

## **By-Product** assessment report

### BP071, March 2025 Chotiwat Manufacturing Public Co. Ltd



Report code	BP071	Date of issue	March 2025

1. Application details		
Applicant	Chotiwat Manufacturing	Public Co. Ltd
Applicant country	Thailand	
2. Certification Body details		
Name of Certification Body (CB)	LRQA	
Contact information for CB		
Assessor name	Sam Peacock	
CB internal peer reviewer name	José Peiró Crespo	
Internal peer review evaluation	Agree with evaluation	
Comments on the assessment	This assessment covers to species/source location of byproducts are fished by flag state, and therefore Step 3 assessment. The a detailed additional inform requirements for all ten b byproducts also passed to assessment, meaning that downgraded to Medium Approved, source with ca	en byproduct combinations. All ten at least one High Risk all were subjected to the upplicant provided nation, meeting the KDE pyproducts. All ten he Category C at all ten were Risk, and subsequently aution.
3. Approval validity	Valid from 03/2025	Valid until 03/2026

4. By-product assessment	outcomes	
By-product species name Common and Latin names	Flag country(ies)	MarinTrust approval status
<i>Thunnus alalunga</i> - Albacore tuna	China	Approved source with caution



<i>Thunnus alalunga</i> - Albacore tuna	Taiwan	Approved source with caution
<i>Thunnus alalunga</i> - Albacore tuna	Taiwan	Approved source with caution
<i>Thunnus alalunga</i> - Albacore tuna	China, Taiwan	Approved source with caution
Thunnus obesus - Bigeye tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	Approved source with caution
<i>Katsuwonus pelamis -</i> Skipjack tuna	Micronesia, Nauru, South Korea	Approved source with caution
<i>Katsuwonus pelamis</i> - Skipjack tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, South Korea, Taiwan, Tuvalu, Vanuatu	Approved source with caution
<i>Katsuwonus pelamis</i> - Skipjack tuna	Maldives	Approved source with caution
<i>Thunnus albacares</i> - Yellowfin tuna	Micronesia, Nauru	Approved source with caution
<i>Thunnus albacares</i> - Yellowfin tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	Approved source with caution

#### Guidance for on-site auditor

For the audit, the auditor will check how the facility manages by-products deemed medium risk. Any by-products downrated from high to medium risk will require additional due diligence checks.

It is important that facilities check all raw materials from and verify their suppliers especially if there is a perceived risk of sourcing from known or suspected IUU fishing activity. This requires checking supplier records or procedures in place to understand how the supplier can ensure there is no IUU in the raw material they provide. For raw materials risk rated medium, additional or more frequent checks may be required until the facility is certain that the raw materials are not from IUU fishing activity.



The audit requirements are covered in clause 2.11.3 of the MarinTrust Global Standard for Responsible Supply of Marine Ingredients (the MarinTrust Standard) and associated interpretation guidance.

#### Approved by-products

- No further checks are required beyond those included in the MarinTrust Standard.
- Additional checks of Approved Source with Caution by-products
  - Review supplier records or procedures in place.

#### Additional checks of by-products Approved Source with Caution via Step 3 assessment

In addition to checks for medium risk Approved Source with Caution by-products, by-products that have had risk downgraded from high to medium at Step 3 (use Appendix 1 to identify these by-product species), confirm that the relevant traceability information continues to be collected for this by-product. During the audit, a traceability check on any by-products downgraded from high to medium risk shall be included as part of the required traceability checks (Section 4).

#### Guidance for the applicant/certificate holder

The applicant/certificate holder is responsible for ensuring the relevant actions are taken to comply with the MarinTrust Standard.

The certificate holder is responsible for communicating any changes to the by-products sourced by submitting a scope extension request through the MarinTrust online Application Portal.



### Appendix 1 – assessment outcomes

<b>By-product species</b> name Common and Latin names	Flag country(ies)	IUCN Red List Select IUCN red list category from dropdown	<b>CITES Appendices</b> Select CITES appendix status from dropdown	Step 2 risk status Low risk/ Medium risk/ High risk	Step 3 required Yes / No	Step 3 risk Outcome Not applicable /Risk downgraded to Medium risk/ Remains High risk
<i>Thunnus alalunga -</i> Albacore tuna	China	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Thunnus alalunga -</i> Albacore tuna	Taiwan	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Thunnus alalunga -</i> Albacore tuna	Taiwan	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Thunnus alalunga -</i> Albacore tuna	China, Taiwan	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk



<i>Thunnus obesus -</i> Bigeye tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	Vulnerable	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Katsuwonus pelamis</i> - Skipjack tuna	Micronesia, Nauru, South Korea	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Katsuwonus pelamis</i> - Skipjack tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, South Korea, Taiwan, Tuvalu, Vanuatu	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Katsuwonus pelamis</i> - Skipjack tuna	Maldives	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk
<i>Thunnus albacares</i> - Yellowfin tuna	Micronesia, Nauru	Least concern	Not listed	High risk	Yes	Risk downgraded to Medium risk



Thunnus albacares -	Japan, Kiribati,	Least concern	Not listed	High risk	Yes	Risk downgraded to
Yellowfin tuna	Micronesia, Nauru,					Medium risk
	Papa New Guinea,					
	Philippines, South					
	Korea, Taiwan,					
	Tuvalu, Vanuatu					



## Appendix 2 – detailed assessment outcomes

## (step 2 and step 3 if applicable)

### Step 2 outcomes

Assessor note: Copy and paste from Spreadsheet.

Flag state	Risk rating	Flag score	Port score	General score	Flag State is contracting party or cooperating non- contracting party to all relevant RFMOs	'Carded' under EU Carding system	Flag state party to PSMA	Flag state mandatory vessel tracking for commercial seagoing fleet	WGI Governance rank
China	High	4.21	4.33	3.2	1	1	5	1	36.79%
Taiwan	High	4.17	3.06	2.27	1	1	5	1	90.57%
Japan	Medium	2.92	2.06	1.93	1	1	1	1	91.51%
Kiribati	High	1.79	3.11	1.96	1	1	5	1	42.92%
Micronesia (FS of)	High	1.92	2.94	1.93	1	1	5	1	31.13%
Nauru	Medium	2.04	1	1.64	1	1		1	53.30%
Papua New Guinea	High	2.04	2.94	2.07	1	1	5	1	26.42%

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 - Version 3.0

| Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted

© Marine Ingredients Certifications Ltd., for authorised use only



Philippines	Medium	2.04	2.06	2.53	1	1	1	1	53.77%
Korea (Rep. South)	Medium	3.67	3.11	1.97	1	1	1	1	83.96%
Tuvalu	High	1.67	2.67	1.81	1	1	5	1	47.64%
Vanuatu	High	2.88	1.56	2.17	2	1	1	1	48.58%
Maldives	High	2.25	1.67	2.13	1	1	1	1	26.89%



### Step 3 outcomes

Additional information was requested from the applicant. This information revealed the following catch/landing combinations:

By-product species name	Flag country(ies)	Location of catch	Location of landing
Common and Latin names			
<i>Thunnus alalunga -</i> Albacore tuna	China	FAO 77, 81, 87	China
<i>Thunnus alalunga -</i> Albacore tuna	Taiwan	FAO 41,47	Uruguay
<i>Thunnus alalunga -</i> Albacore tuna	Taiwan	FAO 21, 27, 31, 34	Trinidad and Tobago
<i>Thunnus alalunga -</i> Albacore tuna	China, Taiwan	FAO 61,71	Solomon Islands
<i>Thunnus obesus -</i> Bigeye tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	FAO 71, 77	Micronesia, Marshall Islands
<i>Katsuwonus pelamis -</i> Skipjack tuna	Micronesia, Nauru, South Korea	FAO 77	Kiribati
<i>Katsuwonus pelamis -</i> Skipjack tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, South Korea, Taiwan, Tuvalu, Vanuatu	FAO 61, 71	Micronesia, Marshall Islands
<i>Katsuwonus pelamis -</i> Skipjack tuna	Maldives	FAO 51,57	Maldives
<i>Thunnus albacares -</i> Yellowfin tuna	Micronesia, Nauru	FAO 77, 87	Micronesia
<i>Thunnus albacares -</i> Yellowfin tuna	Japan, Kiribati, Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	FAO 61, 71	Micronesia, Marshall Islands



#### **Category C assessment**

Species name			Albacore tuna						
Fishir stock	ng area	and	FAO Areas 77, 81, 87, Southern Pacific Albacore						
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements						
CI	C1.1	Fishery removals of the species in the fishery under assessment are included P							
		in the stock assessment process, OR							
		are consi	dered by scientific authorities to be negligible.						
	C1.2	The spec	ies is considered, in its most recent stock assessment, to have a	PASS					
		biomass above the limit reference point (or proxy), OR							
		removals by the fishery under assessment are considered by scientific							
		authoriti	es to be negligible.						
			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 most recent stock assessment for albacore tuna in the south Pacific was conducted in 2024, using data up to 2022. The assessment used catch data including international catches by fishing gear. The published stock assessment summary (WCPFC 2025) does not appear to include any concerns relating to the availability of catch data. Fishery removals are incorporated into the stock assessment, and C1.1 is met.





Historical catches of South Pacific albacore in each model region (WCPFC-CA = region 1, EPO = region 2) from 1952-2022 by gear type (WCPFC 2025)

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.

The stock is assessed relative to a range of potential reference points (WCPFC 2025), with the key reference point used to determine whether the stock was overfished being 20%SB<sub>F=0</sub>. The 2024 stock assessment concluded that "the median recent spawning biomass from the model ensemble with estimation uncertainty is well above the spawning biomass to achieve MSY" (WCPFC 2025), and that in "all models...SB<sub>recent</sub>/SB<sub>F=0</sub> was above the limit reference point of 0.2" (WCPFC 2025). The most





Kobe plots for Southern Pacific albacore tuna the results for the dynamic MSY analysis (left) and each of the models in the model ensemble for the recent period (2019–2022; right). Colours for dynamic MSY go from red to green over time. The red point in the model ensemble (right) represents the median (WCPFC 2022).

#### References

WCPFC (2025). Stock status and advice key documents, South Pacific albacore tuna. https://www.wcpfc.int/doc/04/south-pacific-albacore-tuna

Speci	es nam	ne	Albacore tuna						
Fishir	ng area	and	FAO Areas 41, 47, South Atlantic Albacore						
stock									
<b>C1</b>	Category C Stock Status - Minimum Requirements								
CI	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.							
	C1.2	The spec	The species is considered, in its most recent stock assessment, to have a PA						
		biomass above the limit reference point (or proxy), OR							
		removals by the fishery under assessment are considered by scientific							
		authoriti	es to be negligible.						
			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.

Stock assessments are carried out on behalf of the International Commission for the Conservation of Atlantic Tunas (ICCAT). The most recent stock assessment was conducted in 2020 (ICCAT 2025). The stock assessment utilised catch and effort data up to 2018, and no concerns were raised relating to the completeness of the data. Fishery removals are included in the stock assessment process, and C1.1 is met.

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager Controlled Copy- No unauthorised copying or alteration permitted

© Marine Ingredients Certifications Ltd., for authorised use only



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.

The most recent stock assessment, conducted in 2020, concluded that there was "a 99.4% probability that the South Atlantic albacore stock is neither overfished nor subject to overfishing" (ICCAT 2025). The median estimated MSY value was 27,264t, and the median estimate of  $B_{2018}/B_{MSY}$  was 1.58. Taken together these outcomes provide strong evidence that the stock is above the target reference point, and therefore above any possible limit reference point. The projected biomass for the stock was also expected to remain above 27,000t up to the projection horizon of 2033, with a probability of 90%. Overall, this is clear evidence that the stock is above any potential limit reference point and C1.2 is met.



South Atlantic albacore tuna, Kobe plot. Stock status trajectories of B/BMSY and F/FMSY over time (1956-2018), as well as uncertainty (grey dots) around the current (2018) estimate (blue point) based on Bayesian surplus production model with probability of being overfished and overfishing (red, 0%), of being neither overfished nor overfishing (green, 99.4%), and of being overfished (yellow, 0.6%) (ICCAT 2025).

#### References

ICCAT (2025). Atlantic albacore tuna, stock assessment summary. https://www.iccat.int/Documents/SCRS/ExecSum/ALB\_ENG.pdf



Species name			Albacore tuna				
Fishing area and			FAO Areas 21, 27, 31, 34, North Atlantic albacore				
stock	•						
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements				
C1.1 Fishery re			emovals of the species in the fishery under assessment are included	PASS			
in the stock assessment process, OR							
		are consi	dered by scientific authorities to be negligible.				
	C1.2	The spec	ies is considered, in its most recent stock assessment, to have a	PASS			
biomass above the limit reference point (or proxy), OR							
removals by the fishery under assessment are considered by scientific							
	authorities to be negligible.						
			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.

Stock assessments are carried out on behalf of the International Commission for the Conservation of Atlantic Tunas (ICCAT). The most recent stock assessment was conducted in 2023 using data up to 2021 (ICCAT 2025). The stock assessment utilised catch and effort data, and no concerns were raised relating to the completeness of the data. Fishery removals are included in the stock assessment process, and 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.

The most recent stock assessment, conducted in 2023, concluded that "the probability of the stock currently being in the green area of the Kobe plot (not overfished and not undergoing overfishing,  $F < F_{MSY}$  and  $B > B_{MSY}$ ) is 99.6%" (ICCAT 2025). The probability of being in the red area was estimated to be 0%. Taken together these outcomes provide strong evidence that the stock is above the target reference point, and therefore above any possible limit reference point. Overall, this is clear evidence that the stock is above any potential limit reference point and C1.2 is met.





Species name			Albacore tuna				
Fishing area and stock			FAO Areas 61, 71, Northern Pacific Albacore				
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements				
CI	C1.1	Fishery r	emovals of the species in the fishery under assessment are included	PASS			
		in the sto	ock assessment process, OR				
		are consi	dered by scientific authorities to be negligible.				
	C1.2	The spec	ies is considered, in its most recent stock assessment, to have a	PASS			
	biomass above the limit reference point (or proxy), OR						
removals by the fishery under assessment are considered by scientific							
	authorities to be negligible.						
			Clause outcome:	PASS			

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted © Marine Ingredients Certifications Ltd., for authorised use only



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 most recent available stock assessment for the northern Pacific albacore stock was conducted in 2023 and utilised all available data up to 2021. Catch and size composition data were used to inform a length-based, age- and sex-structured Stock Synthesis model. No concerns were raised in the reporting documentation as to the completeness of the catch data (WCPFC 2024). Fishery removals are considered and C1.1 is met.



Historical catch-at-age of North Pacific Albacore estimated by the base case stock assessment model (WCPFC 2024)

# 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.

A limit reference point is established for the northern Pacific albacore stock, and is based on dynamic biomass estimates and therefore fluctuates according to changes in recruitment. The limit reference point 14%SSB<sub>current, F=0</sub> is calculated as 14% of the unfished dynamic female spawning biomass in the terminal year of the assessment (WCPFC 2024). SSB in the most recent stock assessment, conducted in 2023 and providing an indication of stock status in 2021, was estimated to be 54% of SSB<sub>current, F=0</sub>, considerably above the limit reference point. The conclusion reached at the time of the stock assessment was that the stock is likely not overfished relative to the limit reference point, and therefore C1.2 is met.





#### References

WCPFC (2024). North Pacific albacore tuna, stock assessment summary. https://www.wcpfc.int/doc/05/north-pacific-albacore-tuna

Species name			Bigeye tuna				
Fishing area and stockFAO Areas 71, 77, Eastern Pacific Ocean bigeye							
<b>C1</b>	Catego	ory C Stoc	k Status - Minimum Requirements				
CI	C1.1	Fishery	removals of the species in the fishery under assessment are	PASS			
		included	in the stock assessment process, OR				
		are cons	sidered by scientific authorities to be negligible.				
	C1.2	The spe	cies is considered, in its most recent stock assessment, to have a	PASS			
		biomass	above the limit reference point (or proxy), OR				
removals by the fishery under assessment are considered by scientific							
	authorities to be negligible.						
			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.

Bigeye tuna in the EPO is subject to regular stock assessment by the Inter-American Tropical Tuna Commission (IATTC). The most recent full stock assessment was conducted in 2024. The assessment utilised all international catch data. 44 models were applied to take into account the main sources of uncertainty, and the results are presented alongside the likely confidence intervals. In 2023, risk-based Stock Status Indicators (SSIs) were introduced. SSIs are considered to be important alternatives to formal stock assessments, particularly where those stock assessments may be too

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager Controlled Copy- No unauthorised copying or alteration permitted

© Marine Ingredients Certifications Ltd., for authorised use only



unreliable to form the basis for management advice (IATTC 2022). In the case of bigeye, they are incorporated into the annual stock status review (IATTC 2024). All available catch data are incorporated into the assessment, and C1.1 is met.



Total EPO bigeye catch by purse seine gears (PS), and retained catches by longline gears (LL), 1975 – 2022. (IATTC 2024)

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.

The 2020 stock assessment produced statistical probabilities for the status of the stock relative to target and limit reference points. The key conclusion for the purposes of this byproduct assessment is that there is a "0.2% probability that the spawning biomass at the beginning of 2024 is below the limit reference point (*SLimit*)" (IATTC 2024). Therefore, there was a very low probability of the biomass being below the limit reference point, and C1.2 is met.





Meeting of the IATTC Scientific Advisory Committee, Document SAC-13-06 Corr.



https://www.iattc.org/GetAttachment/22511b5b-ba2b-4126-9ba2-0bffee89f4d5/SAC-13-06%20-%20Stock%20status%20indicators%20(SSIs)%20for%20tropical%20tunas%20in%20the%20EPO

IATTC (2024). The tuna fishery in the Eastern Pacific Ocean in 2023. https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024 \_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2023.pdf

Species name			Skipjack tuna		
Fishing area and stock			FAO Area 77, Eastern Pacific skipjack		
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements		
CI	C1.1	Fishery re	novals of the species in the fishery under assessment are		
		included	in the stock assessment process, OR		
		are consi	dered by scientific authorities to be negligible.		
	C1.2	The speci	es is considered, in its most recent stock assessment, to have a	PASS	
biomass above the limit reference point (or proxy), OR					
removals by the fishery under assessment are considered by scientific					
authorities to be negligible.					
			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.

EPO skipjack has historically been subject to "interim" integrated statistical age-structured catch-atlength stock assessments carried out by the IATTC. In 2023, a benchmark stock assessment was conducted using an integrated statistical age-structured catch-at-length model in Stock Synthesis, which is considered by the IATTC to represent "a significant improvement from the initial interim assessment conducted in 2022" (IATTC 2024). The assessment incorporates all available data from across the EPO, including catch data but also size and age frequency data and other sources. C1.1 is met.





Skipjack catches (retained plus discards) in the EPO, 1975-2023 (IATTC 2024).

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.

MSY-based estimates and reference points cannot be estimated for EPO Skipjack due to the nature of the model used. Instead, the IATTC management process utilises a conservative proxy for target biomass of SBR = 0.3, with the fishing mortality corresponding to that target biomass used as the target reference point for fishing mortality (IATTC 2024). The reference model and most of the sensitivity analyses conducted in 2023 indicated that biomass is above the target reference point and fishing mortality is below the target level. None of the model scenarios concluded that stock biomass is below the limit reference point level. C1.2 is met.





Species name			Skipjack tuna			
Fishing area and			FAO 61, 71, Western and Central Pacific skipjack tuna			
stock						
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements			
CI	C1.1 Fishery r		emovals of the species in the fishery under assessment are included	PASS		
in the stock assessment process, OR			ock assessment process, OR			
		are considered by scientific authorities to be negligible.				

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted

© Marine Ingredients Certifications Ltd., for authorised use only



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.	PASS
	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.

WCPO skipjack tuna is subjected to regular stock assessments by the WCPFC. The most recent of these was carried out in 2022, using data up to 2021. The assessment incorporated catch, effortand length-frequency estimates, and tag-recapture data (WCPFC 2022). The stock assessment report includes a discussion of structural uncertainties and needs for further data gathering; however, it does not raise major concerns. C1.1 is met.



Annual catches of skipjack by gear type in the WCPO area covered by the stock assessment (WCPO 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.

The 2022 stock assessment for WCPO skipjack concluded that "according to WCPFC reference points the stock is not overfished, not undergoing overfishing" (WCPFC 2023). None of the model outcomes produced by the stock assessment indicated that the stock biomass was below the limit reference point of  $0.2^{*}SB_{F=0}$ . The median model outcome indicated that stock biomass is very close to the interim target reference point of  $SB_{recent}/SB_{F=0} = 0.5$ . C1.2 is met.





Species name			Skipjack tuna	
Fishing area and			FAO Areas 51, 57, Indian Ocean skipjack	
stock	(			
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements	
CI	C1.1	Fishery r	emovals of the species in the fishery under assessment are included	PASS
		in the sto	ock assessment process, OR	
		are consi	dered by scientific authorities to be negligible.	
	C1.2	The spec	ies is considered, in its most recent stock assessment, to have a	PASS
biomass			above the limit reference point (or proxy), OR	
		removals	by the fishery under assessment are considered by scientific	
		authoriti	es to be negligible.	
			Clause outcome:	PASS

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted

 $\ensuremath{\mathbb{C}}$  Marine Ingredients Certifications Ltd., for authorised use only



**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 stock assessment conducted by the Indian Ocean Tuna Commission (IOTC) takes all fishery removals into account. The most recent assessment was conducted in 2023. Landings in recent years were reported as a total catch in 2022 of 666,408t, and an average catch 2018-2022 of 613,061t (IOTC 2024). 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 2024).



Annual time series of (a) cumulative nominal catches (metric tonnes; t) by fishery and (b) individual nominal catches (metric tonnes; t) by fishery group for Indian Ocean skipjack tuna during 1950-2022 (IOTC 2024)

## 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.

The most recent stock assessment was carried out in 2023, as reported in a 2024 stock status report published by the IOTC (IOTC 2024). The stock assessment conclusion states that "The outcome of the 2023 stock assessment model is more optimistic than the previous assessment (2020) despite the high catches recorded in the period 2021-2022, which exceeded the catch limits established in 2020 for this period" (IOTC 2024).

Biomass was estimated to be around 53% of the unfished level, which is above  $SB_{MSY}$ . The IOTC also notes that "Over the history of the fishery, biomass has been well above the adopted limit reference point (20%SB<sub>0</sub>)" (IOTC 2024).





Species name	Yellowfin tuna
Marine Ingredients Certif	ications Ltd (09357209)  TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0
Ū.	Approved by MarinTrust Fisheries Manager
Con	trolled Copy- No unauthorised copying or alteration permitted

Species name

© Marine Ingredients Certifications Ltd., for authorised use only



Fishing area and			FAO Areas 77, 87, Eastern Pacific yellowfin			
stock						
C1 Category C Stock Status - Minimum Requirements						
CI	C1.1	Fishery re	emovals of the species in the fishery under assessment are included	PASS		
		in the sto	ock assessment process, OR			
		are consi	dered by scientific authorities to be negligible.			
	C1.2	The speci	ies is considered, in its most recent stock assessment, to have a	PASS		
		biomass a	above the limit reference point (or proxy), OR			
removals by the fishery under assessment are considered by scientific						
authorities to be negligible.						
			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 Eastern Pacific Ocean (EPO) yellowfin tuna stock is managed and assessed by the Inter-American Tropical Tunas Commission (IATTC). A new risk-based approach was introduced to the management of the stock in 2022, with Stock Status Indicators (SSIs) developed using catch and other data collected from the EPO as a whole. This approach continued in 2023 (IATTC 2024). SSIs are considered to be important alternatives to formal stock assessments, particularly where those stock assessments may be too unreliable to form the basis for management advice (IATTC 2022). Fishery removals are a key component of the modelling used to generate SSI's, and their development and use is evidence that managers have sought out alternative mechanisms where stock assessment uncertainty is high. The most recent full stock assessment was conducted in 2020. 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 the full stock assessments for this stock, multiple reference models are utilised to create a riskbased understanding of stock status. The most recent results, from 2020, indicated that "the probability of the spawning biomass being below  $S_{MSY_d}$  [i.e. the target reference point] is low (12%)" (IATTC 2024), and that the probability of the biomass being below the limit reference point  $S_{LIMIT}$  is zero. There was therefore a low probability that biomass is currently below the target reference point and almost no possibility it was below the limit reference point. C1.2 is met.



Kobe plot for yellowfin tuna in the EPO of estimates of spawning stock size (S) and fishing mortality (F). Coloured panels are separated by the target reference points S<sub>MSY</sub> and F<sub>MSY</sub>. Limit reference points are approximately indicated by the dashed lines, although these vary between models. The solid black circle represents all models combined (IATTC 2024).

#### References

IATTC (2022). Stock Status Indicators (SSIs) for tropical tunas in the Eastern Pacific Ocean. 13<sup>th</sup> Meeting of the IATTC Scientific Advisory Committee, Document SAC-13-06 Corr.

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted © Marine Ingredients Certifications Ltd., for authorised use only



https://www.iattc.org/GetAttachment/22511b5b-ba2b-4126-9ba2-0bffee89f4d5/SAC-13-06%20-%20Stock%20status%20indicators%20(SSIs)%20for%20tropical%20tunas%20in%20the%20EPO

IATTC (2024). The tuna fishery in the Eastern Pacific Ocean in 2023. https://www.iattc.org/GetAttachment/1ed36788-07ce-4bf4-80e4-10c6c3b2b14d/No-22-2024 Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2023.pdf

Species name			Yellowfin tuna				
Fishing area and stock			FAO 61, 71, Western and Central Pacific yellowfin				
<b>C1</b>	Categ	ory C Stoc	k Status - Minimum Requirements				
CI	C1.1	Fishery r	emovals of the species in the fishery under assessment are included	PASS			
		in the sto	ock assessment process, OR				
		are consi	dered by scientific authorities to be negligible.				
	C1.2	The spec	ies is considered, in its most recent stock assessment, to have a	PASS			
		biomass	above the limit reference point (or proxy), OR				
		removals	s by the fishery under assessment are considered by scientific				
	authorities to be negligible.						
	Clause outcome: PASS						
C1.1	Fishery	removals	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.

Western and Central Pacific Ocean (WCPO) yellowfin tuna is subject to regular stock assessments by the Western and Central Pacific Fisheries Commission (WCPFC). The most recent stock assessment was conducted in 2023 and utilised all available catch data, as summarised in the graph below. 54 models were used to provide a range of potential outcomes based on different key variables, a process which reduces the inherent level of uncertainty. 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.

The 2023 stock assessment produced a series of estimates of the current status of the stock relative to the target reference point BMSY. Biomass in 2021 was estimated to be between 1.91 and 3.11 times larger than BMSY with an 80% certainty; none of the model results indicated that biomass was below BMSY. Biomass is estimated by the most recent stock assessment to be above the target reference point with a high degree of certainty, and therefore also above any potential limit reference point (WCPFC 2024). C1.2 is met.







#### **Traceability information**

Information provided for Step 3 Path 1 or Path 2

Species name	/	Albacor	e, FAO 77, 81	I, 87	
Path 1	Ň	Yes ⊠	No 🗆		
Confirm all KDEs are p	orovided	Yes 🛛	No 🗆		
Path 2	Yes □ No ☑ If yes for Path	⊠ n 2, com	plete the nex	t section	
Path 2 outcome	Flag country	Coas	tal score	Port score	Risk outcome
Countries may be					Choose an item.
different for Coastal					Choose an item.
State and Port State.					

Species name		Albacore, FAO 41, 4	7	
Path 1		Yes 🗆 No 🛛		
Confirm all KDEs are p	orovided	Yes 🗆 No 🗆		
Path 2	Yes ⊠ No If ves for Pat	□ h 2. complete the ne	xt section	
Path 2 outcome	Flag country	y Coastal score	Port score	Risk outcome
Countries may be different for Coastal State and Port State.	Taiwan	Multiple coastal states, highest risk level Medium	Medium (Uruguay)	Downgraded to medium risk
				Choose an item.

Species name		Albaco	e, FAO 21, 27	7, 31, 34		
Path 1		Yes □ No ⊠				
Confirm all KDEs are p	provided	Yes 🗆	Yes 🗆 No 🗆			
Path 2	Yes $\boxtimes$ No $\square$ If ves for Path 2, complete the next section					
Path 2 outcome	Flag count	ry Coas	stal score	Port score	Risk outcome	
Countries may be different for Coastal State and Port State.	Taiwan	Muli state risk	tiple coastal es, highest evel Medium	Low (Trinidad and Tobago)	Downgraded to medium risk	
					Choose an item.	

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted

 $\ensuremath{\mathbb{C}}$  Marine Ingredients Certifications Ltd., for authorised use only



Species name		Albacore, FAO 61, 7	1			
Path 1		Yes □ No ⊠				
Confirm all KDEs are p	provided	Yes 🗆 No 🗆	Yes 🗆 No 🗆			
Path 2	Yes ⊠ No If yes for Pa	$\Box$ th 2, complete the net	xt section			
Path 2 outcome	Flag countr	ry Coastal score	Port score	Risk outcome		
Countries may be different for Coastal State and Port State.	China, Taiwai	<ul> <li>Multiple coastal states, highest risk level Medium</li> </ul>	Medium (Solomon Islands)	Downgraded to medium risk		
				Choose an item.		

Species name		Big	geye, FAO 71, 77		
Path 1		Ye	s 🗆 No 🖂		
Confirm all KDEs are p	provided	Ye	s 🗆 No 🗆		
Path 2	Yes ⊠ No If yes for Pa	Yes $\boxtimes$ No $\square$ If yes for Path 2, complete the next section			
Path 2 outcome	Flag counti	ſУ	Coastal score	Port score	Risk outcome
Countries may be different for Coastal State and Port State.	Japan, Kiriba Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	ti,	Multiple coastal states, highest risk level Medium	Medium (Micronesia, Marshall Islands)	Downgraded to medium risk
					Choose an item.

Species name		Skipjack, FAO 77		
Path 1	Y	∕es □ No ⊠		
Confirm all KDEs are provided		∕es 🗆 No 🗆		
Path 2	Yes $\boxtimes$ No $\square$ If yes for Path 2, complete the next section			
Path 2 outcome	Flag country	Coastal score	Port score	Risk outcome

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted



Countries may be different for Coastal	Micronesia, Nauru, South	Multiple coastal states, highest	Medium (Kiribati)	Downgraded to medium risk
State and Port State.	когеа	risk level Medium		
				Choose an item.

Species name		Skij	pjack, FAO 61, 71		
Path 1		Yes	s 🗆 No 🖂		
Confirm all KDEs are p	provided	Yes	s 🗆 No 🗆		
Path 2	Yes ⊠ No If yes for Pa	□ th 2,	, complete the nex	t section	
Path 2 outcome	Flag counti	'y	Coastal score	Port score	Risk outcome
Countries may be different for Coastal State and Port State.	Japan, Kiriba Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	ti,	Multiple coastal states, highest risk level Medium	Medium (Micronesia, Marshall Islands)	Downgraded to medium risk
					Choose an item.

Species name		Skipjack	k, FAO 51, s	57	
Path 1		Yes 🛛	No 🗆		
Confirm all KDEs are p	provided	Yes 🛛 No 🗆			
Path 2	Yes $\Box$ No $\boxtimes$ If ves for Path 2, complete the next section				
Path 2 outcome	Flag countr	y Coast	tal score	Port score	Risk outcome
Countries may be					Choose an item.
different for Coastal					Choose an item.
State and Port State.					

Species name		Yellowfin, FAO 77, 87
Path 1		Yes □ No ⊠
Confirm all KDEs are provided		Yes 🗆 No 🗆
Path 2	Yes ⊠ No If yes for Pa	□ th 2, complete the next section

Marine Ingredients Certifications Ltd (09357209) |TEM-003 (previously FISH1) - Issued July 2024 – Version 3.0 | Approved by MarinTrust Fisheries Manager

Controlled Copy- No unauthorised copying or alteration permitted

© Marine Ingredients Certifications Ltd., for authorised use only



Path 2 outcome	Flag country	Coastal score	Port score	Risk outcome
Countries may be different for Coastal State and Port State.	Micronesia, Nauru	Multiple coastal states, highest risk level Medium	Medium (Micronesia)	Downgraded to medium risk
				Choose an item.

Species name		Yellowfin, FAO 61, 7	1		
Path 1		Yes □ No ⊠			
Confirm all KDEs are p	orovided	Yes 🗆 No 🗆			
Path 2	Yes ⊠ No If yes for Pat	□ th 2, complete the ne>	t section		
Path 2 outcome	Flag countr	ry Coastal score	Port score	Risk outcome	
Countries may be different for Coastal State and Port State.	Japan, Kiribat Micronesia, Nauru, Papa New Guinea, Philippines, South Korea, Taiwan, Tuvalu, Vanuatu	ti, Multiple coastal states, highest risk level Medium	Medium (Micronesia, Marshall Islands)	Downgraded to medium risk	
				Choose an item.	