MarinTrust Standard V2

By-product Fishery Assessment

THA34, *Yellowfin tuna (Thunnus albacares)*

FAO 77, 87

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Yellowfin tuna (*Thunnus albacares*)
	Geographical area:	FAO 77, Pacific Eastern Central; and FAO 87, Pacific Southeast
	Country of origin of the product:	Thailand (Flag Country: India, China, Taiwan, South Korea, Vanuatu, USA, Kiribati, Solomon Islands, Tuvalu, Nauru, Micronesia)
	Stock:	Western Central Pacific Ocean (WCPO) and Eastern Pacific Ocean (EPO)
Date	23/08/2024	
Report Code	THA34	
Assessor	Virginia Polonio	
Country of origin of the product - PASS	Thailand (Flag Country: India, China, Taiwan, South Korea, Vanuatu, USA, Kiribati, Solomon Islands, Tuvalu, Nauru, Micronesia)	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Chotiwat Manufacturing Public Co. Ltd, TCF Co. Ltd, Piyo Bhokabhan Co. Ltd, TC Union Agrotech Co. Ltd, Thai Union Ingredients Co. Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LQRA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Virginia Polonio	Sam Peacock	0.5	Surveillance 2
Assessment Period	August 2024 - August 2025		

Scope Details	
Main Species	Yellowfin tuna (Thunnus albacares)
Stock	Western Central Pacific Ocean (WCPO) and Eastern Pacific Ocean (EPO)
Fishery Location	FAO 77, Pacific Eastern Central; and FAO 87, Pacific Southeast
Management Authority (Country/ State)	The Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC)
Gear Type(s)	Purse Seine and longline
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor
Recommendation	APPROVE

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin trust raw material. Yellowfin tuna (*Thunnus albacares*) do not appear as Endangered or Critically Endangered on IUCN's Red List, nor do they appear in CITES appendices; therefore, Yellowfin tuna (*Thunnus albacares*) is eligible for approval for use as Marin trust by-product raw material. The Eastern Pacific Ocean (EPO) Yellowfin tuna (*Thunnus albacares*) is managed at the international level by the IATTC through a multiyear conservation plan. IATTC conducts regular stock assessments. Therefore the stock is assessed under category C. The stock of yellowfin tuna in the EPO is eligible to being material for marin trust. Additionally, this stock is certified in several MSC fisheries and has passed evaluations in this year 2024. The stock is assessed under category C. Fishery removals are included in the stock assessment, and it PASSES Clause C1.1. In the latest stock assessment the stock is in the green zone of the Kobe plot and above the estimated biomass limit value it PASSES Clause C1.2. The WCPO stock is managed at the international level by the WCPFC through a multiyear conservation plan and is assessed under category C. WCPFC conducts regular stock assessments also consider the removals in the stock assessment, and it PASSES C1.1. The WCPO yellowfin stock is not in an overfished state as spawning biomass is above the SSBMSY level (SSBrecent/SSBMSY = 2.30, 80% C.I. range: 1.77-2.89). Therefore, Yellowfin tuna (*Thunnus albacares*) stock in the EPO and WCPO is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products.
Fishery Assessment Peer Review Comments
The peer reviewer agrees that these stocks are eligible for MarinTrust approval, and that both should be assessed under Category C. The assessor has demonstrated, with references, that the stocks are subject to a regular stock assessment which incorporates fishery removals, and biomass of both stocks is currently above the limit reference point level. For these reasons, the peer reviewer agrees that this byproduct should remain approved for use as a raw material.
Notes for On-site Auditor

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 an 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	*Thunnus albacares*	EPO stock & WCPO stock	Inter-American Tropical Tuna Commission (IATTC) and Western and Central Pacific Fisheries Commission (WCPFC)	C	Least concern [3]	No

[1] https://www.iucnredlist.org/ Thunnus albacares (Yellowfin Tuna) (iucnredlist.org)
[2] https://cites.org/eng/app/appendices.php
[3] Collette, B.B., Boustany, A., Fox, W., Graves, J., Juan Jorda, M. & Restrepo, V. 2021. *Thunnus albacares*. *The IUCN Red List of Threatened Species* 2021: e.T21857A46624561. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T21857A46624561.en.

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 (*Thunnus albacares*) – EPO stock**	
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.

The Inter-American Tropical Tunas Commission (IATTC) assesses the yellowfin tuna stock in the Eastern Pacific Ocean (EPO). The last comprehensive assessment was in 2020, using a risk assessment framework. In 2022, a new risk-based management approach was introduced, incorporating Stock Status Indicators (SSIs) developed from catch and other data across the EPO. Data on annual yellowfin catches in the Pacific Ocean from 1993 to 2022 are available. The 2022 EPO catch of 292 thousand tonnes is 20% higher than the average of 243 thousand tonnes for the previous five years (2017-2021). In the Western and Central Pacific Ocean (WCPO), yellowfin catches reached a record high of 771 thousand tonnes in 2021 (IATTC 2023).

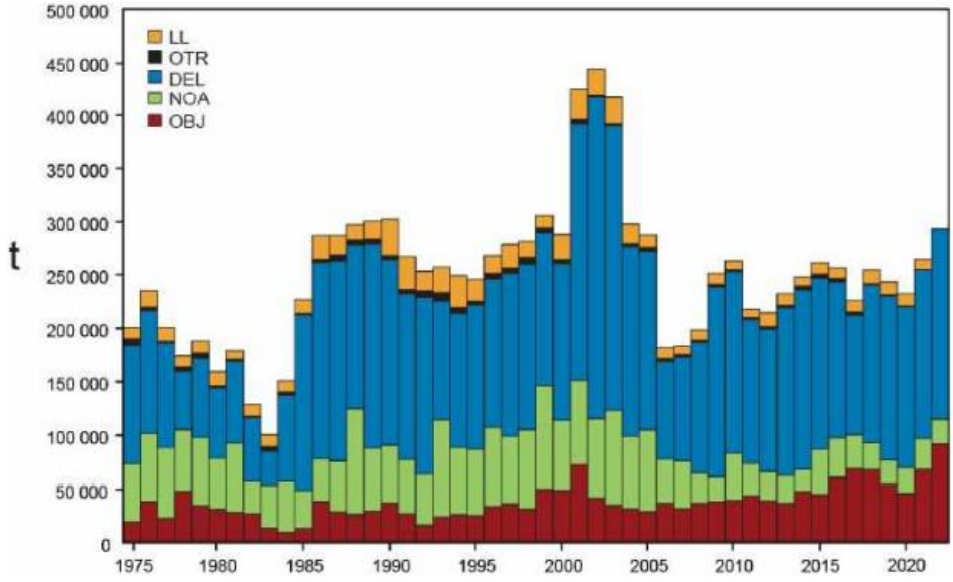

Figure 1. Total catches (retained catches plus discards) for the purse-seine fisheries, by set type (DEL, NOA, OBJ), and retained catches for the longline (LL) and other (OTR) fisheries, of yellowfin tuna in the eastern Pacific Ocean, 1975-2021. The purse-seine catches are adjusted to the species composition estimate obtained from sampling the catches. The 2020 and 2021 data are preliminary. Source: IATTC 2023

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.

There is a low probability of Fcur being above FMSY (9%). The probability of Fcur being above FLIMIT is zero. The probability of the spawning biomass being below SMSY_d is low (12%). The probability of the spawning biomass exceeding SLIMIT is zero. The combined expected risk of F exceeding FMSY is below 50% for six closure durations, varying from 26% (no closure) to 5% (100 days), with a low risk (9%) for the current closure (72 days). One model (Base-A) produced a pessimistic result, showing a risk above 50% of exceeding FMSY for all scenarios, but this model has a very low relative weight (0.01). A key uncertainty not addressed in the assessment is the spatial structure of the stock of yellowfin tuna in the EPO, and research is under way to incorporate stock structure aspects in the upcoming 2024 benchmark assessment.

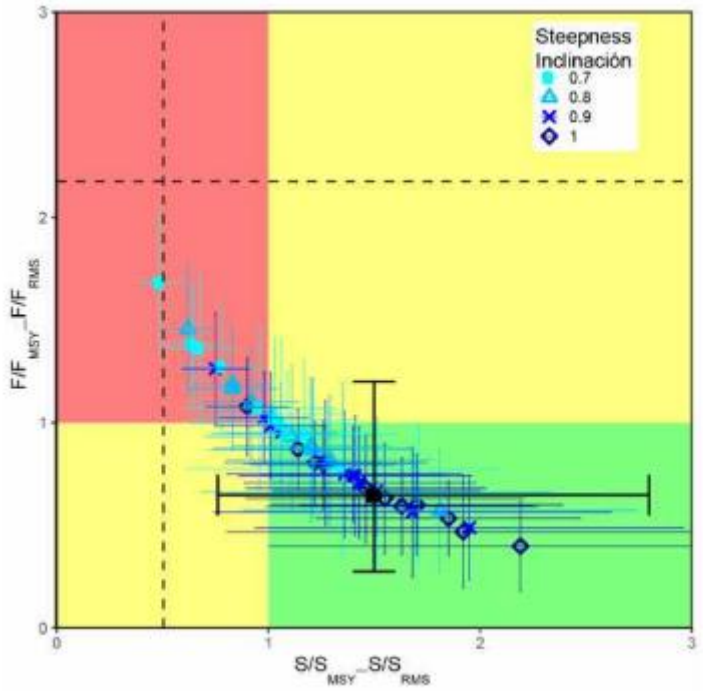

Figure 2. Kobe (phase) plot of the time series of estimates of spawning stock size (S) and fishing mortality (F) of yellowfin tuna relative to their MSY reference points. The colored panels are separated by the target reference points (SMSY and FMSY). Limit reference points (dashed lines). Source: IATTC 2023

Therefor, the clause C1.2 is met.

References

IATTC (2023). Inter-American Tropical Tuna Commission. 101st meeting Victoria, B.C., Canada. 7-11 August 2023. Document IATTC101-01. The tuna fishery in the Eastern Pacific Ocean in 2022. https://www.iattc.org/GetAttachment/691ea981-c917-457b-8085- 272740718465/IATTC-101-01_The-tuna-fishery-in-the-Eastern-Pacific-Ocean-in-2022.pdf

ISSF Technical Report – 2024-02 - Status of the Stocks - International Seafood Sustainability Foundation (iss-foundation.org)

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

Species Name	Yellowfin Tuna (*Thunnus albacares*) – WCPO stock	
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.

In the last stock assessment of 2024 the SC19 noted that the preliminary estimate of total catch of WCPO yellowfin tuna for 2022 was 721,169 mt which was lower than the 2021 level. Longline catch in 2022 (84,232 mt) was higher than the 2021 catch, but lower than the recent 10-year average. Purse-seine catch in 2022 (379,715 mt) was similar to the 2021 catch, and higher than the recent 10-year average. (Figure 1)

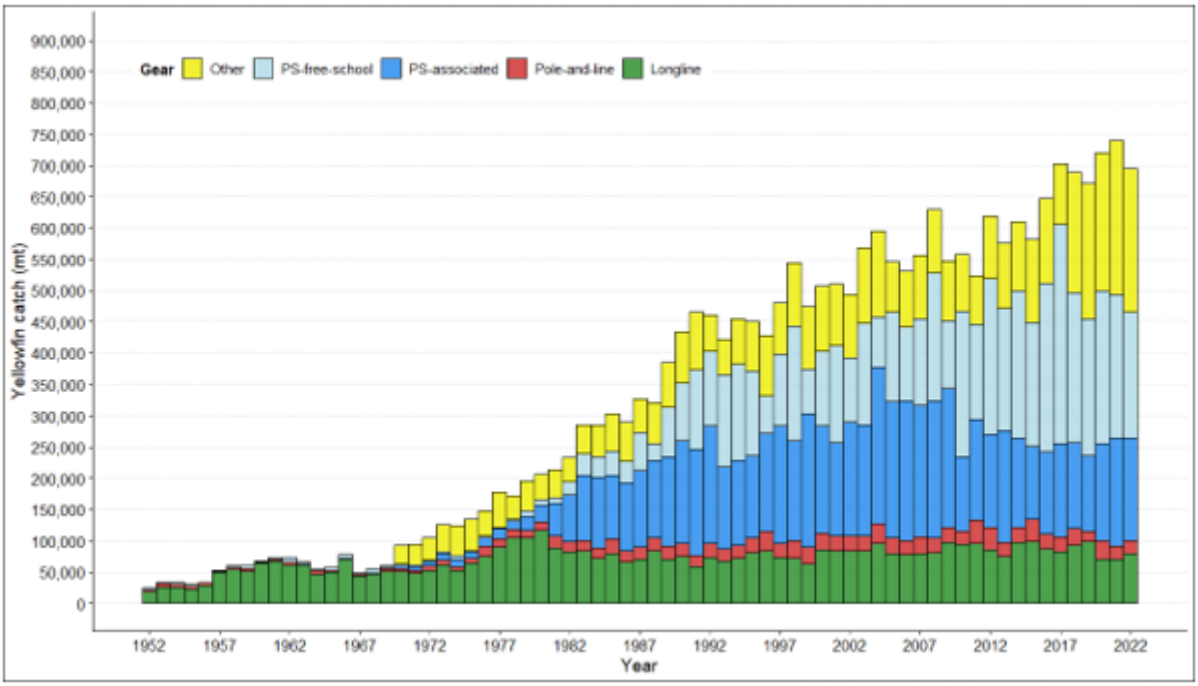

Figure 1. Annual catches of yellowfin by gear type in the WCPO area covered by the assessment (Figure 3 from WCPFC - SC19-SA-WP-04).

Therefore, removals are included in the stock assessment and the clause 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.

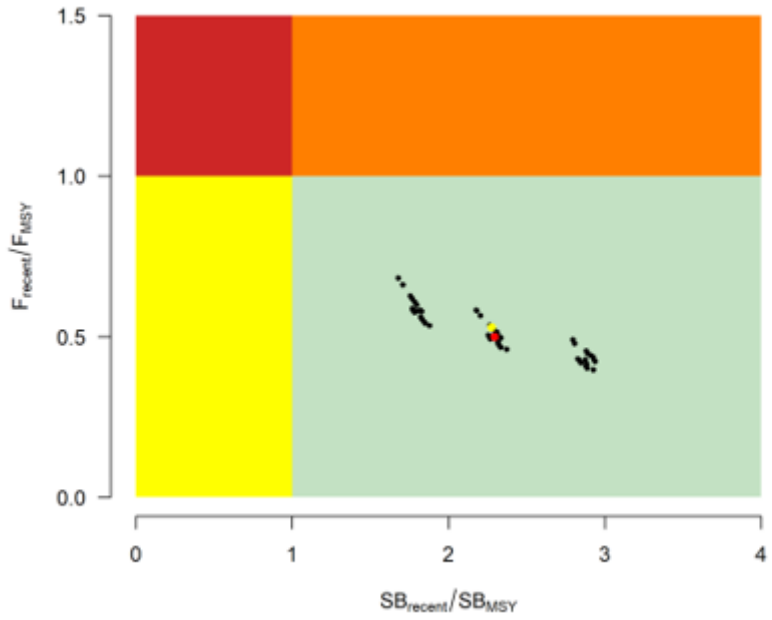

Figure 2. Kobe plot (bottom) summarizing the results for each of the models in the structural uncertainty grid for the recent period (2018-2021). The yellow point is the 2023 diagnostic model, and the red point is the median (WCPFC - Figure 64 from SC19-SA-WP-04).

The WCPO yellowfin tuna spawning biomass is above the LRP and recent F is below FMSY based on the uncertainty grid, The stock is not experiencing overfishing (100% probability Frecent<FMSY) and is not in an overfished condition (0% probability SBrecent/SBF=0<LRP).

The objective for yellowfin tuna in CMM 2021-01 (the Tropical Tuna Measure) to maintain the spawning biomass depletion ratio at or above the average SB/SBF=0 for 2012-2015 is being achieved. SBrecent/SBF=0 (47%) exceeds the average SB/SBF=0 for 2012-2015 (44% calculated across the unweighted grid).

Therefore, the clause C1.2 is met.

References

Scientific committee. WCPO yellowfin tuna (*Thunnus albacares*). SC 19 – 2023. Stock status and management advice. Current Stock Status and Advice | WCPFC

ISSF Technical Report – 2024-02 - Status of the Stocks - International Seafood Sustainability Foundation (iss-foundation.org)

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

CATEGORY D SPECIES

Category D species are those which are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

D1	**Species Name**		
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)		
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)		
	Selectivity of gear type		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
	Further justification for susceptibility scoring (where relevant) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		
References			
Standard clauses 1.3.2.2			

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Links	
MarinTrust Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01