

Table 1. Status summary for species of tuna and tuna-like species under the IOTC mandate, as well as other species impacted by IOTC fisheries. (NOTE: the year column indicates the year the stock status was determined, not the terminal year of the assessment model)

Temperate and tropical tuna stocks: main stocks being targeted by industrial, and to a lesser extent, artisanal fisheries throughout the Indian Ocean, both on the high seas and in the EEZ of coastal states.

Stock	Indicators	2020	2021	2022	2023	2024	Advice to the Commission
Albacore <i>Thunnus alalunga</i>	Catch (2023) (t) Mean annual catch (2019-2023) (t) MSY (1,000 t) (95% CI) F _{MSY} (80% CI) SB _{MSY} (1,000 t) (80% CI) F ₂₀₂₀ / F _{MSY} (80% CI) SB ₂₀₂₀ / SB _{MSY} (80% CI) SB ₂₀₂₀ / SB ₀ (80% CI)	41,678 40,747 45 (35-55) 0.18 (0.15-0.21) 27 (21-33) 0.68 (0.42-0.94) 1.56 (0.89-2.24) 0.36 (0.26-0.45)			85%		<p>No new stock assessment was carried out for albacore in 2024, thus the stock status is determined on basis of the 2022 assessment.</p> <p>The stock assessment was carried out using Stock Synthesis III (SS3), a fully integrated model that is currently also used to provide scientific advice for the three tropical tunas stocks in the Indian Ocean. The model used in 2022 is based on the model developed in 2019 with a series of revisions that were noted during the WPTmT data preparatory meeting held in April 2022. There are some noticeable changes compared to the previous assessment data set, mainly related to how the fisheries are structured, and how the CPUE indices and length composition data are treated within the assessment model.</p> <p>These changes in stock status since the previous assessment are mainly due to changes in the CPUE. Thus, the stock status in relation to the Commission's interim BMSY and FMSY target reference points indicates that the stock is not overfished and is not subject to overfishing.</p> <p>Click here for full stock status summary: Appendix 8</p>
Bigeye tuna <i>Thunnus obesus</i>	Catch in 2023 (t) Average catch 2019-2023 (t) 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 ₀ (80% CI)	105,369 294,691 96 (83 –108) 0.26 (0.18–0.34) 513 (332–694) 1.43 (1.10–1.77) 0.90 (0.75–1.05) 0.25 (0.23–0.27)			79%		<p>No new stock assessment was carried out for bigeye tuna in 2024 and so the advice is based on the 2022 assessment.</p> <p>In the 2022 assessment, two models were applied to the bigeye stock (Statistical Catch at Size (SCAS) and Stock Synthesis (SS3)), with the SS3 stock assessment selected to provide scientific advice. The reported stock status is based on a grid of 24 model configurations designed to capture the uncertainty on stock recruitment relationship, longline selectivity, growth and natural mortality.</p> <p>On the weight-of-evidence available in 2022, the bigeye tuna stock is determined to be overfished and subject to overfishing (Table 2).</p> <p>As IOTC agreed on a bigeye Management Procedure (Res. 22/03) it should be noted that the stock assessment is not used to provide a recommendation on the TAC.</p> <p>Click here for full stock status summary: Appendix 9</p>
Skipjack tuna <i>Katsuwonus pelamis</i>	Catch in 2023 (t) Average catch 2019-2023 (t) E _{40%SB0} (80% CI) SB ₀ (1,000t) (80% CI)	688,680 630,120 0.55 (0.48–0.65) 2 177 (1 869–2 465) 1 142 (842–1 461)			70%		<p>No new stock assessment was carried out for skipjack tuna in 2024 and so the advice is based on the 2023 assessment using Stock Synthesis with data up to 2022. The outcome of the 2023 stock assessment model is more optimistic than the previous assessment (2020) despite the high catches recorded in</p>

	<p>SB₂₀₂₂ (1,000t) (80% CI) SB₂₀₂₂ / SB₀ 80% CI SB₂₀₂₂ / SB_{40%SB0} (80% CI) SB₂₀₂₂ / SB_{20%SB0} (80% CI) SB₂₀₂₂ / SB_{MSY} (80% CI) F₂₀₂₂ / F_{MSY} (80% CI) F₂₀₂₂ / F_{40%SSB0} (80% CI) MSY (1,000 t) (80% CI)</p>	<p>0.53 (0.42–0.68) 1.33 (1.04–1.71) 2.67 (2.08–3.42) 2.30 (1.57–3.40) 0.49 (0.32–0.75) 0.90 (0.68–1.22) 584 (512–686)</p>						<p>the period 2021-2022, which exceeded the catch limits established in 2020 for this period. The final assessment indicates that:</p> <p>The stock is above the adopted target for this stock (40%SB₀) and the current exploitation rate is below the target exploitation rate with the probability of 70%. Current spawning biomass relative to unexploited levels is estimated at 53%.</p> <p>The spawning biomass remains above SB_{MSY} and the fishing mortality remains below F_{MSY} with a probability of 98.4 %</p> <p>Over the history of the fishery, biomass has been well above the adopted limit reference point (20%SB₀).</p> <p>Subsequently, based on the weight-of-evidence available in 2023, the skipjack tuna stock is determined to be not overfished and not subject to overfishing.</p> <p>The catch limit calculated applying the HCR specified in Resolution 21/03 is [628, 606 t] for the period 2024-2026. The SC noted that this catch limit is higher than for the previous period. This is attributed to the new stock assessment which estimates a higher productivity of the stock in recent years and a higher stock level relative to the target reference point, possibly due to skipjack life history characteristics and favourable environmental conditions. Noting that the environmental conditions are predicted to enter a less favourable period, it is important that the Commission ensures that catches of skipjack tuna during this period do not exceed the agreed limit, as occurred in recent years. In addition, the SC recognizes the potential impact on other associated stocks (bigeye and yellowfin) of exceeding the catch limits of skipjack tuna. In 2024, the Commission adopted Resolution 24/07 on a management procedure for skipjack. The MP is scheduled to be implemented in 2025 to provide TAC advice for 2027-2029</p> <p>Click here for full stock status summary: Appendix 10</p>
<p>Yellowfin tuna <i>Thunnus albacares</i></p>	<p>Catch in 2023 (t) Average catch 2019-2023 (t) MSY_{recent} (1,000 t) (80% CI) F_{MSY} (80% CI) SB_{MSY_recent} (1,000 t) (80% CI) F₂₀₂₃ / F_{MSY} (80% CI) SB₂₀₂₃ / SB_{MSY_recent} (80% CI) SB₂₀₂₃ / SB₀ (80% CI)</p>	<p>400,950 423,142 421 (416-430) 0.2 (0.16-0.26) 1,063 (890-1,361) 0.75 (0.58-1.01) 1.32 (1.00-1.59) 0.44 (0.40-0.50)</p>				<p>89%</p>	<p>A new stock assessment was carried out for yellowfin tuna in 2024. The 2024 stock assessment was carried out using Stock Synthesis III (SS3), a fully integrated model that is currently used to provide scientific advice for the three tropical tunas stocks in the Indian Ocean. The model ensemble (a total of 12 models) encompasses a range of plausible hypotheses about stock and fisheries dynamics</p> <p>The model estimates of current stock status are predominantly informed by the new abundance index derived from the Joint CPUE estimated for longline fleets. It was noted that the new index was significantly different to the index used in 2021.</p> <p>Overall stock status estimates differ substantially from the previous assessment. On the weight-of-evidence available in 2024, the yellowfin tuna stock is determined to be</p>	

								<p>not-overfished and not-subject to overfishing.</p> <p>It is noted that there are still important uncertainties relating to the data used for this stock assessment. There are uncertainties in relation to the CPUE standardisation in 2024 that could not be addressed during the meeting, which are recognised in the SCs catch limit advice (in the stock status summary and SC general recommendations)..</p> <p>Click here for full stock status summary: Appendix 11</p>
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Neritic tunas and seerfish: These six species have become as important or more important as the three tropical tuna species (bigeye tuna, skipjack tuna and yellowfin tuna) to most IOTC coastal states. Neritic tunas and mackerels are caught primarily by coastal fisheries, including small-scale industrial and artisanal fisheries, and are almost always caught within the EEZs of coastal states. Historically, catches were often reported as aggregates of various species, making it difficult to obtain appropriate data for stock assessment analyses.

Stock	Indicators	2020	2021	2022	2023	2024	Advice to the Commission
Bullet tuna <i>Auxis rochei</i>	Catch 2023 (t) 28,429 Average catch 2019–2023 (t) 21,996 MSY (1,000 t) unknown F_{MSY} unknown B_{MSY} (1,000 t) unknown $F_{current}/F_{MSY}$ unknown $B_{current}/B_{MSY}$ unknown $B_{current}/B_0$ unknown						<p>A new assessment was carried out in 2024 using data-limited techniques (CMSY, LB-SPR, and FishBlicc). However the catch data for bullet tuna are very uncertain given the high percentage of the catches that had to be estimated due to a range of reporting issues. The size-based assessment methods LB-SPR and FishBlicc using size data from gillnet and purse seine fisheries both estimated the current spawning potential ratio to be below the reference level of SPR40% (a proxy for 40% depletion often considered as the risk averse target in many data-poor fisheries). Due to a lack of fishery data for several fisheries, only preliminary stock status indicators (CPUE and average weight) can be used. Aspects of the fisheries for bullet tuna combined with the lack of data on which to base an assessment of the stock are a cause for concern. Stock status in relation to the Commission's BMSY and FMSY reference points remains unknown.</p> <p>For assessed species of neritic tunas and seerfish in the Indian Ocean (longtail tuna, kawakawa and narrow-barred Spanish mackerel), the MSY was estimated during early assessments to have been reached between 2009 and 2011 and both FMSY and BMSY were breached thereafter. It is worth noting that the catch in 2023 was estimated to be 28,429t and there has been significant variability in estimated catches of this species in recent years. This variation is perhaps due to issue of mis-identification of this species among other reasons. In the absence of a stock assessment of bullet tuna a limit to the catches should be considered by the Commission, by ensuring that future catches do not continue to exceed the average catches estimated between 2009 and 2011 (8,590 t). This catch advice should be maintained until an assessment of bullet tuna is available. Considering that MSY-based reference points for assessed species can change over time, the stock should be closely monitored. Mechanisms</p>

							<p>need to be developed by the Commission to improve current statistics by encouraging CPCs to comply with their recording and reporting requirements, so as to better inform scientific advice.</p> <p>Click here for a full stock status summary: Appendix 12</p>
<p>Frigate tuna <i>Auxis thazard</i></p>	<p>Catch in 2023 (t) Average catch 2019–2023 (t) MSY (1,000 t) F_{MSY} B_{MSY} (1,000 t) F₂₀₁₉/F_{MSY} B₂₀₁₉/B_{MSY} B₂₀₁₉/B₀</p>	<p>130,815 123,151 unknown unknown unknown unknown unknown</p>					<p>A new assessment was carried out in 2024 using data-limited techniques (CMSY, OCOM, LB-SPR and fishblicc). However the catch data for frigate tuna are very uncertain given the high percentage of the catches that had to be estimated due to a range of reporting issues. Due to a lack of fishery data for several gears, only preliminary stock status indicators can be used. However, the size-based assessment showed results with considerable uncertainty - LB-SPR estimated a SPR greater than the reference level of SPR40%, (a proxy for 40% depletion often considered as risk averse target in many data-poor fisheries) whereas the fishblicc estimated a SPR below the reference level. Aspects of the fisheries for frigate tuna combined with the lack of data on which to base an assessment of the stock are a cause for considerable concern. Stock status in relation to the Commission’s BMSY and FMSY reference points remains unknown.</p> <p>For assessed species of neritic tunas in Indian Ocean (longtail tuna, kawakawa and narrow-barred Spanish mackerel), the MSY was estimated during early assessments to have been reached between 2009 and 2011 and both FMSY and BMSY were breached thereafter. It is worth noting that the catch in 2023 was estimated to be 130,815t and there has been significant variability in estimated catches of this species in recent years. This variation is perhaps due to issue of mis-identification of this species among other reasons. In the absence of an accepted stock assessment for frigate tuna, a limit to the catches should be considered by the Commission, by ensuring that future catches do not continue to exceed the average catches estimated between 2009 and 2011 (101,260 t). The reference period (2009-2011) was chosen based on the most recent assessments of those neritic species in the Indian Ocean for which an assessment is available under the assumption that MSY for frigate tuna was also reached between 2009 and 2011. This catch advice should be maintained until an assessment of frigate tuna is available. Considering that MSY-based reference points for assessed species can change over time, the stock should be closely monitored. Mechanisms need to</p>

							<p>be developed by the Commission to improve current statistics by encouraging CPCs to comply with their recording and reporting requirements, so as to better inform scientific advice.</p> <p>Click here for a full stock status summary: Appendix 13</p>
Kawakawa <i>Euthynnus affinis</i>	<p>Catch in 2023 (t) 152,828</p> <p>Mean annual catch 2019-2023 (t) 156,428</p> <p>MSY (1,000 t) 154 (122– 193)</p> <p>(80% CI) 0.60 (0.48 – 0.74)</p> <p>F_{MSY} (80% CI) 258 (185 – 359)</p> <p>B_{MSY} (1,000 t) 0.98 (0.82– 2.20)</p> <p>(80% CI) 0.99 (0.45 – 1.20)</p> <p>$F_{current}/F_{MSY}$ (80% CI)</p> <p>$B_{current}/B_{MSY}$ (80% CI)</p>				27%		<p>No new stock assessment was conducted in 2024 for kawakawa and so the results are based on the results of the assessment carried out in 2023 which examined a number of data-limited methods include C-MSY, OCOM, and JABBA models (based on data up to 2021). These models produced stock estimates that are not drastically divergent because they shared similar dynamics and assumptions. The C-MSY model has been explored more fully and therefore is used to obtain estimates of stock status.</p> <p>Based on the weight-of-evidence available, the kawakawa stock for the Indian Ocean is classified as overfished but not subject to overfishing.</p> <p>The assessment models rely on catch data, which are considered to be highly uncertain. The catch in 2022 was just above the estimated MSY. The available gillnet CPUE of kawakawa showed a somewhat increasing trend although the reliability of the index as abundance indices remains unknown. Despite the substantial uncertainties, the stock is probably very close to being fished at MSY levels and that higher catches may not be sustained in the longer term. A precautionary approach to management is recommended.</p> <p>Click here for a full stock status summary: Appendix 14</p>
Longtail tuna <i>Thunnus tonggol</i>	<p>Catch 2023 (t) 137,884</p> <p>Mean annual catch (2019-2023) (t) 130,973</p> <p>MSY (1,000 t) 133 (108 –165)</p> <p>(80% CI) 0.31 (0.22 – 0.44)</p> <p>F_{MSY} (80% CI) 433 (272– 690)</p> <p>B_{MSY} (1,000 t) 1.05 (0.84 – 2.31)</p> <p>$F_{current}/F_{MSY}$ (80% CI) 0.96 (0.44 – 1.19)</p> <p>$B_{current}/B_{MSY}$ (80% CI)</p>				35%		<p>No new stock assessment was conducted for longtail in 2024 and so the results are based on the results of the assessment carried out in 2023 which examined a number of data-limited methods including C-MSY, OCOM, and JABBA models (based on data up to 2021). These models produced stock estimates that are not drastically divergent because they shared similar dynamics and assumptions. The C-MSY model has been explored more fully and therefore is used to obtain estimates of stock status.</p> <p>Based on the weight-of-evidence currently available, the stock is considered to be both overfished and subject to overfishing.</p> <p>The catch in 2022 was above the estimated MSY and the exploitation rate has been increasing over the last few years, as a result of the declining abundance. Despite the substantial</p>

							<p>uncertainties, this suggests that the stock is being fished above MSY levels and that higher catches may not be sustained. A precautionary approach to management is recommended.</p> <p>Click here for a full stock status summary: Appendix 15</p>
Indo-Pacific king mackerel <i>Scomberomorus guttatus</i>	Catch in 2023 (t) Average catch 2019-2023 (t) MSY (1,000 t) F_{MSY} B_{MSY} (1,000 t) $F_{current}/F_{MSY}$ $B_{current}/B_{MSY}$ $B_{current}/B_0$	46,255 46,008 47 (39–56) 0.74 (0.56–0.99) 63 (43–92) 0.95 (0.82–2.13) 1.02 (0.46–1.19) 0.51 (0.23–0.60)				27%	<p>A new assessment was conducted in 2024 using the data-limited techniques (CMSY and CMSY++) (using data up to 2022). Analysis using the catch only method CMSY indicates the stock is being exploited at a rate that is below FMSY in recent years and that the stock appears to be above BMSY, although the estimates would be more pessimistic if the stock productivity is assumed to be less resilient. An assessment using CMSY++ was also explored in 2024. The stock estimates with CMSY++ are estimated to be very close to the biomass target even though the stock status is more pessimistic than with CMSY. Despite some of the caveats of the underlying assumptions, the catch-only model has provided a more defensible approach in addressing the uncertainty of key parameters and the currently available catch data for the Indo-Pacific king mackerel appear to be of sufficient quality. Based on the weight-of-evidence currently available, the stock is considered to be not overfished and not subject to overfishing.</p> <p>Reported catches of Indo-Pacific king mackerel in the Indian Ocean has increased considerably since the late 2000s with recent catches fluctuating around estimated MSY, although the catch in 2021 and 20232 was below the estimated MSY. This suggests that the stock is close to being fished at MSY levels and that higher catches may not be sustained despite the substantial uncertainty associated with the assessment, a precautionary approach to management is recommended.</p> <p>Click here for a full stock status summary: Appendix 16</p>
Narrow-barred Spanish mackerel <i>Scomberomorus commerson</i>	Catch in 2023 (t) Average catch 2019-2023 (t) MSY (1,000 t) (80% CI) F_{MSY} (80% CI) B_{MSY} (1,000 t)(80% CI) $F_{current}/F_{MSY}$ (80% CI) $B_{current}/B_{MSY}$ (80% CI)	165,295 162,610 161 (132– 197) 0.60 (0.48–0.74) 271 (197– 373) 1.07 (0.88 – 2.38) 0.98 (0.44 – 1.19)				31%	<p>No new stock assessment was conducted in 2024 for narrow-barred Spanish mackerel and so the results are based on the results of the assessment carried out in 2023 which examined a number of data-limited methods including C-MSY, OCOM, and JABBA models (based on data up to 2021). These models produced stock estimates that are not drastically divergent because they shared similar dynamics and assumptions. The C-MSY model has been explored more fully and therefore is used to obtain estimates of stock status.</p> <p>Based on the C-MSY assessment, the stock appears to be overfished and subject to overfishing.</p>

<p>Blue marlin <i>Makaira nigricans</i></p>	<p>Catch in 2023 (t) 7,888 Average catch 7,049 2018-2023 (t) 8.74 (7.14 – 10.72) MSY (1,000 t) 0.24 (0.14 – 0.39) F_{MSY} (80% CI) 35.8 (22.9 – 60.3) B_{MSY} (1,000 t) 1.13 (0.75 – 1.69) B₂₀₂₀/B_{MSY} (80% CI) 0.73 (0.51 – 0.99) B₂₀₂₀/B₀ (80% CI) 0.36 (0.26 – 0.50)</p>				72%			<p>No new stock assessment was carried out for blue marlin in 2024, thus the stock status is determined on basis of the 2022 assessment which was 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 2020). Both models were consistent with regards to stock status. On the weight-of-evidence available in 2022, the stock is determined to be overfished and subject to overfishing.</p> <p>The current catches of blue marlin (average of 7,045 t in the last 5 years, 2018-2022) are lower than MSY (8,740 t). The stock is currently overfished and subject to overfishing. According to K2SM calculated (Table 2), a reduction of 20% of catches (5,700 t) compared to 2020 catches (7,126 t) would recover the stock to the green quadrant by 2030 with a probability of 79% and if the catches are reduced by 10% (6,413 t) the probability would be 67%. The Commission should note that the current catch limit for blue marlin in Resolution 18/05 (11,930 t, which was established as the MSY value estimated in 2016 stock assessment) is 36% higher than the new MSY estimated by the latest stock assessment in 2022 (8,740 t). <u>Thus, it is recommended that the Commission urgently revise Resolution 18/05 to incorporate limits that reflect the most recent stock assessment and projections and review and where necessary revise the implementation and effectiveness of the measures contained in this Resolution.</u></p> <p>Click here for full stock status summary: Appendix 19</p>
<p>Striped marlin <i>Kajikia audax</i></p>	<p>Catch in 2023 (t) 3,553 Average catch 3,024 2019-2023 (t) 4.73 (4.22 – 5.24) MSY (1,000 t) (JABBA) 4.89 (4.48-5.30) MSY (1,000 t) (SS3) 0.26 (0.20–0.35) F_{MSY} (JABBA) 0.22 (0.21–0.24) F_{MSY} (SS3) 3.95 (2.54 – 6.14) F₂₀₂₂/F_{MSY} (JABBA) 9.26 (5.38-13.14) F₂₂₂₉/F_{MSY} (SS3) 0.17 (0.11 – 0.27) B₂₀₂₂/B_{MSY} (JABBA) 0.27 (0.19-0.35) SB₂₀₂₂/SB_{MSY} (SS3) 0.06 (0.04 – 0.10) B₂₀₂₂/B₀(JABBA) 0.036 (0.03-0.04) SB₂₀₂₂/SB₀ (SS3)</p>					100%		<p>A new stock assessment was carried out for striped marlin 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). Both models were generally consistent with regards to stock status and confirmed the results from 2012, 2013, 2015, 2017, 2018, and 2021 assessments. On the weight-of-evidence available in 2024, the stock status of striped marlin is determined to be overfished and subject to overfishing.</p> <p>Current or increasing catches have a very high risk of further decline in the stock status. The 2023 catches (3,553 t) were lower than the estimated MSY (4,730 t) but are above the limit set by Resolution 18/05 (3,260 t) which may be a concern if this trend continues. However, the limit is not based on estimates of the most recent stock assessment. Thus, it is recommended that the Commission urgently revise Resolution 18/05 to incorporate limits that reflect the most recent stock assessment and projections, and review, and where necessary, revise the implementation and effectiveness of the measures contained in this Resolution.</p> <p>The stock has been overfished for more than a decade and is now in a highly depleted state.</p>

								<p>A 70% reduction in the recent average 2020-22 catch of 2,891 t (i.e. catch of 867 t) would recover the stock to the green quadrant by 2032 with a probability of 78% and a 60% reduction in recent average catch (i.e. catch of 1,157 t) would achieve this with a probability of 58%.</p> <p>Click here for full stock status summary: Appendix 20</p>
Indo-Pacific Sailfish <i>Istiophorus platypterus</i>	<p>Catch in 2023 (t) 32,154</p> <p>Average catch 2019-2023 (t) 32,386</p> <p>MSY (1,000 t) 25.9 (20.8 – 34.2)</p> <p>(80% CI) 0.19 (0.15 – 0.24)</p> <p>F_{MSY} (80% CI) 0.24</p> <p>B_{MSY} (1,000 t) 138 (108–186)</p> <p>(80% CI) 0.98 (0.65 – 1.42)</p> <p>F_{2019}/F_{MSY} (80% CI) 1.17 (0.94 – 1.42)</p> <p>B_{2019}/B_{MSY} (80% CI) 0.58 (0.47 – 0.71)</p> <p>B_{2019}/B_0 (80% CI) 0.71</p>					54%		<p>No new stock assessment was carried out for Indo-Pacific Sailfish in 2024, thus the stock status is determined on basis of the 2022 stock assessment based on JABBA (using data up to 2019). Data poor methods (C-MSY and SRA) applied to SFA in 2019 relied on catch data only, which is highly uncertain for this species, and resulted in the stock status determined to be uncertain. To overcome the lack of abundance indices for this species, this assessment incorporated length-frequency data to estimate annual Spawning Potential Ratio (SPR). Normalised annual estimates of SPR were assumed to be proportional to biomass and incorporated as an index of relative abundance in the JABBA model (assuming no trends in annual recruitment in the long term). This is a novel technique applied to overcome the paucity of abundance data for SFA. On the weight-of-evidence available in 2022, the stock status of Indo-Pacific sailfish is determined to be not overfished nor subject to overfishing.</p> <p>The catch limits as stipulated in Resolution 18/05 have been exceeded since 2020, which as per resolution 18/05, requires a review of the resolution. Furthermore, these limits are not based on estimates of most recent stock assessment. Thus, it is recommended that the Commission urgently revise 18/05 to incorporate limits that reflect the most recent stock assessment and projections and review and where necessary revise the implementation and effectiveness of the measures contained in this Resolution In spite of the Kobe green status of the stock, it is recommended that the Commission review the implementation and effectiveness of the measures contained in this Resolution and consider the adoption of additional conservation and management measures. 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 coastal gillnet and longline fisheries, and further exploration of stock assessment approaches for data poor fisheries are warranted. Given the limited data being reported for coastal fisheries, and the importance of sports fisheries for this species, efforts must be made to rectify these information gaps.</p> <p>Click here for full stock status summary: Appendix 21</p>
Swordfish	<p>Catch in 2022 (t) 26,525</p> <p>Average catch 2018-2022 (t) 28,142</p> <p>30 (26–33)</p>					97%		<p>No new stock assessment was carried out for swordfish in 2024, thus the stock status is determined on basis of the 2022 assessment.</p>

<p><i>Xiphias gladius</i></p>	<p>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)</p>	<p>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)</p>						<p>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. 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.</p> <p>A management procedure for Indian Ocean Swordfish was adopted under Resolution 24/08 by the IOTC Commission in May 2024 and was applied to determine a recommended TAC for Swordfish for 2026, 2027 and 2028. A review of evidence for exceptional circumstances was also conducted following the adopted guideline (IOTC-2021-SC24-R, appendix 6A) as per the requirements of Resolution 24/08. The evaluation concluded that there was one exceptional circumstance pertaining to the operation of the MP. Specifically, an error was identified in the original simulation analyses that, when corrected (without retuning), resulted in the MP not reaching the management objective. Correcting the error and retuning the MP (to 60% probability of being in the Kobe green zone) results in an MP that does reach the objective, with similar performance measure outcomes. Therefore, the recommended action is to use the corrected and retuned MP to recommend the TAC for 2026-2028. Should the Commission continue to implement the current MP, without retuning, it has a lower probability (54%) of being in the Kobe green zone and higher TAC variability, but otherwise similar performance statistics. The TAC derived from running SWO MP1 with or without retuning is 30527 t (i.e. the same) because the max TAC change constraint is reached in both MPs.</p> <p>Click here for full stock status summary: Appendix 22</p>
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Sharks: Although sharks are not part of the 16 species directly under the IOTC mandate, sharks are frequently caught in association with fisheries targeting IOTC species. Some fleets are known to actively target both sharks and IOTC species simultaneously. As such, IOTC Contracting Parties and Cooperating Non-Contracting Parties are required to report information at the same level of detail as for the 16 IOTC species. The following are the main species caught in IOTC fisheries, although the list is not exhaustive.

Stock	Indicators	2020	2021	2022	2023	2024	Advice to the Commission
Blue shark <i>Prionace glauca</i>	Reported catch 2023 (t) Estimated catch 2019 (t) Not elsewhere included (nei) sharks1 2023 (t) Average reported catch 2019-2023 (t) Average estimated catch 2015-19 (t) Avg. not elsewhere included (nei) sharks 2019-2023 (t) MSY (1,000 t) (80% CI) F_{MSY} (80% CI) SB _{MSY} (1,000 t) (80% CI) F_{2019}/F_{MSY} (80% CI) SB ₂₀₁₉ /SB _{MSY} (80% CI) SB ₂₀₁₉ /SB ₀ (80% CI)		99.9%				<p>No new stock assessment was carried out for blue sharks in 2024 and so the results are based on the assessment carried out in 2021 using an integrated age-structured model (SS3) (using data up to 2019).</p> <p>On the weight-of-evidence available in 2021, the stock status is determined to be not overfished and not subject to overfishing.</p> <p>Target and limit reference points have not yet been specified for pelagic sharks in the Indian Ocean. The 2021 assessment indicates that Indian Ocean blue shark is not overfished nor subject to overfishing. If the catches are increased by over 20%, the probability of maintaining spawning biomass above MSY reference levels ($SB > SB_{MSY}$) over the next 10 years will be decreased. The stock should be closely monitored. 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 in the future.</p> <p>Click below for a full stock status summary: Appendix 23</p>
Shortfin mako <i>Isurus oxyrinchus</i>	Reported catch 2023 (t) Catches reported to MAK in 2023 (t) Average catches reported to MAK 2019-2023 (t) Catches in 2023 (MAK, SMA, LMA) (t) Average catches 2019-2023 (MAK, SMA, LMA) (t) Not elsewhere included (nei) sharks 2023 (t)					49.7%	<p>In 2024 a stock assessment was carried out for the shortfin mako shark in the IOTC area of competence, using data until 2022. The model applied was a population biomass dynamics model using the platform JABBA. The stock status and projections were based on an ensemble grid of 9 models designed to capture the main uncertainties relating to biology (3 options) and the shape of the production curve used in biomass dynamics models (3 options). Considering the characterized uncertainty, and on the weight-of-evidence available in 2024, the shortfin mako shark stock is determined to be overfished and subject to overfishing.</p> <p>The Commission should take a cautious approach by implementing management actions that reduce fishing mortality on shortfin mako sharks, and the stock should be closely monitored. 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</p>

	<p>Average reported catch 2019-2023 (t) Av. Not elsewhere included (nei) sharks 2019-2023 (t)</p> <p>MSY (1,000 t) (80% CI) FMSY (80% CI) BMSY (1,000 t) (80% CI) F₂₀₂₂ /FMSY (80% CI) B₂₀₂₂ /BMSY (80% CI) B₂₀₂₂ /B₀ (80% CI)</p>	<p>0.96 (0.58 – 1.41) 0.45 (0.27- 0.69)</p>						<p>Commission so as to better inform future scientific advice. In order to have a lower than 50% probability of exceeding MSY-reference points in 10 years, i.e., to recover the stock to the green quadrant of the Kobe plot with at least 50% probability in 10 years, future catches should not exceed 40% of the average catches between 2020-2022 (i.e., last 3 year of catches used in the model). This corresponds to an annual TAC of 1,217.2 t (representing all fishing mortality including retention, dead discards and post-release mortality), noting that this TAC level should include and account for the SMA, MAK and MSK species codes as reported to IOTC</p> <p>Click below for a full stock status summary: Appendix 26</p> <p>There is a paucity of information available for these species and this situation is not expected to improve in the short to medium term. There is no quantitative stock assessment and limited basic fishery indicators currently available. Therefore, the stock status is highly uncertain. The available evidence indicates considerable risk to the stock status at current effort levels. The primary source of data that drive the assessment (total catches) is highly uncertain and should be investigated further as a priority.</p>
<p>Oceanic whitetip shark <i>Carcharhinus longimanus</i></p>	<p>Reported catch 2023 (t) Not elsewhere included (nei) sharks 2023 (t) Average reported catch 2019–2023 (t) Ave. (nei) sharks 2019–2023 (t)</p>	<p>42 28,843 36 29,049</p>						<p>Click below for a full stock status summary:</p> <p>Oceanic whitetip sharks – Appendix 24 Scalloped hammerhead sharks – Appendix 25 Silky sharks– Appendix 27</p>
<p>Scalloped hammerhead shark <i>Sphyrna lewini</i></p>	<p>Reported catch 2023 (t) Not elsewhere included (nei) sharks 2023 (t) Average reported catch 2019–2023 (t)</p>	<p>1,397 30,108 470 31,452</p>						<p>Bigeye thresher sharks– Appendix 28 Pelagic thresher sharks– Appendix 29 porbeagle sharks– Appendix 30</p>

	Ave. (nei) sharks 2019–2023 (t)						
Silky shark <i>Carcharhinus falciformis</i>	Reported catch 2023 (t) Not elsewhere included (nei) sharks 2023 (t) Average reported catch 2019–2023 (t) Ave. (nei) sharks 2019–2023 (t)	1,578 28,843 1,675 29,049					
Bigeye thresher shark <i>Alopias superciliosus</i>	Reported catch 2023 (t) Not elsewhere included (nei) sharks2 2023 (t) Thresher sharks nei 2023 (t) Average reported catch 2019-2023 (t) Av. Not elsewhere included (nei) sharks2 2019-2023 (t) Av. Thresher sharks nei 2019-2023 (t)	< 1 33,200 4,863 < 1 33,848 5,108					
Pelagic thresher shark <i>Alopias pelagicus</i>	Reported catch 2023 (t) Not elsewhere included (nei) sharks 2023 (t) Thresher sharks nei 2023 (t) Average reported catch 2019-2023 (t) Av. Not elsewhere included (nei) sharks2 2019-2023 (t) Av. Thresher sharks nei 2019-2023 (t)	136 33,200 4,863 162 33,848 5,108					

Porbeagle shark <i>Lamna nasus</i>	Reported catch 2023 (t)	28						
	Not elsewhere included (nei) sharks1 2023 (t)	28,365						
	Average reported catch 2019-23 (t)	28						
	Avg. not elsewhere included (nei) sharks1 2019-23 (t)	28,768						

*Estimated probability that the stock is in the respective quadrant of the Kobe plot (shown below), derived from the confidence intervals associated with the current stock status.

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