



MarinTrust Standard V2

By-product Fishery Assessment Longtail tuna (*Thunnus tonggol*) in FAO area 57 - Eastern Indian Ocean

MarinTrust Programme

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: standards@marin-trust.com

T: +44 2039 780 819

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Longtail tuna (<i>Thunnus tonggol</i>)
	Geographical area:	FAO area 57 - Eastern Indian Ocean
	Country of origin of the product:	Thailand
	Stock:	Longtail tuna (<i>Thunnus tonggol</i>) in FAO area 57 - Eastern Indian Ocean
Date	19 August 2023	
Report Code	THA56	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Thailand	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): TC Union Agrotech 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	Initial
Assessment Period	Up to August 2023		

Scope Details	
Main Species	Longtail tuna (<i>Thunnus tonggol</i>)
Stock	Longtail tuna (<i>Thunnus tonggol</i>) in FAO area 57 - Eastern Indian Ocean
Fishery Location	FAO area 57 - Eastern Indian Ocean
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC), Thailand Department of Fisheries (DOF)
Gear Type(s)	Purse seine, gillnet and line
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	PASS

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. Longtail tuna (<i>Thunnus tonggol</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, longtail tuna (<i>Thunnus tonggol</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 longtail tuna is recognised in the Indian Ocean and it is managed by the Indian Ocean Tuna Commission (IOTC). Fishery Improvement Program (FIP) was initiated by Thailand in 2019 for longtail purse seine fishery, but it is inactive since 2021. Fishery removals from the stock are considered in available stock assessments, thus the stock achieves a PASS against Clause C1.1. The stock appears to be below biomass at maximum sustainable yield - B_{MSY} and above mortality at maximum sustainable yield - F_{MSY} and is considered to be both overfished and subject to overfishing by IOTC, although Southeast Asian Fisheries Development Center - SEAFDEC assessment had a different position. Although no limit reference point is established for the stock, biomass was estimated to be above $\frac{1}{2} BMSY$, the default limit reference point defined by the MT byproduct assessment guidance. Thus, thus the stock achieves a PASS against Clause C1.2.</p> <p>As the species did not fail in any clause of category C, longtail tuna (<i>Thunnus tonggol</i>) in FAO area 57 - Eastern Indian Ocean is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified the longtail tuna in the Indian Ocean under category C, as the stock is managed and reference points are defined to assess the stock status against.</p> <p>Fishery removals from the stock are considered in the stock assessment process, and the most recent stock assessment shows that the stock is considered to have biomass above the LRP proxy. Thus, the fishery passes both clauses C1.1 and C1.2.</p> <p>Therefore, longtail tuna in the Indian Ocean is APPROVED for the production of fishmeal and fish oil under the current MarinTrust V2.3 by-products standards.</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
Longtail tuna	<i>Thunnus tonggol</i>	Longtail tuna (<i>Thunnus tonggol</i>) in FAO area 57 - Eastern Indian Ocean	IOTC, Thailand Department of Fisheries (DOF)	C	DD	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		Longtail tuna (<i>Thunnus tonggol</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

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.

Two stock assessments were performed for long tail tuna in Indian Ocean. One was performed by Indian Ocean Tuna Commission (IOTC) and considers data for the whole Indian Ocean and the other was performed by Southeast Asian Fisheries Development Center - SEAFDEC and considers data of the Southeast Asia waters. Both use data up to 2018.

According to IOCT (2022), no new assessment was conducted for longtail tuna in 2022 and so, the results currently available for this stock are based on the assessment carried out in 2020 using the Optimised Catch-Only Method (OCOM) and on data up to 2018. The stock is being exploited at a rate that exceeded mortality at maximum sustainable yield - F_{MSY} in recent years and the stock appears to be below biomass B_{MSY} and above F_{MSY} (76% of plausible models runs). Catches were above MSY between 2010 and 2018 but steadily declined from 2012 to less than 113,000 t in 2019, below the estimated MSY (Figure 1).

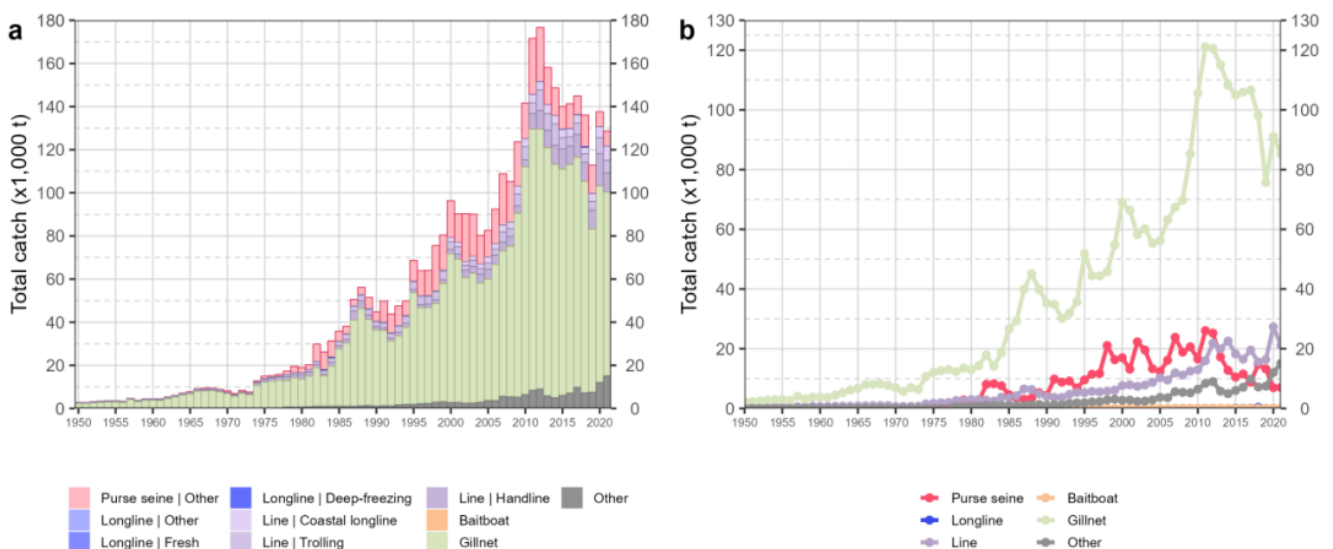


Fig. 2. Annual time series of (a) cumulative nominal catches (t) by fishery and (b) individual nominal catches (t) by fishery group for longtail tuna during 1950-2021

Figure 1. Source: IOTC (2022).

SEAFDEC (2021) used historical nominal catches of longtail tuna in Indian side of Southeast Asia waters [LOT (I)] obtained from data coordinators, IOTC and Food and Agriculture Organization of the United Nations – FAO (Figure 2). As IOCT and FAO information are based on the official data submitted by each government, preference was given to them and the data obtained from coordinators were used when FAO and IOTC catch data were missing. SEAFDEC (2021) concluded that: “Based on the results, it is suggested that the stock status of LOT(I) in 2018 is in the green (safe) zone of the Kobe plot with 63% probability, and that the current catch (33,000 tons) can be increased by 20% (40,000 tons), in which case the risk probability of TB and F violating their MSY levels are less than 50%”, whereas TB = Total Biomass; F = fishing mortality and MSY = Maximum sustainable yield.

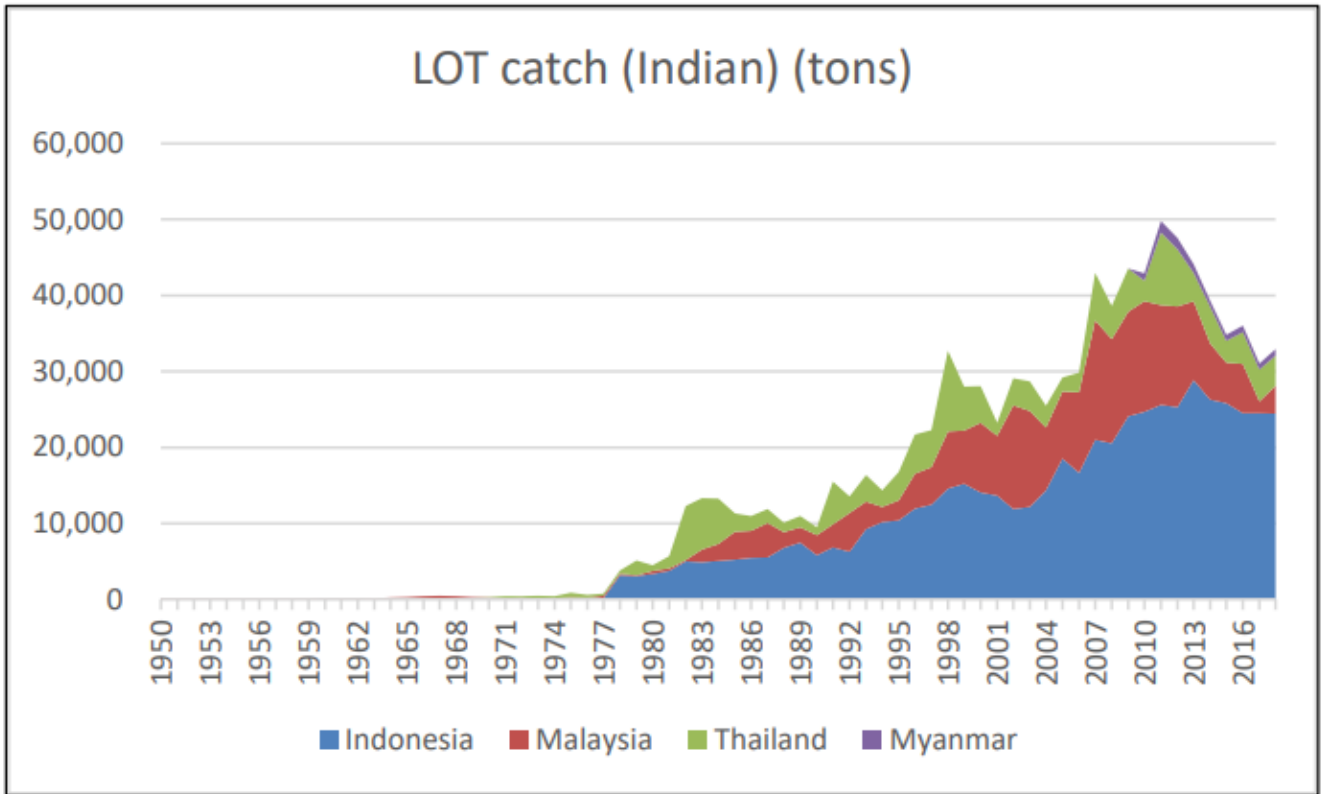


Fig. 4 Catch (LOT) in the Indian Ocean side by country (1950-2018) (tons)

Figure 2. Source: SEAFDEC (2021).

Fishery removals of longtail 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.

According to IOCT (2022), the Commission has not adopted limit reference points for any of the neritic tunas under its mandate. The stock appears to be below B_{MSY} and above F_{MSY} (76% of plausible models). The estimate of the B_{2018} / B_{MSY} ratio (0.69) was lower than in previous years, reflecting declining abundance. Based on the weight-of-evidence currently available, the stock is considered to be both overfished and subject to overfishing (Figure 3).

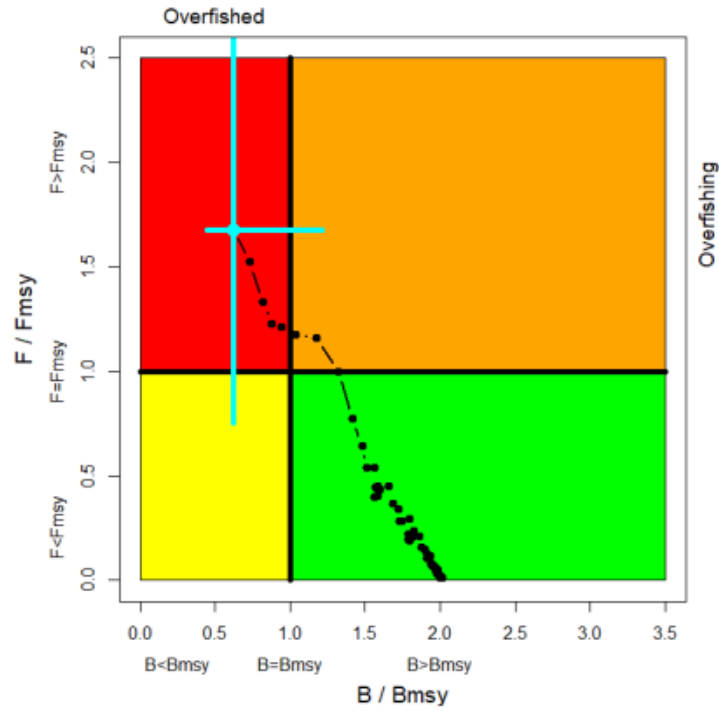


Fig. 1. Longtail tuna OCOM Indian Ocean assessment Kobe plot. The Kobe plot presents the trajectories (geometric mean) for the range of plausible model options included in the formulation of the final management advice. The blue cross represents the estimate of stock status in 2018 (median and 80% confidence interval)

Figure 3. Source: IOTC (2022).

However, results of SEAFDEC (2021) were more optimistic, and consider that biomass was above the biomass at maximum sustainable yield ($TB/TB_{msy} = 1.24$) and fishery was below the maximum sustainable yield ($F/F_{msy} = 0.67$) [Figure 4].

Longtail tuna (Indian Ocean side)
 (TB/TBmsy, F/Fmsy) = (1.24, 0.67)
 MSY=40, catch=33 and TAC=40

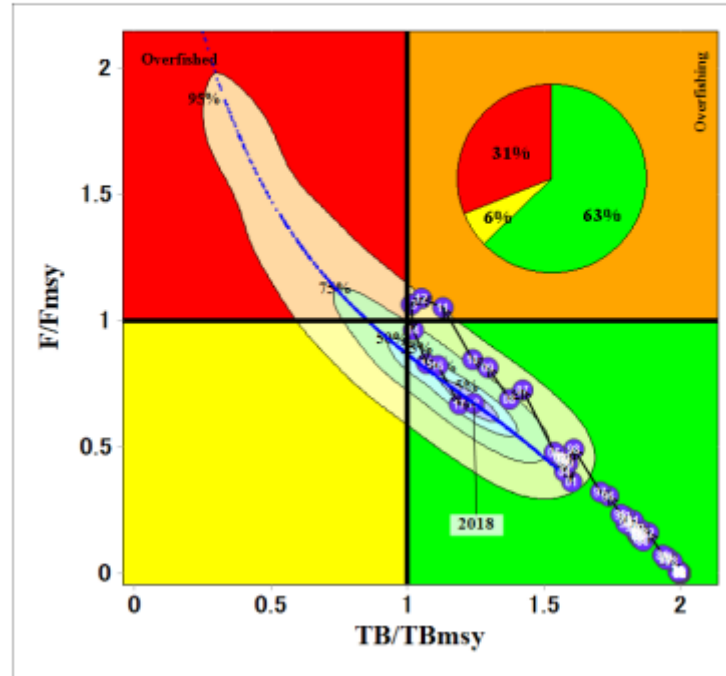


Figure 4. Summary of stock status (2018), MSY, current catch level (average of 2016-2018) and suggested Total Allowable Catch - TAC (1,000 tons). The pie chart represents composition (%) of the quadrant of the confidence surface (uncertainties) of the Kobe plot in the final year (2018).

SEAFDEC (2021) explained the difference between their results and IOCT as following: “Stock status is available from results of three stock assessments, i.e. one by IOTC (2018) for the whole Indian Ocean (IOTC, 2018) and the two by SEAFDEC (2014 and 2018) for the SE Asian water (2017 and this document) and this document). Fig. 12 shows the Kobe plot comparing these three points. In the SE Asian waters, the stock status recovered greatly from 2014 to 2018 (from the red to the green zone) because the catch continuously decreased from 2011 to 2018(Fig. 13). In the whole Indian Ocean, it is in the red zone probably due to the sharp increase of the catch from 2004 to 2012, though the recent catch (2013-2018) shows a declining trend. There are two possible causes for the large discrepancy in stock status in 2018 between IOTC and SEAFDEC i.e (a) there are less fishing pressure (F) in the SE Asian waters and (b) different stock assessment approaches are used (SRA without CPUE and ASPIC with CPUE)”, whereas SRA = Stock Reduction Analysis, CPUE = Catch Per Unit of Effort and ASPIC = A Stock-Production Model Incorporating Covariates (Figure 5).

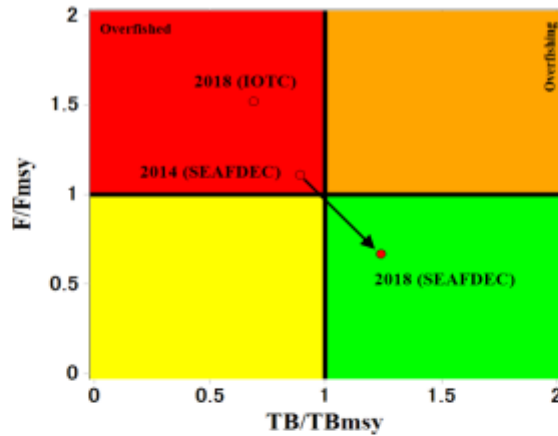


Fig. 12 Comparison of the stock statuses among 2018 (IOTC) and 2014/2018 (SEAFDEC)

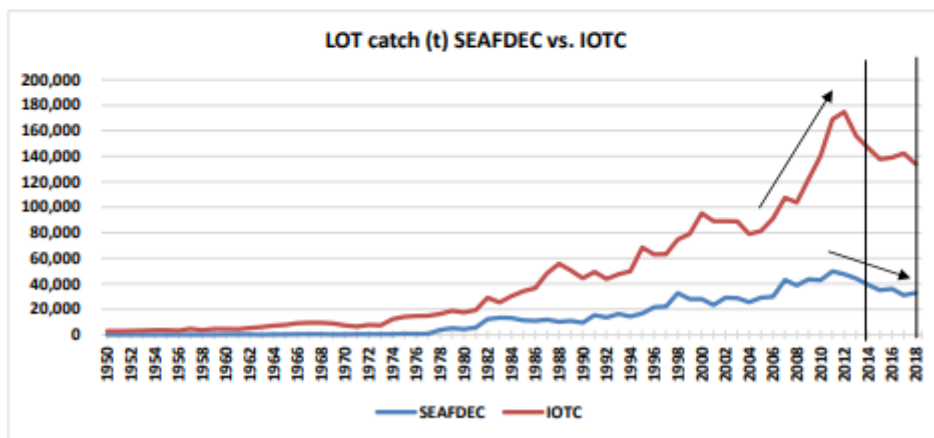


Fig. 13 Catch trends in the SE Asian (SEAFDEC) waters and the whole Indian Ocean (IOTC). (vertical lines indicate assessed years)

Figure 5. Source: SEAFDEC (2021).

None of the assessments (IOCT AND SEAFDEC) have established limit reference points. IOTC analytically defines BMSY and the most current estimate for $B_{current}/B_0$ is equal to 0.48 (IOTC 2017), therefore MarinTrust Standard V2 (2022) determines that a limit reference point of $\frac{1}{2}BMSY$ should be assumed. In both assessments the current biomass is above $\frac{1}{2}BMSY$, **thus the species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), C.1.2 is met.**

References

IOCT. 2022. Executive summary: longtail tuna. https://iotc.org/sites/default/files/content/Stock_status/2022/Longtail-tuna2022E.pdf

IOCT. 2017. Longtail tuna supporting information. [https://iotc.org/sites/default/files/documents/science/species_summaries/english/Longtail tuna Supporting information.pdf](https://iotc.org/sites/default/files/documents/science/species_summaries/english/Longtail_tuna_Supporting_information.pdf)

MarinTrust Standard V2. 2022. By-product Fishery Assessment Interpretation and Guidance Document. <https://www.marin-trust.com/sites/marintrust/files/2022-08/ID4%20-%20MarinTrust%20by-product%20fishery%20assessment%20guidance%20V2.2.pdf>

SEAFDEC. 2021. Stock and risk assessments of kawakawa (*Euthynnus affinis*) and longtail tuna (*Thunnus tonggol*) resources in the Southeast Asian waters using ASPIC1 (final). <https://asean.org/wp-content/uploads/2021/12/FAFD-47.-Study-Report-KAWLOT-SARA-editedSEAFDEC.pdf>

Links

MarinTrust Standard clause	1.3.2.2
----------------------------	---------

FAO CCRF	7.5.3
GSSI	D.3.04, D5.01