TTRAG Advice for the Western Tuna and Billfish Fishery (WTBF) for the 2026/27 Fishing Season

September 2025

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General Summary

TTRAG TACC Recommendations – TTRAG 45, September 2025

In line with the WTBF multi-season TACC setting procedure and previous advice from TTRAG and TTMAC, the AFMA Commission (at their meeting in November 2024) determined TACCs for bigeye tuna, yellowfin tuna, broadbill swordfish and striped marlin in the WTBF for three fishing seasons (2025/26, 2026/27 and 2027/28). The TACC, overcatch and undercatch for these species are currently determined as:

Quota species	Total Allowable Commercial Catch (tonnes)		Overcatch % (and determined weight)	Undercatch %
Bigeye Tuna	2,000	Whole weight	10% (2 tonnes)	10%
Broadbill Swordfish	3,000	Whole weight	10% (2 tonnes)	10%
Striped Marlin	125	Whole weight	10% (2 tonnes)	10%
Yellowfin Tuna	2,000	Whole weight	10% (2 tonnes)	10%

The RAG confirmed that, in line with section 2.4 of the WTBF multi-season TACC setting procedure and having regard for the reduced set of fishery indicators reviewed, there is no indication that something has changed significantly in the fishery and the fishery data that may warrant alternate TACC advice for bigeye tuna, yellowfin tuna, broadbill swordfish and striped marlin in the WTBF.

The RAG noted that, following the updated stock assessment, the stock status of yellowfin tuna in the IOTC has changed from overfished and subject to overfishing, to not overfished and not subject to overfishing.

The RAG noted that, following the updated stock assessment, the stock status of striped marlin in the IOTC has not changed in terms of the stock being overfished and subject to overfishing.

In providing this advice, the RAG consider:

- Annual fishery indicators, as agreed
- IOTC advice from the meeting of the Scientific Committee in December 2024 and February 2025
- Updated stock assessments for yellowfin tuna and striped marlin
- Catches in the WTBF relative to the total mortality in the IOTC, which is a very small proportion
- Industry's request for the yellowfin tuna TACC to return to 5,000 t; and if considered then TTRAG
 recognises that this would have negligible impact on the sustainability of yellowfin tuna in the
 IOTC

<u>Fishery Updates – Industry Statement</u>

The WTBF continues to face considerable economic and operational pressures as it recovers from the impacts of COVID-19 within an uncertain global economic environment. The principal operator in the fishery has been significantly constrained by decisions of the Indian Ocean Tuna Commission (IOTC), which reduced the yellowfin tuna total allowable catch by 60 per cent. This reduction has directly limited business development opportunities and long-term growth potential within the sector.

International freight costs and limited-service availability remain major impediments, restricting reliable access to export markets. Domestically, the sector is experiencing sustained cost pressures from elevated fuel and bait prices, ongoing labour shortages, and markedly higher labour and service costs, including those associated with vessel maintenance and port services. These combined pressures have created a

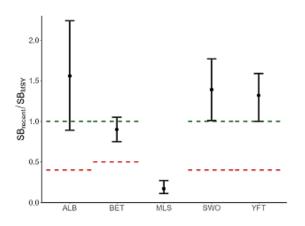
challenging operating environment for the WTBF, increasing economic vulnerability and constraining its ability to expand or diversify markets.

Stock status overview

The results of the most recent stock assessments undertaken for each of the principal catch species in the WTBF are shown in the table below and Figure 1. Note that the year of the most recent assessment varies across species (i.e., 2024 for yellowfin tuna and striped marlin, 2023 for broadbill swordfish, and 2022 for albacore and bigeye tuna). The results from these assessments indicate, based on the median values across the uncertainty grid adopted for each species, that for two species (bigeye tuna and striped marlin) the stock is overfished (i.e. SB_{recent}/SB_{MSY}<1) when measured against MSY-based reference points and subject to overfishing (i.e. F recent/F MSY >1). When depletion is measured against biomass-based reference points, only striped marlin is considered as overfished. For broadbill swordfish, albacore and yellowfin tuna, however, the stocks are not overfished and not subject to overfishing.

Species	Assessment Year	Depletion (SB _{recent} /SB _{MSY})	Depletion (SB/SB₀)	Fishing Mortality (F _{recent} /F _{MSY})
Albacore tuna	2022	1.56	0.36	0.68
Bigeye tuna	2022	0.90	0.25	1.43
Yellowfin tuna	2024	1.32	0.44	0.75
Swordfish	2023	1.39	0.35	0.60
Striped Marlin	2024	0.17	0.06	3.95

It is important to note in this report that the stock status reported for the Indian Ocean Tuna Commission (IOTC) differs from that which is measured by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) within the Fisheries Status Reports. ABARES applies the default limit reference points within the Commonwealth Fisheries Harvest Strategy Policy (Department of Agriculture and Water Resources, 2018) which establish the limit reference points for biomass as 20% of unfished levels (0.2_{BO}); and for fishing mortality the limit reference point is the fishing mortality that would achieve maximum sustainable yield (F_{MSY}). It is important to note that the IOTC determines stock status using MSY-based reference points for most stocks (specifically B_{MSY} and F_{MSY}) which can result in IOTC reporting different biomass ('overfished') status for some stocks, notably for bigeye tuna.



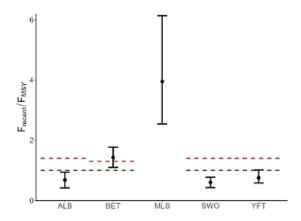


Figure 1: Median value (and 80% probability interval) of the spawning biomass depletion (SB_{recent}/SB_{MSY}) and fishing mortality ratio (F_{recent}/F_{MSY}) across the respective uncertainty grid used in the stock assessment for each of the principal tuna and billfish species in the Indian Ocean. The dotted green lines indicate the Target Reference Point (TRP) for MSY-based depletion and fishing mortality adopted by the IOTC for tunas and swordish (there are no adopted reference points for striped marlin), but it is also the level at which the IOTC determines stock status. The IOTC has Limit Reference Points (LRP) for these species, but no change in status occurs if the LRPs are breached.

Overview of WTBF catch

Overall, catch in the WTBF remains stable at very low levels and is summarised in the table below.

Species	Logbook reported catch		Logbook reported discards		CDR reported catch		
Species	Weight (t)	Numbers	Weight (t)	Numbers	Weight (t)	% of TACC	% of Adj. TACC
Bigeye tuna	34	1046	1.2	131	39	2.0	2.0
Swordfish	125	1568	1.4	76	116	3.9	3.9
Striped marlin	1	12	0.2	4	1	0.5	0.5
Yellowfin tuna	31	763	0.6	35	36	1.8	1.8

Overview of WTBF effort

The number of vessels, and effort, in the WTBF remains stable at very low levels. Nominal CPUE is stable for all species, with a small increase for swordfish and yellowfin tuna. There were no strong spatial trends emerging in 2023.

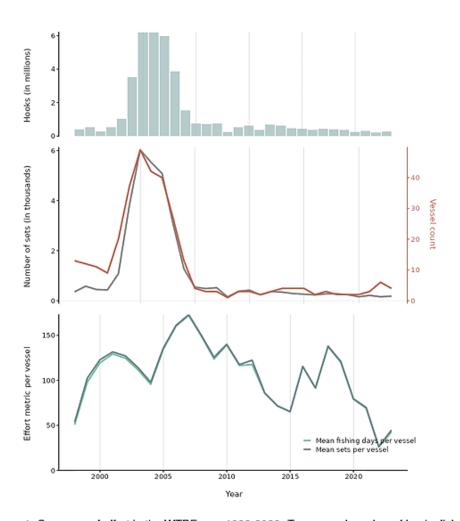


Figure 1: Summary of effort in the WTBF over 1998-2023. Top: annual number of hooks fished. Centre: Number of fishing sets (grey line) and number of active vessels (orange line) per year. A vessel is considered active if it has recorded at least a single set in the calendar year. Bottom: Mean effort metrics by active vessels; the green line shows the mean number of fishing days per vessel and the grey line shows the mean number of sets per vessel.

Species Summaries

In line with section 2.4 of the WTBF multi-season TACC setting procedure, TTRAG advice is based on the review of a reduced set of indicators in 2025 (a non-TACC setting year).

Bigeye Tuna (BET)

Bigeye Tuna

(Thunnus obesus)

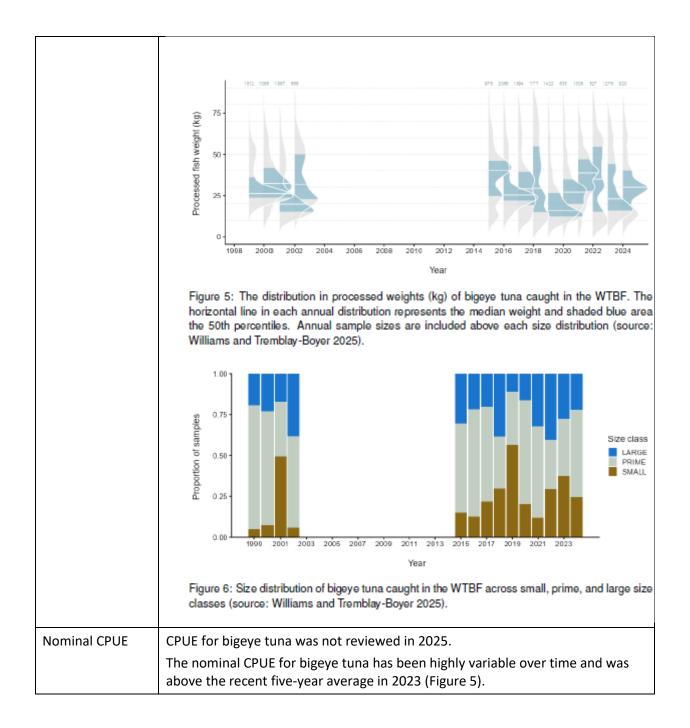
Stock status: Overfished, subject to overfishing

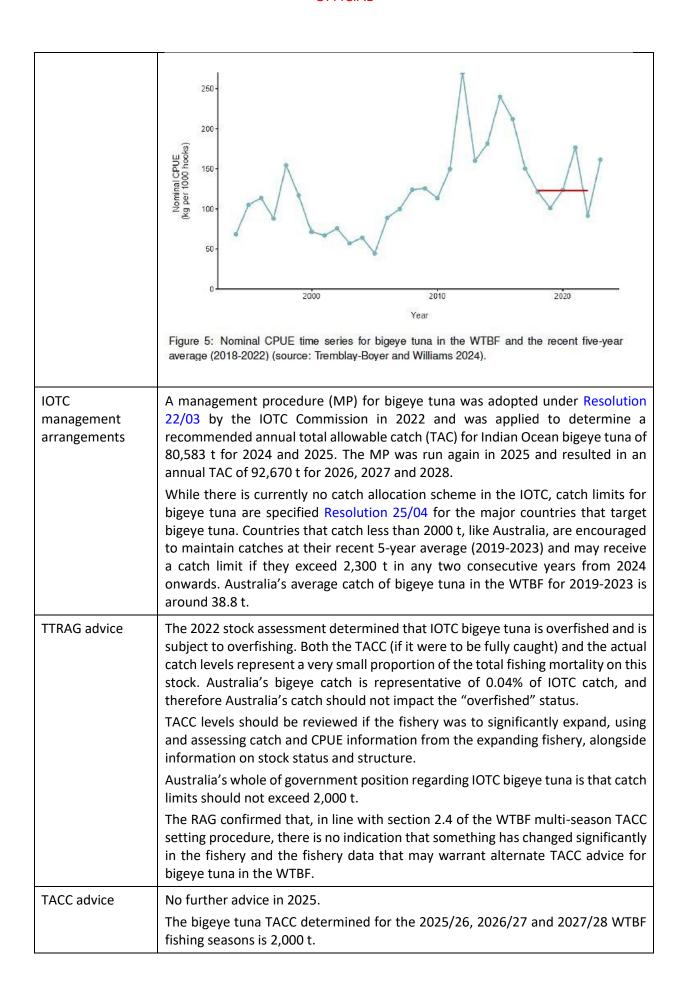
Current TACC: 2,000 t



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Indicator	Comment
Stock structure	The stock structure of bigeye tuna in the Indian Ocean is uncertain, but the species is assumed to be a single distinct biological stock for assessments. The assumption of a single stock is based on genetic studies (Chiang et al. 2008, Davies et al. 2020) that indicated no genetic differentiation within the Indian Ocean and tagging studies that have demonstrated large-scale movements of bigeye tuna within the Indian Ocean (IOTC 2014).
Stock status	There were no stock status updates for bigeye tuna in 2025.
	A stock assessment for Bigeye tuna was recently conducted and presented at the IOTC Working Party on Tropical Tunas in 2022 (Fu et al., 2022). Results indicated that there had been a decline in stock status since the last assessment in 2019, and uncertainty in the estimates of spawning biomass and fishing mortality was lower. In summary:
	 Bigeye tuna are overfished. The median estimate of the ratio of spawning biomass (SB) and the SB at MSY in 2021 (SB₂₀₂₁/SB_{MSY}) was 0.90 with a range (80% CI) of 0.75-1.05. Bigeye tuna are subject to overfishing. The median estimate of fishing mortality in 2021 relative to F_{MSY} (F₂₀₂₁/F_{MSY}) was 1.43 with a range (80% CI) of 1.10-1.77.
	Last assessment: 2022
	Overfished: Yes
	Overfishing: Yes
	Next assessment: 2025
Catch Catch relative to TACC and IOTC region	In the WTBF, the 2024 logbook catch of bigeye tuna (34.3 t) is below the 2019-2023 five-year and ten-year average catch in the WTBF (Figure 4, below). CDR reported catches in 2024 for bigeye tuna were 40.8 t. Catches of bigeye tuna in the WTBF have declined since a peak in 2002 and were lower in 2024 than in 2023.
_	The most recent year of IOTC catch data is 2023. The 2023 WTBF logbook catch of bigeye tuna represents 0.04% of the total catch of bigeye tuna in the IOTC region. The average contribution is 0.04% over the previous five years (2019-2023), with a maximum of 0.38% in 2001. (Williams, 2024).

	Figure 4: Total bigeye tuna catch (tonnes) and overall effort (hooks) in the WTBF. The average catch is shown for the periods 2014-23 (green) and 2019-23 (red).
Size	The annual size distribution (Figure 5) shows variability in the median value across years with frequent bimodality, seen in 2021 and in 2023 again. Most samples were from the 'Prime' size class in 2024 and there is no clear trend in the distribution of size classes over time (Figure 6).





Yellowfin Tuna (YFT)

Yellowfin Tuna

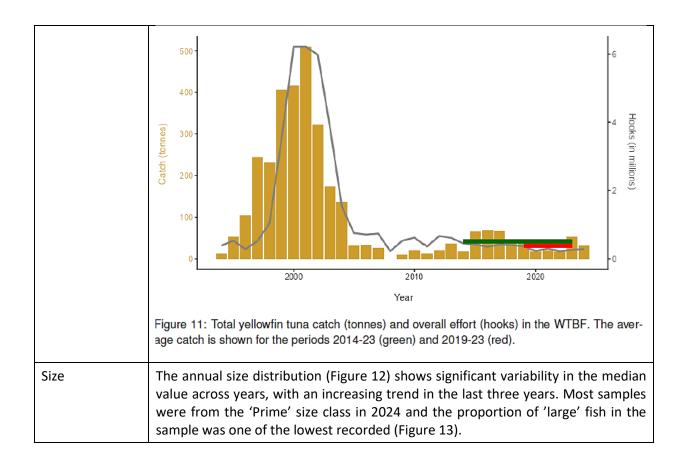
(Thunnus albacares)

Stock status: Not overfished and not subject to overfishing

Current TACC: 2,000 t



Indicator	Comment
Stock Structure	The stock structure of yellowfin tuna in the Indian Ocean is uncertain, but the species is a single biological stock for assessments. A recent ocean-wide genetics and otolith microchemistry study revealed evidence for genetic differentiation north and south of the equator in the Indian Ocean (Davies et al. 2020).
Stock status	A new stock assessment for yellowfin tuna in the Indian Ocean was conducted in 2024 which addressed many of the recommendations of the independent review of the yellowfin stock assessment carried out in 2023. A new approach was applied to the derivation of MSY and associated biomass-based reference points based on the magnitude of recruitment estimated for the recent 20-year period (rather than the whole time period). This approach resulted in a significantly higher estimate of MSY than when the whole time series is used and therefore introduced additional uncertainty in the estimates of stock status relative to SB _{MSY} . The results were more optimistic than in 2021. In summary:
	• Yellowfin tuna are not overfished . The median estimate of the ratio of spawning biomass (SB) and the SB at MSY in 2023 (SB ₂₀₂₃ /SB _{MSY}) was 1.32 with
	 a range (80% CI) of 1.00–1.59. Yellowfin tuna are not subject to overfishing. The median estimate of fishing mortality in 2020 relative to F_{MSY} (F₂₀₂₃/F_{MSY}) was 0.75 with a range (80% CI) of 0.58-1.01.
	Last assessment: 2024
	Overfished: No
	Overfishing: No
	Next assessment: 2027
Catch, Catch relative to TACC and IOTC region	In the WTBF, the 2024 logbook catch of yellowfin tuna (32.7 t) is about the five-year recent average and below the ten-year average catch in the WTBF (Figure 11). CDR reported catches of yellowfin tuna in 2024 were 35.6 t Catches of yellowfin tuna in the WTBF declined rapidly from a peak in 2001 and have ranged from 10 to 70 t since then. Catches in 2024 are lower than in 2023.
	The 2023 WTBF logbook catch of yellowfin tuna represents 0.01% of the total catch of yellowfin tuna in the IOTC region . The average contribution is 0.007% over the previous five years (2019-2023), with a maximum of 0.16% in 2001.



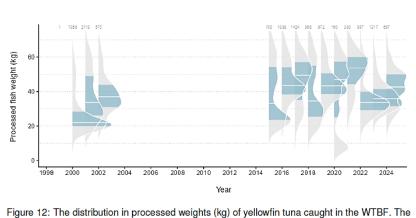


Figure 12: The distribution in processed weights (kg) of yellowfin tuna caught in the WTBF. The horizontal line in each annual distribution represents the median weight and shaded blue area the 50th percentiles. Annual sample sizes are included above each size distribution (source: Williams and Tremblay-Boyer 2025).

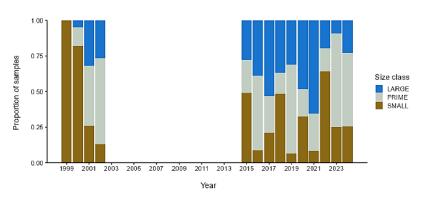


Figure 13: Size distribution of yellowfin tuna caught in the WTBF across small, prime, and large size classes (source: Williams and Tremblay-Boyer 2025).

Nominal CPUE

CPUE for yellowfin tuna was not reviewed in 2025.

The nominal CPUE for yellowfin tuna has been variable over time but has varied around higher levels since 2014 (Figure 11). Nominal CPUE was above the recent five-year average in 2023.

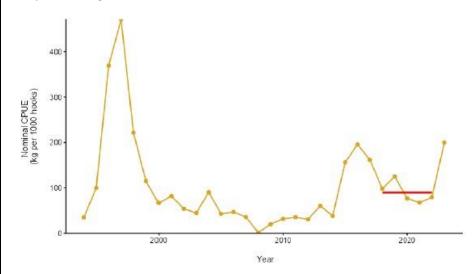


Figure 11: Nominal CPUE time series for yellowfin tuna in the WTBF and the recent five-year average (2018-2022) (source: Tremblay-Boyer and Williams 2024).

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IOTC management arrangements	Resolution 21/01 On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock establishes specific catch limits for yellowfin for all IOTC members. The interim catch limits agreed in 2021 sought to restrict catch to the then long-term estimate of catch at MSY (C_{MSY}) of 403,000t. However, the new stock assessment endorsed by the Commission in May 2025 now estimates C_{MSY} at 421,000 t.
TTRAG advice	The 2025 stock assessment determined that IOTC yellowfin tuna is not overfished and not subject to overfishing. Both the TACC (if it were to be fully caught) and the actual catch levels represent a very small proportion of the total fishing mortality on this stock. Australia's yellowfin catch is representative of 0.01% of IOTC catch, and therefore Australia's catch should not impact the total mortality of this stock. TACC levels should be reviewed if the fishery was to significantly expand, using and assessing catch and CPUE information from the expanding fishery, alongside information on stock status and structure. Australia's whole of government position regarding IOTC yellowfin tuna is that catch limits should not exceed 2,000 t. The RAG confirmed that, in line with section 2.4 of the WTBF multi-season TACC setting procedure, there is no indication that something has changed significantly in the fishery and the fishery data that may warrant alternate TACC advice for
	yellowfin tuna in the WTBF. TTRAG noted industry's request for the TACC to return to 5,000 t; and if considered then TTRAG recognises that this would have negligible impact on the sustainability of yellowfin tuna in the IOTC.
TACC advice	No further advice in 2025. Yellowfin tuna TACC determined for the 2025/26, 2026/27 and 2027/28 WTBF fishing seasons is 2,000 t.

Broadbill Swordfish (SWO)

Broadbill Swordfish

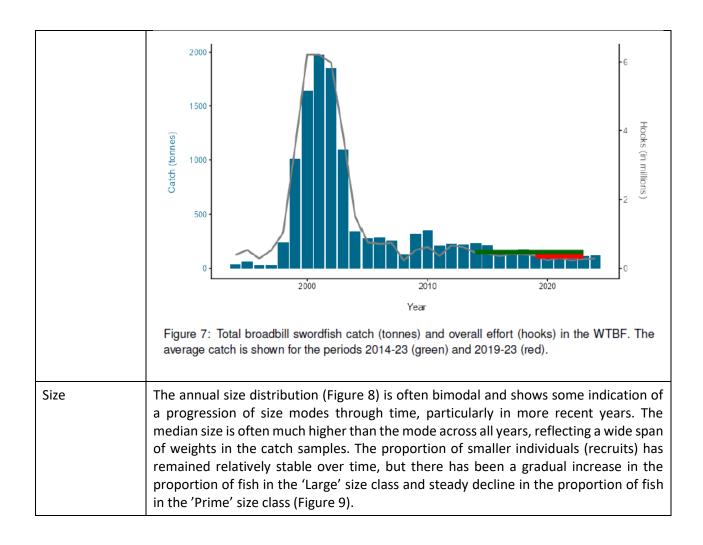
(Xiphias gladius)

Stock status: Not overfished, not subject to overfishing

Current TACC: 3,000 t



Indicator	Comment
Stock Structure	In the Indian Ocean, genetic and otolith microchemistry analyses have not indicated more than a single biological stock (Muths et al. 2013, Davies et al. 2019). In the Pacific Ocean, genetic studies have suggested the presence of several biological stocks (Takeuchi et al. 2017), although the degree of genetic variation among these stocks is low (Kasapidis et al. 2008).
Stock status	There were no stock status updates for broadbill swordfish in 2025.
	A stock assessment for broadbill swordfish was conducted in 2023 using data up to 2021 (Fu, 2023). The results from this assessment were slightly more pessimistic than the 2020 stock assessment. In summary:
	 Broadbill swordfish are not overfished. The median estimate of of the ratio of spawning biomass (SB) and the SB at MSY in 2021 (SB₂₀₂₁/SB_{MSY}) was 1.39 with a range (80% CI) of 1.01–1.77. Broadbill swordfish are not subject to overfishing. The median estimate of fishing mortality in 2021 relative to FMSY (F₂₀₂₁/F_{MSY}) was 0.60 with a range (80% CI) of 0.43-0.77.
	Last assessment: 2023
	Overfished: No
	Overfishing: No
	Next assessment: 2026
Catch, Catch relative to TACC and IOTC region	In the WTBF, the 2024 logbook catch of broadbill swordfish (122 t) is above the five-year recent average and below ten-year average catch in the WTBF (Figure 7). CDR reported catches of broadbill swordfish in 2024 were 123 t. Catches of broadbill swordfish in the WTBF declined rapidly from a peak in 2001 and have declined further but steadily since 2010. Annual catch in 2024 was slightly higher than in 2023, but still the fourth lowest catch recorded.
	The 2023 WTBF logbook catch of broadbill swordfish represents 0.42% of the total catch of broadbill swordfish in the IOTC region. The average contribution is 0.41% over the previous five years (2019-2023), with a maximum of 5.66% in 2001.



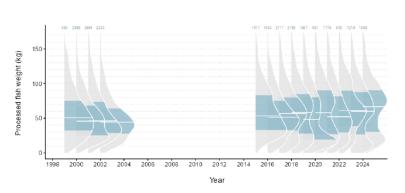


Figure 8: The distribution in processed weights (kg) of broadbill swordfish caught in the WTBF. The horizontal line in each annual distribution represents the median weight and shaded blue area the 50th percentiles. Annual sample sizes are included above each size distribution (source: Williams and Tremblay-Boyer 2025).

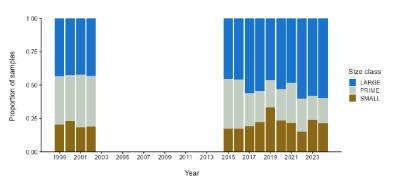


Figure 9: Size distribution of broadbill swordfish caught in the WTBF across small, prime, and large size classes (source: Williams and Tremblay-Boyer 2025).

Nominal CPUE

CPUE for broadbill swordfish was not reviewed in 2025.

The nominal CPUE for broadbill swordfish has been highly variable over time but has varied around higher levels since around 2005 than in previous years (Figure 7). Nominal CPUE was above the recent five-year average in 2023.

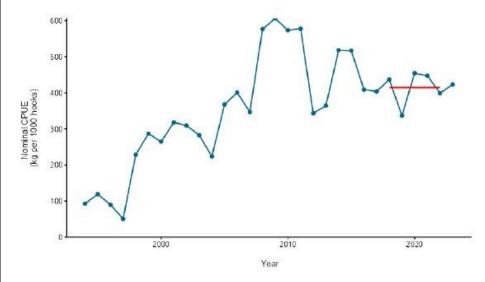


Figure 7: Nominal CPUE time series for broadbill swordfish in the WTBF and the recent five-year average (2018-2022) (source: Tremblay-Boyer and Williams 2024).

IOTC management arrangements	There are no specific measures to limit catches of swordfish.
TTRAG advice	The 2023 stock assessment determined that IOTC sword is not overfished and not subject to overfishing. Both the TACC (if it were to be fully caught) and the actual catch levels represent a very small proportion of the total fishing mortality on this stock. Australia's swordfish catch is representative of 0.42% of IOTC catch. TACC levels should be reviewed if the fishery were to significantly expand, using and assessing catch and CPUE information from the expanding fishery. At current catch levels, there is no risk to the IOTC stock, however if catch were to increase towards the TACC and other factors (recruitment, environmental etc.) took place then risk is uncertain. TTRAG recognises that other considerations (whole of government position in allocation discussions) may be taken into account when setting the TACC level. The RAG confirmed that, in line with section 2.4 of the WTBF multi-season TACC setting procedure, there is no indication that something has changed significantly in the fishery and the fishery data that may warrant alternate TACC advice for broadbill swordfish in the WTBF.
TACC advice	No further advice in 2025.
	Broadbill swordfish TACC determined for the 2025/26, 2026/27 and 2027/28 WTBF fishing seasons is 3,000 t.

Striped Marlin (STM)

Striped Marlin (Kajikia audax)

Stock status: Overfished, subject to overfishing

Current TACC: 125



Indicator	Comment
Stock Structure	Mamoozadeh et al. (2019) evaluated genetic variation in striped marlin populations sampled from the eastern and western Indian Ocean, and across the Pacific Ocean. Their results suggest that there could be genetically distinct east and west stocks of striped marlin in the Indian Ocean. However, the sample size from the eastern Indian ocean was small (eight fish) and no samples were collected from the central Indian Ocean, making it difficult to delineate a border between potential stocks. Therefore, striped marlin is currently considered to be a single distinct biological stock for assessments in the Indian Ocean.
Stock status	A new stock assessment for striped marlin in the Indian Ocean was conducted in 2024 based on two different models: JABBA, a Bayesian state-space production model (age-aggregated); and SS3, an integrated model (age-structured) using data up to 2022. Management advice was mostly based on the JABBA model, so results from this model are summarised here.
	Results from the JABBA assessment were more pessimistic than the 2021 stock assessment. In summary:
	 Striped marlin are overfished. The median estimate of the ratio of spawning biomass (SB) and the SB at MSY in 2022 (SB₂₀₂₂/SB_{MSY}) was 0.17 with a range (80% CI) of 0.11–0.27.
	 Striped marlin are subject to overfishing. The median estimate of fishing mortality in 2022 relative to F_{MSY} (F₂₀₂₂/F_{MSY}) was 3.95 with a range (80% CI) of 2.54-6.14.
	Last assessment: 2024
	Overfished: Yes
	Overfishing: Yes
	Next assessment: 2027
Catch, and catch relative to TACC and IOTC region	In the WTBF, the 2024 logbook catch of striped marlin (0.6 t) is around the five-year recent average but below the ten-year average catch in the WTBF (Figure 10). CDR reported catches of striped marlin in 2024 were 0.6 t. Annual catches of striped marlin in the WTBF declined rapidly from a peak in 1999 and have remained below 5 t since.
	The 2023 WTBF logbook catch of striped marlin represents 0.03% of the total catch of striped marlin in the IOTC region. The average contribution is 0.02% over the previous five years (2019-2023), with a maximum of 0.40% in 1999.

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	Figure 10: Total striped marlin catch (tonnes) and overall effort (hooks) in the WTBF. The average catch is shown for the periods 2013-22 (green) and 2018-22 (red).
Size	The number of striped marlin weighed at processors was too low to provide any summary statistics of size distributions.
Nominal CPUE	CPUE for striped marlin was not reviewed in 2025. The nominal CPUE for striped marlin has been variable over time, and there are limited data for some years (Figure 9). Nominal CPUE was above the recent five-year average in from 2021 to 2023. 20 20 20 Year Figure 9: Nominal CPUE time series for striped marlin in the WTBF and the recent five-year average (2018-2022) (source: Tremblay-Boyer and Williams 2024).
IOTC management arrangements	Resolution 18/05 established overall catch limits for billfish (3,260 t for stiped marlin) but there is no mechanism to allocate catches of enforce catch limits.
TTRAG advice	IOTC stock assessments have determined that IOTC Striped Marlin is both overfished and subject to overfishing, and that reductions in fishing mortality are required to recover the stock. Both the TACC (if it were to be fully caught) and the actual catch levels represent a very small proportion of the total fishing mortality on this stock.

	Australia's striped marlin catch is representative of 0.03% of IOTC catch. TACC levels should be reviewed if the fishery were to significantly expand, using and assessing catch and CPUE information from the expanding fishery. TTRAG recognises that other considerations (whole of government position in allocation discussions) may be taken into account when setting the TACC level.
	The RAG confirmed that, in line with section 2.4 of the WTBF multi-season TACC setting procedure, there is no indication that something has changed significantly in the fishery and the fishery data that may warrant alternate TACC advice for striped marlin in the WTBF.
TACC advice	No further advice in 2025.
	Striped marlin TACC determined for the 2025/26, 2026/27 and 2027/28 WTBF fishing seasons is 125 t.

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