



MarinTrust Standard V2

By-product Fishery Assessment *Yellowfin Tuna (Thunnus albacares)* *FAO Areas 51 and 57 (Indian Ocean)*

MarinTrust Programme

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Yellowfin tuna, <i>Thunnus albacares</i>
	Geographical area:	FAO 51 and 57, Western and Eastern Indian Ocean
	Country of origin of the product:	Thailand, India, China, Taiwan, France, Japan, USA, Malaysia, Spain, South Korea, Indonesia, Seychelles, Mauritius, Kiribati, Vanuatu, Pakistan
	Stock:	Indian Ocean yellowfin tuna
Date	23 July 2023	
Report Code	THA09	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Thailand, India, China, Taiwan, France, Japan, USA, Malaysia, Spain, South Korea, Indonesia, Seychelles, Mauritius, Kiribati, Vanuatu, Pakistan	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Asian Alliance International Public Company Limited, Chotiwat Manufacturing Public Co. Ltd, Golden Prize Canning , Piyo Bhokabhan Company Limited, Sirisaengarumpee, South East Asian Packaging and Canning Ltd, SPA International Food Group Co. Ltd, TC Union Agrotech Co. Ltd, TCF Co. Ltd, Thai Union Ingredients Co Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		NSF	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ana Elisa Almeida Ayres	Matthew Jew	0.5	Re-approval
Assessment Period	Up to July 2023		

Scope Details	
Main Species	Yellowfin tuna (<i>Thunnus albacares</i>)
Stock	Yellowfin tuna in the Indian Ocean
Fishery Location	FAO fishing areas 51 (Indian Ocean, Western) and 57 (Indian Ocean, Eastern)
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	All gears
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
<p>If any species is categorised as Endangered or Critically Endangered on Union for Conservation of Nature's Red List of Threatened Species - IUCN's Red List, or if it appears in the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES appendices, it cannot be approved for use as Marin Trust raw material. Yellowfin tuna (<i>Thunnus albacares</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, <i>Thunnus albacares</i> is eligible for approval for use as Marin Trust by-product raw material.</p> <p>For assessment and management purposes, one discrete stock of yellowfin is recognised in the Indian Ocean; therefore, this assessment covers one stock (i.e. yellowfin tuna in the Indian Ocean) when fished within Food and Agriculture Organization of the United Nations - FAO fishing areas 51 and 57.</p> <p>Fishery removals from the stock are considered in the Indian Ocean Tuna Commission - IOTC stock assessment processes such that the stock achieves a PASS against Clause C1.1. In addition, the most recent stock assessment shows the biomass to be above the interim limit reference point of $0.4 \cdot SB_{MSY}$ defined by management such that the stock achieves a PASS against C1.2.</p> <p>Therefore, yellowfin tuna (<i>Thunnus albacares</i>) from FAO 51 and 57, Western and Eastern Indian Ocean, is APPROVED for the production of fishmeal and fish oil under the current Marin Trust v2.3 by-products.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified yellowfin tuna (<i>Thunnus albacares</i>) in FAO 51 & 57 as Category C, the stock is subject to a specific management regime by IOTC and reference points are defined (target and limit).</p> <p>Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that the stock is overfished (below target reference points), however the biomass remains above $0.4 \cdot SB_{MSY}$. Therefore, the stock is considered to have biomass above the limit reference point.</p> <p>Albacore tuna (<i>Thunnus alalunga</i>) in FAO 51 & 57 passes both clauses (C1.1 and C1.2) and therefore should be approved under the MarinTrust Standard v.2.</p>
Notes for On-site Auditor
N/A

Species Categorisation

NB: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as a MarinTrust raw material.

IUCN Red list Category

By-product material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

By-product material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

Table 3 Species Categorisation Table

Common name	Latin name	Stock	Management	Category	IUCN Red List Category ¹	CITES Appendix 1 ²
Yellowfin tuna	<i>Thunnus albacares</i>	Indian Ocean yellowfin tuna	IOTC	C	LC	No

¹ <https://www.iucnredlist.org/>

² <https://cites.org/eng/app/appendices.php>

CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

Clause C1 should be completed for each Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it should be assessed as a Category D species instead.

Species Name		Yellowfin tuna (<i>Thunnus albacares</i>)																							
C1	Category C Stock Status - Minimum Requirements																								
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	Yes																						
	C1.2	The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.	Yes																						
			Clause outcome: Pass																						
<p>C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.</p> <p>The stock assessment conducted by the Indian Ocean Tuna Commission (IOTC) takes all fishery removals into account. The most recent assessment was conducted in 2021, using data from 1950-2020 and it was based on the model developed in 2018 with a series of revisions that were noted during the WPTT in 2018, 2019 and 2020 (IOTC, 2022). In the most recent session of IOTC Working Party on Tropical Tunas (May-June 2023), the Commission noted the Terms of reference and Workplan endorsed by the Scientific Committee for an external Peer review process for the yellowfin tuna stock assessment [IOTC-WPTT25(DP), 2023].</p> <p>Landings in recent years were reported as a total catch in 2021 of 416,235t, and an average catch 2017-2021 of 435,225t (IOTC, 2022). Full catch datasets, including catch and effort by month, species, gear, and vessels flag, and size-frequency datasets, are made available on the IOTC website (IOTC, 2023).</p> <p style="text-align: center;">Table 1. Status of yellowfin tuna (<i>Thunnus albacares</i>) in the Indian Ocean</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Area¹</th> <th style="text-align: center;">Indicator</th> <th style="text-align: center;">Value</th> <th style="text-align: center;">Status⁴</th> </tr> </thead> <tbody> <tr> <td rowspan="8" style="text-align: center; vertical-align: middle;">Indian Ocean</td> <td>Catch in 2021 (t)²</td> <td style="text-align: center;">416,235</td> <td rowspan="8" style="text-align: center; vertical-align: middle; background-color: red; color: white; font-weight: bold;">68%*</td> </tr> <tr> <td>Average catch 2017-2021 (t)³</td> <td style="text-align: center;">435,225</td> </tr> <tr> <td>MSY (1,000 t) (80% CI)</td> <td style="text-align: center;">349 (286-412)</td> </tr> <tr> <td>F_{MSY} (80% CI)</td> <td style="text-align: center;">0.18 (0.15-0.21)</td> </tr> <tr> <td>SB_{MSY} (1,000 t) (80% CI)</td> <td style="text-align: center;">1,333 (1,018-1,648)</td> </tr> <tr> <td>F₂₀₂₀ / F_{MSY} (80% CI)</td> <td style="text-align: center;">1.32 (0.68-1.95)</td> </tr> <tr> <td>SB₂₀₂₀ / SB_{MSY} (80% CI)</td> <td style="text-align: center;">0.87 (0.63-1.10)</td> </tr> <tr> <td>SB₂₀₂₀ / SB₀ (80% CI)</td> <td style="text-align: center;">0.31 (0.24-0.38)</td> </tr> </tbody> </table> <p>¹Boundaries for the Indian Ocean stock assessment are defined as the IOTC area of competence ²Proportion of 2021 catch fully or partially estimated by IOTC Secretariat: 18% ³Including re-estimations of EU PS species composition for 2018 (only requested for stock assessment purposes) ⁴The stock status refers to the most recent years' data used in the assessment conducted in 2021, i.e., 2020</p> <p style="text-align: center;">Figure 1. Source: IOTC (2022).</p>				Area ¹	Indicator	Value	Status ⁴	Indian Ocean	Catch in 2021 (t) ²	416,235	68%*	Average catch 2017-2021 (t) ³	435,225	MSY (1,000 t) (80% CI)	349 (286-412)	F _{MSY} (80% CI)	0.18 (0.15-0.21)	SB _{MSY} (1,000 t) (80% CI)	1,333 (1,018-1,648)	F ₂₀₂₀ / F _{MSY} (80% CI)	1.32 (0.68-1.95)	SB ₂₀₂₀ / SB _{MSY} (80% CI)	0.87 (0.63-1.10)	SB ₂₀₂₀ / SB ₀ (80% CI)	0.31 (0.24-0.38)
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Fishery removals of yellowfin tuna are incorporated into the stock assessment process and therefore **C1.1 is met**.

C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under assessment are considered by scientific authorities to be negligible.

In 2015, the IOTC adopted Resolution 15/10 which defined target/limit reference points and decision framework. Resolution 15/10 defined the limit reference point to be $0.4 \cdot SB_{MSY}$. The last stock assessment conclusion states that “overall stock status estimates do not differ substantially from the previous assessment”. Spawning biomass in 2020 was estimated to be 31% on average of the unfished (1950) levels. Spawning biomass was considered to be 13 % below the interim target reference point of SB_{MSY} and above the interim limit reference point of $0.4 \cdot SB_{MSY}$.

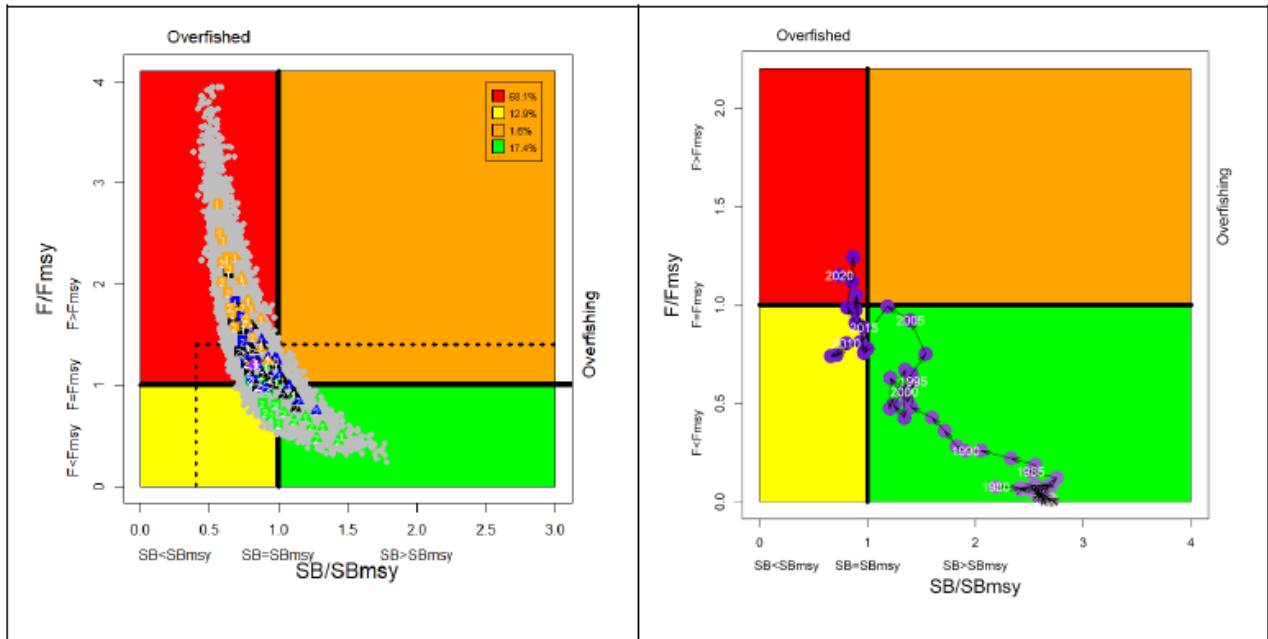


Fig. 4. Yellowfin tuna: SS3 Indian Ocean assessment Kobe plot: (left): current (2020) stock status, relative to SB_{MSY} (x-axis) and F_{MSY} (y-axis) reference points for the final model options. Coloured symbols represent Maximum posterior density (MPD) estimates from individual models: square and Triangles and represents LL CPUE catchability options q1 and q2 respectively; green, blue, black, and orange represents growth and natural mortality option combination G_{base_Mbase} , G_{Dortel_Mbase} , G_{base_Mlow} , and G_{Dortel_Mlow} respectively; 1,2, represents spatial structure option io and sp respectively. The purple dot represents the base model. Grey dots represent uncertainty from individual models. The dashed lines represent limit reference points for IO yellowfin tuna ($SB_{lim} = 0.4 SB_{MSY}$ and $F_{lim} = 1.4 F_{MSY}$); (right) stock trajectory from the base model

Figure 2. Source: IOTC (2022).

In response to Indian Ocean yellowfin tuna falling below the target reference point, the IOTC has put in place an interim plan for rebuilding the stock (IOTC, 2021). The rebuilding plan limits and reduces total catch by all member states, requiring a 21% reduction in total catch relative to 2014 from most members. The plan also requires member states to reduce the efficiency of fishing effort by phasing out supply vessels and gillnet gears. IOTC (2022), revealed catches in 2021 reduced by 3% compared to the 2020 level.

During most recent session of IOTC Working Party on Tropical Tunas (May-June 2023), the Scientific Committee pointed that “some of the fisheries subject to catch reductions have achieved a decrease in catches in 2020 in accordance with the levels of reductions specified in the Resolution; however, these reductions were offset by increases in the catches of yellowfin tuna by some CPCs, including some that were subject to limitations” [IOTC–WPTT25(DP), 2023]. The Commission noted that different fishing gears and fleets have differing impacts on the yellowfin tuna population and requested a fisheries impact assessment to determine the individual gear/fleet effects on the yellowfin tuna stock status, and productivity.

Taken together these measures represent a clear response to the stock falling below the target reference point. The stock is considered to be above the limit reference point and measures are in place to support rebuilding, **therefore C1.2 is met**.

References

IOTC. 2021. Compendium of Active Conservation and Management Measures for the Indian Ocean Tuna Commission (17 December 2021). <https://www.iotc.org/cmms>

IOTC. 2022. Indian Ocean Yellowfin Tuna Stock Status: Executive Summary. https://iotc.org/sites/default/files/content/Stock_status/2022/Yellowfin2022E.pdf

IOTC. 2023. Available datasets. <https://www.iotc.org/data/datasets>

IOTC–WPTT25(DP). 2023. Report of the 25th Session of the IOTC Working Party on Tropical Tunas, Data Preparatory Meeting. Online, 31-May – 02 June 2023. IOTC–2023–WPTT25(DP)–R[E]: 24 pp. <https://iotc.org/documents/WPTT/2501/RE>

Links

MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01