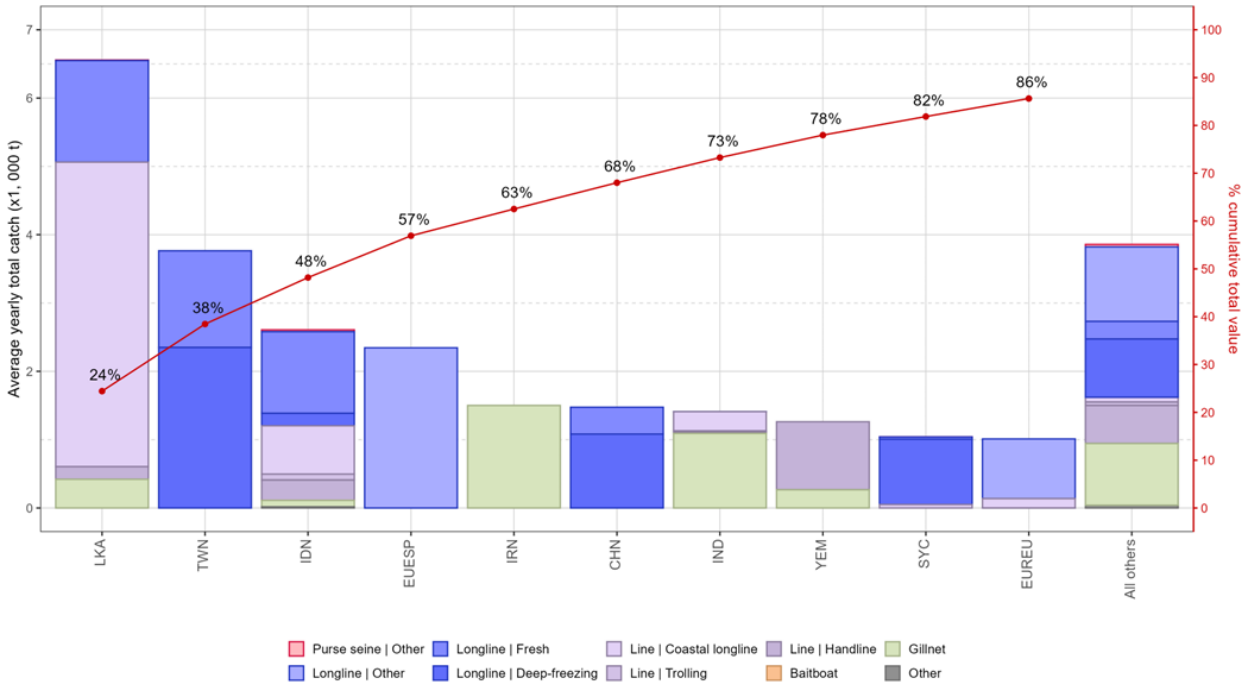

Fig. 2. Mean annual retained catches (metric tonnes; t) of swordfish by fleet and fishery between 2020 and 2024, with indication of cumulative catches by fleet. Purse seine | Other: coastal purse seine, large-scale purse seine, and ring net; Longline | Other: swordfish and sharks-targeted longlines; Other: all remaining fishing gears

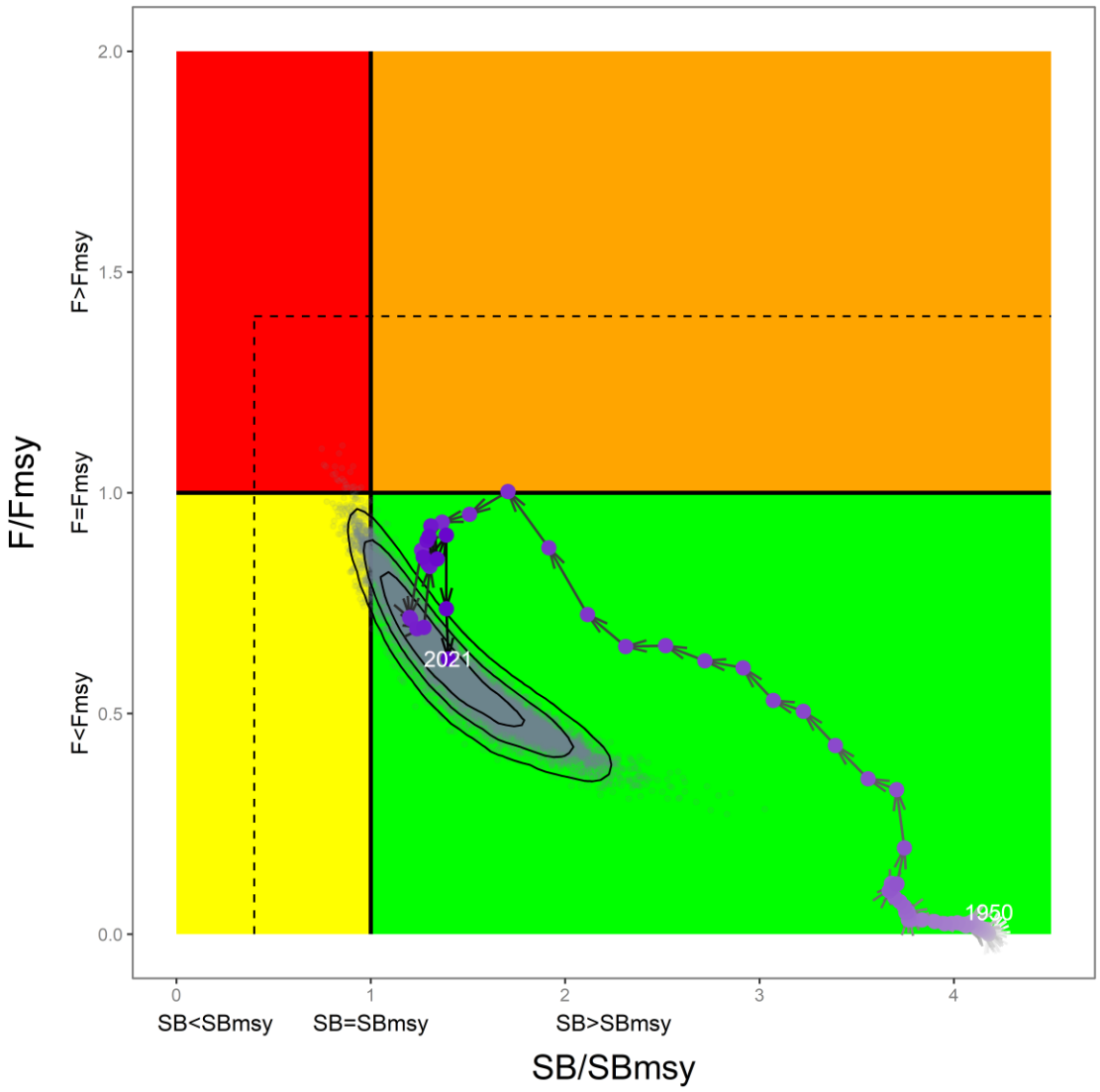

Fig. 3. Swordfish: 2021 stock status, relative to SB_{MSY} (x-axis) and F_{MSY} (y-axis) reference points for the final model grid. Grey dots represent uncertainty from individual models with 50%, 80% and 95% contours lines. The arrowed line represents the time series of stock trajectory from the reference model. The dashed lines represent limit reference points for Indian Ocean swordfish (SB_{lim} = 0.4 SB_{MSY} and F_{lim} = 1.4*F_{MSY})