



By-Product assessment report

*BP099*

*South East Asian Packaging and Canning Ltd*

<b>Report code</b>	BP099	<b>Date of issue</b>	December 2025
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1. Application details	
<b>Applicant</b>	South East Asian Packaging and Canning Ltd
<b>Applicant country</b>	Thailand
2. Certification Body details	
<b>Name of Certification Body (CB)</b>	NSF / Global Trust Certification Ltd
<b>Contact information for CB</b>	Fisheries@nsf.org
<b>Assessor name</b>	Lea Lebechnech
<b>CB internal peer reviewer name</b>	Matthew Jew
<b>Internal peer review evaluation</b>	Agree with evaluation
<b>Number of Assessment days</b>	0.25
<b>Comments on the assessment</b>	N/A
<b>3. Approval validity</b>	Valid from 09/2025      Valid until 09/2026
<b>4. Assessment cycle</b>	Initial

5. By-product assessment outcomes			Valid From: 09/2025
By-product species name	Flag country(ies)	Fishing Area(s)	MarinTrust approval status
Skipjack tuna (Katsuwonus pelamis)	Thailand	FAO 51, 57, 61, 71	Approved source with caution
Yellowfin tuna (Thunnus albacares)	Thailand	FAO 51, 57, 61, 71	Approved source with caution
Kawakawa (Euthynnus affinis)	Thailand	FAO 51,57	Approved source with caution
Albacore tuna (Thunnus alalunga)	Thailand	FAO 41, 47, 51, 57, 61, 67	Approved source with caution
Bigeye tuna (Thunnus obesus)	Thailand	FAO 51, 57, 71,77	Approved source with caution
Pacific chub mackerel (Scomber japonicus)	Thailand	FAO 61, 71	Approved source with caution
Indian oil sardine (Sardinella longiceps)	Thailand	FAO 51, 57, 61, 71	Approved source with caution

<b>Report code</b>	BP099	<b>Date of issue</b>	March 2026
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1. Application details		
<b>Applicant</b>	South East Asian Packaging and Canning Ltd	
<b>Applicant country</b>	Thailand	
2. Certification Body details		
<b>Name of Certification Body (CB)</b>	NSF (Global Trust Certification Ltd)	
<b>Contact information for CB</b>	Fisheries@nsf.org	
<b>Assessor name</b>	Sam Peacock	
<b>CB internal peer reviewer name</b>	Matthew Jew	
<b>Internal peer review evaluation</b>	Agree with evaluation	
<b>Number of Assessment days</b>	1.5	
<b>Comments on the assessment</b>	<p>This scope extension covers 7 species across 14 byproducts. None of the species are categorised as ETP according to the MT definition. One byproduct is sourced exclusively from a Medium Risk flag state, and was Approved source with caution without the need for a Step 3 assessment. The remaining 13 byproducts were subjected to Step 3 (a Category C and traceability) assessment. Two byproducts failed this assessment due to the absence of any relevant stock assessments. The remaining 11 byproducts were subjected to a traceability assessment, which all failed due to a lack of port state information from the applicant. Additionally, the coastal state areas for many of the byproducts included a High Risk coastal state. For this reason, all of the 13 byproducts which required a Step 3 assessments are Not Approved.</p>	
<b>3. Approval validity</b>	Valid from 03/2026	Valid until 09/2026
<b>4. Assessment cycle</b>	Scope Extension	

5. By-product assessment outcomes		Valid From: 03/2026	
By-product species name	Flag country(ies)	Fishing Area(s)	MarinTrust approval status
Skipjack tuna ( <i>Katsuwonus pelamis</i> )	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51, 57, 61, 71	Not approved
Yellowfin tuna ( <i>Thunnus albacares</i> )	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51, 57, 61, 71	Not approved
Kawakawa ( <i>Euthynnus affinis</i> )	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51,57	Not approved
Albacore tuna ( <i>Thunnus alalunga</i> )	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 41, 47, 51, 57, 61, 67	Not approved

Bigeye tuna ( <i>Thunnus obesus</i> )	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51, 57, 71,77	Not approved
Pacific chub mackerel ( <i>Scomber japonicus</i> )	Japan	FAO 61, 71	Approved source with caution
Indian oil sardine ( <i>Sardinella longiceps</i> )	China	FAO 51, 57, 61, 71	Not approved

#### **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

### Step 2 Assessment Outcomes

By-product species name	Flag country(ies)	IUCN Red List	CITES Appendices	Step 2 risk status	Step 3 required?
Skipjack tuna (Katsuwonus pelamis)	Thailand	Least concern	Not listed	Medium risk	No
Yellowfin tuna (Thunnus albacares)	Thailand	Least concern	Not listed	Medium risk	No
Kawakawa (Euthynnus affinis)	Thailand	Least concern	Not listed	Medium risk	No
Albacore tuna (Thunnus alalunga)	Thailand	Least concern	Not listed	Medium risk	No
Bigeye tuna (Thunnus obesus)	Thailand	Vulnerable	Not listed	Medium risk	No
Pacific chub mackerel (Scomber japonicus)	Thailand	Least concern	Not listed	Medium risk	No
Indian oil sardine (Sardinella longiceps)	Thailand	Least concern	Not listed	Medium risk	No

## Step 2 Assessment Outcomes – Scope Extension (March 2026)

By-product species name	Flag country(ies)	IUCN Red List	CITES Appendices	Step 2 risk status	Step 3 required?
Skipjack tuna (Katsuwonus pelamis)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	Least concern	Not listed	High risk	Yes
Yellowfin tuna (Thunnus albacares)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	Least concern	Not listed	High risk	Yes
Kawakawa (Euthynnus affinis)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	Least concern	Not listed	High risk	Yes
Albacore tuna (Thunnus alalunga)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	Least concern	Not listed	High risk	Yes

Bigeye tuna (Thunnus obesus)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	Vulnerable	Not listed	High risk	Yes
Pacific chub mackerel (Scomber japonicus)	Japan	Least concern	Not listed	Medium risk	No
Indian oil sardine (Sardinella longiceps)	China	Least concern	Not listed	High risk	Yes

### Step 3 Assessment Outcomes – Scope Extension (March 2026)

By-product species name	Flag country(ies)	Fishing Area(s)	Stock name	Category C Assessment Outcome	Traceability information	Step 3 Risk Outcome
Skipjack tuna (Katsuwonus pelamis)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51 & 57	Indian Ocean skipjack	Pass	Path 2 - No	Remains High Risk
Skipjack tuna (Katsuwonus pelamis)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 61 & 71	Western and Central Pacific skipjack	Pass	Path 2 - No	Remains High Risk
Yellowfin tuna (Thunnus albacares)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51 & 57	Indian Ocean yellowfin	Pass	Path 2 - No	Remains High Risk
Yellowfin tuna (Thunnus albacares)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 61 & 71	Western and Central Pacific yellowfin	Pass	Path 2 - No	Remains High Risk

Kawakawa (Euthynnus affinis)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51 & 57	Indian Ocean kawakawa	Pass	Path 2 - No	Remains High Risk
Albacore tuna (Thunnus alalunga)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51 & 57	Indian Ocean albacore	Pass	Path 2 - No	Remains High Risk
Albacore tuna (Thunnus alalunga)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 61 & 67	North Pacific albacore	Pass	Path 2 - No	Remains High Risk
Albacore tuna (Thunnus alalunga)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 41 & 47	South Atlantic albacore	Pass	Path 2 - No	Remains High Risk
Bigeye tuna (Thunnus obesus)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 51 & 57	Indian Ocean bigeye	Pass	Path 2 - No	Remains High Risk

Bigeye tuna (Thunnus obesus)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 71	Western and Central Pacific bigeye	Pass	Path 2 - No	Remains High Risk
Bigeye tuna (Thunnus obesus)	China, Ecuador, Micronesia (FS of), Indonesia, Japan, Kiribati, Maldives, Marshall Isl., Mauritius, Nauru, New Zealand, Papua New Guinea, Philippines, Seychelles, Solomon Isl., Korea (Rep. South), Spain, Taiwan, Tanzania, Tuvalu, Vanuatu	FAO 77	Eastern Pacific Ocean bigeye	Pass	Path 2 - No	Remains High Risk
Indian oil sardine (Sardinella longiceps)	China	FAO 51 & 57	Indian Ocean IOS	Fail	Path 2 - No	Remains High Risk
Indian oil sardine (Sardinella longiceps)	China	FAO 61 & 71	Pacific Ocean IOS	Fail	Path 2 - No	Remains High Risk
<b>Comments on Step 3 Assessment:</b> N/A						

## Appendix 2 – detailed assessment outcomes

*(step 2 and step 3 if applicable)*

### Step 2 outcomes

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
Thailand	Medium	1.96	2.22	2.23	1	1	1	1	58.49%

## Step 2 outcomes – Scope Extension (March 2026)

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%
Ecuador	High	2.58	2.11	2.43	1	3	1	1	35.38%
Micronesia (FS of)	High	1.92	2.94	1.93	1	1	5	1	31.13%
Indonesia	Medium	3.33	2.56	2.47	1	1	1	1	59.43%
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%
Maldives	High	2.25	1.67	2.13	1	1	1	1	26.89%
Marshall Isl.	High	1.79	3.17	1.89	1	1	5	1	37.74%
Mauritius	Medium	2.13	2.72	1.97	1	1	1	1	84.43%
Nauru	Medium	2.04	1	1.64	1	1		1	53.30%
New Zealand	Medium	2.46	2.11	1.5	1	1	1	1	99.06%

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| Approved by MarinTrust Fisheries Manager

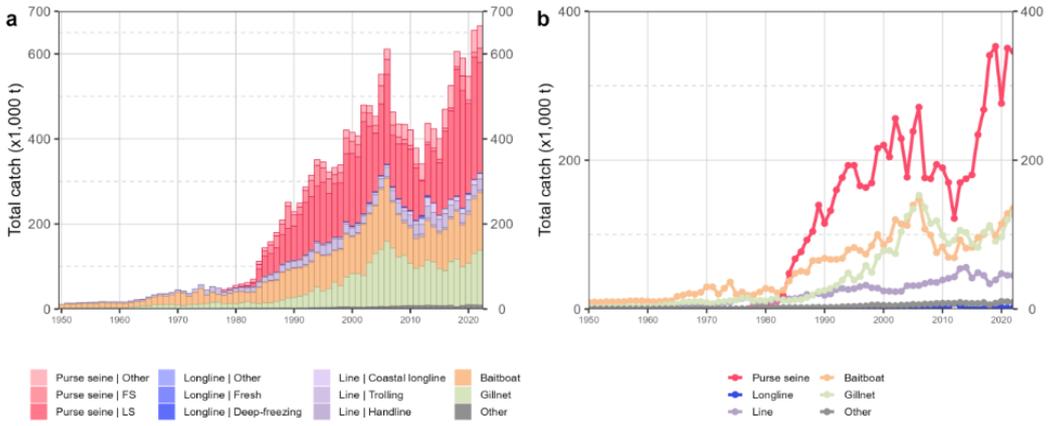
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Papua New Guinea	High	2.04	2.94	2.07	1	1	5	1	26.42%
Philippines	Medium	2.04	2.06	2.53	1	1	1	1	53.77%
Seychelles	Medium	1.79	2.39	1.57	1	1	1	1	62.26%
Solomon Isl.	High	1.58	3.28	2.07	1	1	5	1	21.70%
Korea (Rep. South)	Medium	3.67	3.11	1.97	1	1	1	1	83.96%
Spain	Medium	3.21	3.39	2.03	1	1	1	1	75.94%
Taiwan	High	4.17	3.06	2.27	1	1	5	1	90.57%
Tanzania	High	1.83	2.78	2.3	2	1	5	1	30.19%
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%

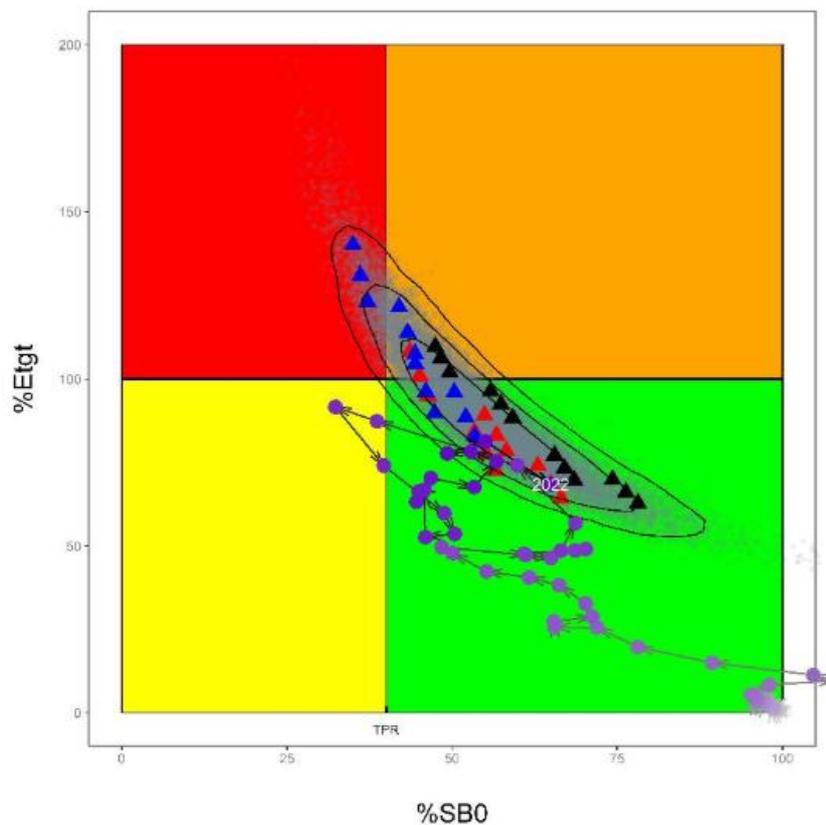
## Step 3 outcomes

### Category C assessment

<b>Species name</b>		<i>Katsuwonus pelamis</i> - Skipjack tuna	
<b>Fishing area and stock</b>		Indian Ocean skipjack	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
<b>Clause outcome:</b>			<b>PASS</b>
<p><b>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.</b></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 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 2025a). 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 2025b). Catches are shown in the charts below. <b>C1.1 is met.</b></p>			
 <p>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 2025a)</p>			
<p><b>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.</b></p>			

The most recent stock assessment was carried out in 2023, as reported in a 2025 stock status report published by the IOTC (IOTC 2025a). 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 2025a).

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 ( $20\%SB_0$ )” (IOTC 2025a). A Kobe plot summarising the outcomes of the most recent stock assessment is provided below. **C1.2 is met.**



Indian Ocean skipjack tuna, Kobe plot of the 2023 stock assessment. Triangles represent outputs from individual models, grey dots represent uncertainty from individual models (IOTC 2025a)

### References

IOTC (2025a). Indian Ocean Skipjack Tuna Stock Status: Executive Summary. [https://iotc.org/sites/default/files/content/Stock\\_status/2025/English/IOTC-2025-SC28-ES03\\_SKJE.pdf](https://iotc.org/sites/default/files/content/Stock_status/2025/English/IOTC-2025-SC28-ES03_SKJE.pdf)

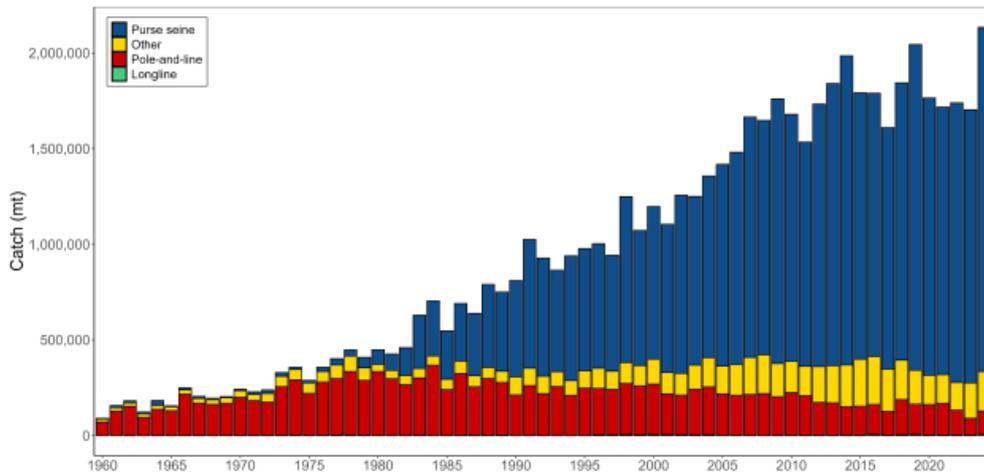
IOTC (2025b). Available datasets. <https://www.iotc.org/data/datasets>

Species name	<i>Katsuwonus pelamis</i> - Skipjack tuna		
Fishing area and stock	Western and Central Pacific skipjack		
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
<b>Clause outcome:</b>		<b>PASS</b>	

**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 2025, using data up to the end of 2024. The assessment incorporated catch, effort- and length-frequency estimates, and tag-recapture data (WCPFC 2025b). The stock assessment report does not raise major concerns about uncertainties due to lack of data.

Catches are presented in the figure below. **C1.1 is met.**

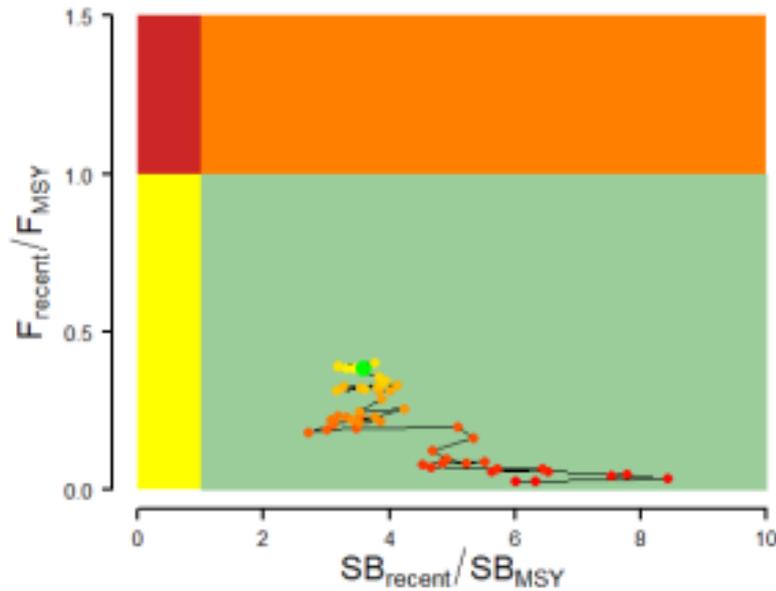


Annual catches of skipjack by gear type in the WCPO area covered by the stock assessment (WCPFC 2025a)

**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 2025 stock assessment for WCPO skipjack concluded that “Overall, the outcomes of this assessment suggest that the skipjack stock in the WCPO is not overfished nor undergoing overfishing” (WCPFC 2025a).  $SB_{RECENT}/SB_{MSY}$  was estimated to be 3.90, with an 80% CI of 2.95 – 5.61,

suggesting biomass is highly likely to be above the MSY level. A Kobe plot illustrating current stock status is shown below. **C1.2 is met.**



Kobe plot summarising the results for the dynamic MSY analysis of WCPO skipjack by the 2025 stock assessment. Dot colours go from red to green over time, with the green dot being the most recent SB estimate (WCPFC 2025a)

**References**

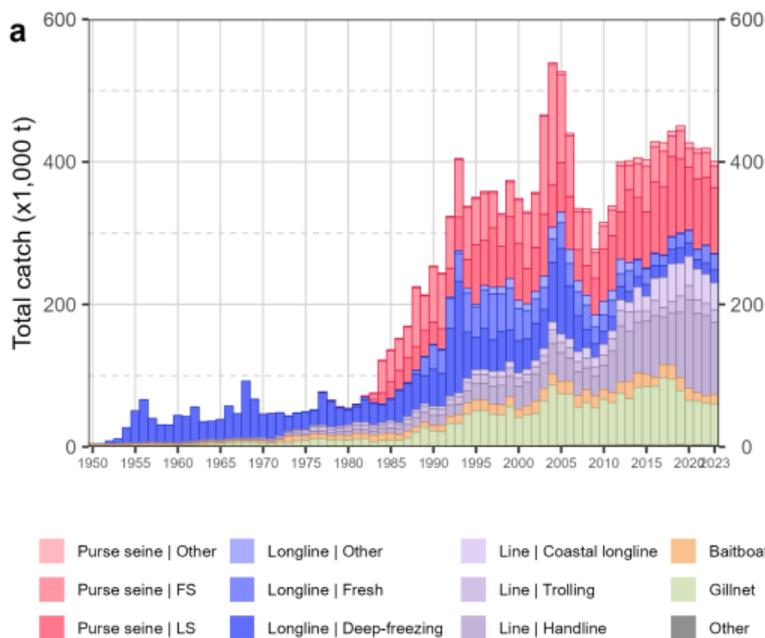
WCPFC (2025a). WCPO skipjack tuna stock assessment 2025. <https://meetings.wcpfc.int/node/26679>

WCPFC (2025b). Overview of tuna fisheries in the Western and Central Pacific Ocean, including economic conditions – 2024. <https://meetings.wcpfc.int/node/26697>

Species name	<i>Thunnus albacares</i> -Yellowfin Tuna		
Fishing area and stock	Indian Ocean yellowfin		
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
<b>Clause outcome:</b>		<b>PASS</b>	

**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.**

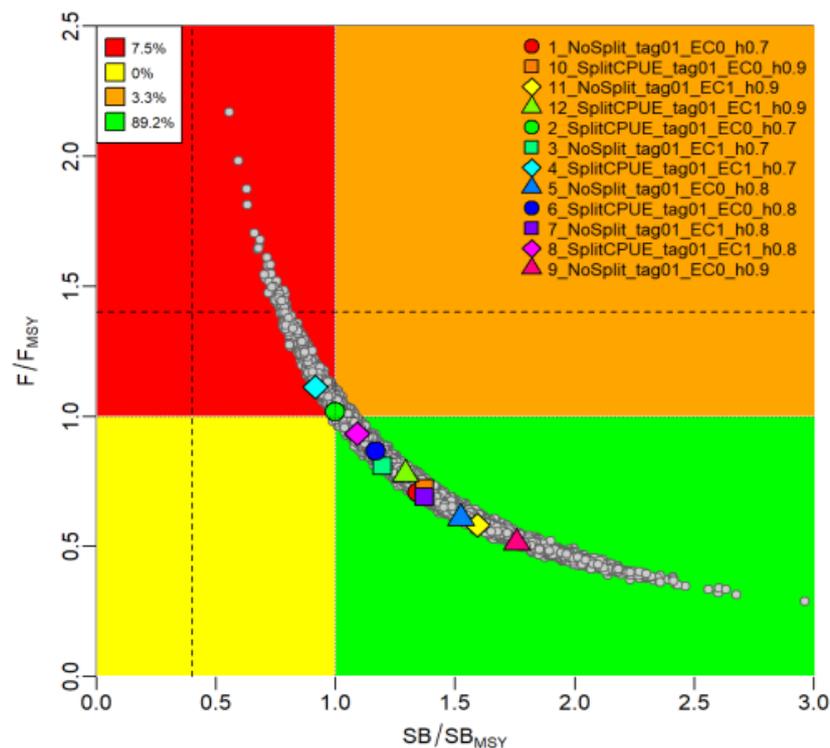
The stock assessment conducted by the Indian Ocean Tuna Commission (IOTC) takes all fishery removals into account. The most recent assessment was conducted in 2024. Landings in recent years were reported as a total catch in 2023 of 400,950t, and an average catch 2019-2023 of 423,142t (IOTC 2025a). Full 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 2025b). Catches are shown in the chart below. **C1.1 is met.**



Catches of yellowfin tuna in the Pacific Ocean by gear type, 1950 – 2023 (IOTC 2025a)

**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 2024 using data from 1975-2023, as reported in a 2024 stock status report published by the IOTC (IOTC 2025a). The stock assessment conclusion states that “overall stock status estimates do not differ substantially from the previous assessment”. Spawning biomass in 2023 was estimated to be around 44% of the unfished level and 32% higher than  $B_{MSY}$ . The biomass is therefore estimated to be above the target reference point, and therefore the stock is considered to have a biomass above the limit reference point in its most recent stock assessment (IOTC 2025a). A Kobe plot summarising the outcomes of the stock assessment is shown below. **C1.2 is met.**



Yellowfin tuna in the Pacific Ocean: Kobe chart estimating current stock status. Coloured symbols represent estimates from individual models. Grey dots represent statistical uncertainty from individual models. Dashed lines represent limit reference points (IOTC 2025a)

**References**

IOTC (2025a). Indian Ocean Yellowfin Tuna Stock Status: Executive Summary. [https://iotc.org/sites/default/files/content/Stock\\_status/2025/English/IOTC-2025-SC28-ES04\\_YFTE.pdf](https://iotc.org/sites/default/files/content/Stock_status/2025/English/IOTC-2025-SC28-ES04_YFTE.pdf)

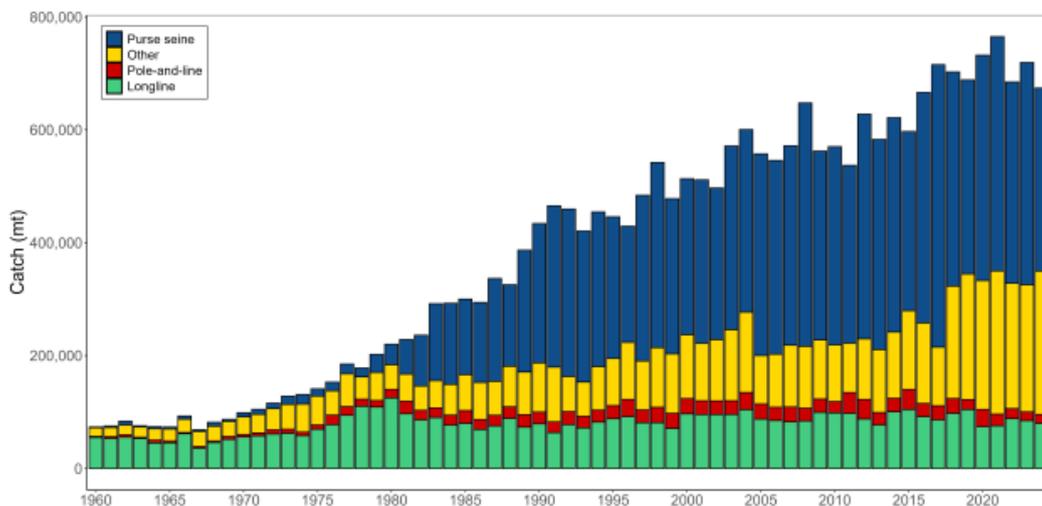
IOTC (2025b). Available datasets. <https://www.iotc.org/data/datasets>

Species name	Thunnus albacares - Yellowfin Tuna		
Fishing area and stock	Western and Central Pacific yellowfin		
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
		<b>Clause outcome:</b>	<b>PASS</b>

**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.

Catches are presented in the figure below. **C1.1 is met.**

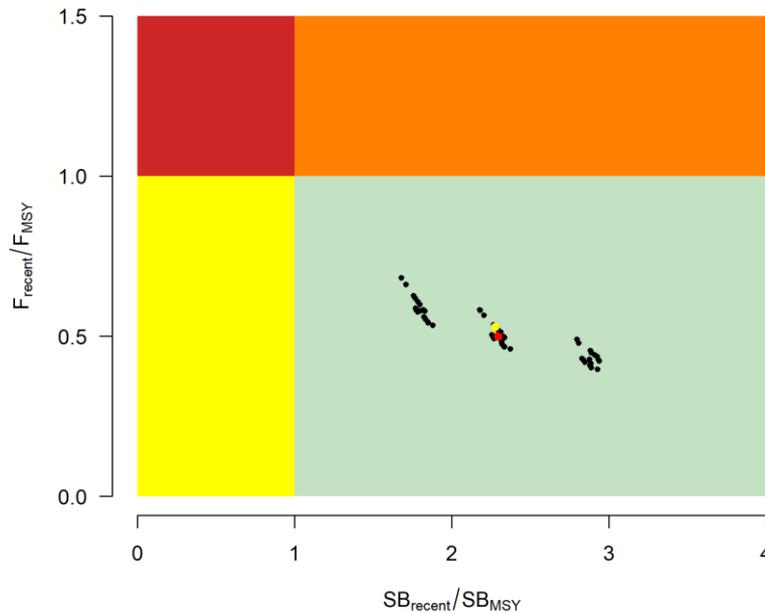


WCPO yellowfin catch by gear (WCPFC 2025)

**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 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 2023). A Kobe plot showing current stock status is provided below. **C1.2 is met.**

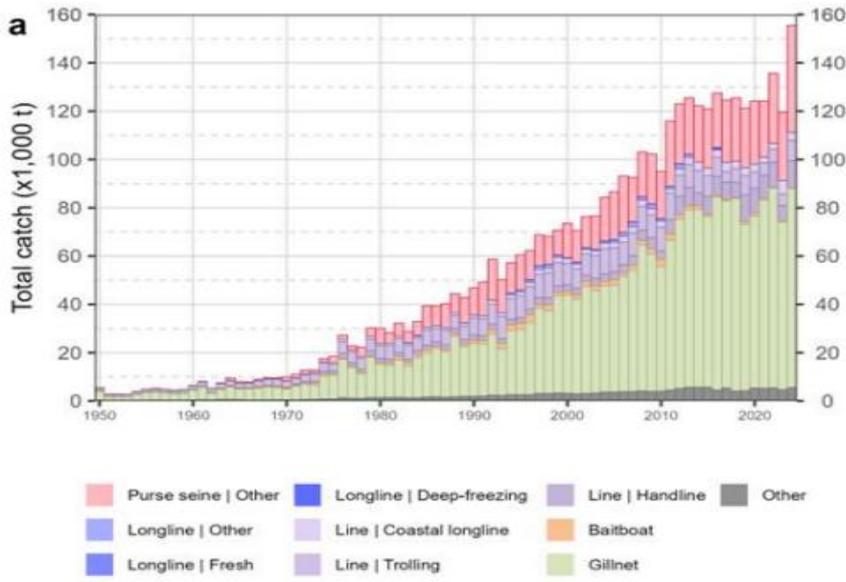


**Figure 1.** WCPO yellowfin tuna, Kobe plot summarising the results of each of the stock assessment models. The yellow dot is the 2023 diagnostic model and the red dot is the median (WCPFC 2023).

**References**

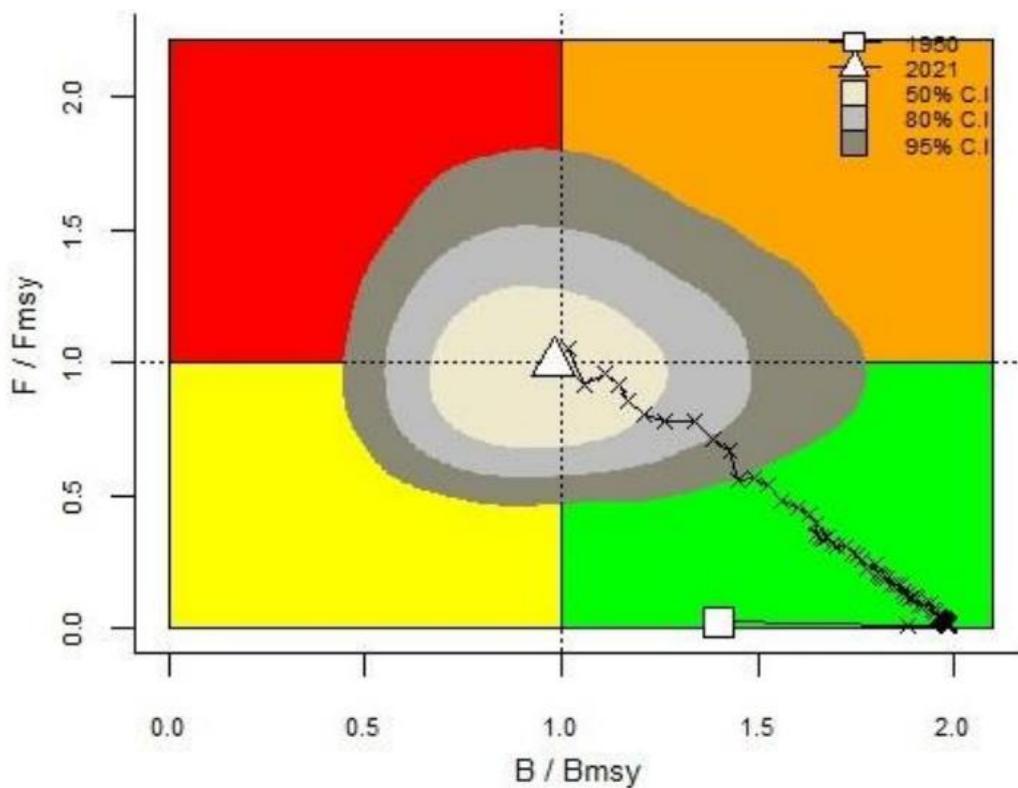
WCPFC (2023). WCPO Yellowfin Tuna, Stock Status and Management Advice. <https://www.wcpfc.int/file/1008665/download?token=wFUhc7q7tern>

WCPFC (2025). Overview of tuna fisheries in the Western and Central Pacific Ocean, including economic conditions – 2024. <https://meetings.wcpfc.int/node/26697>

<b>Species name</b>		Kawakawa ( <i>Euthynnus affinis</i> )	
<b>Fishing area and stock</b>		Indian Ocean kawakawa	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
<b>Clause outcome:</b>			<b>PASS</b>
<p><b>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.</b></p> <p>Kawakawa in the Indian Ocean is subject to regular stock assessment by the Indian Ocean Tuna Commission (IOTC). The most recent stock assessment was conducted in 2023, and utilised a number of data-limited methods which examined fishery data up to 2021. Although there is conservable uncertainty around stock structure and catch data, estimates of both were incorporated into the stock assessment. Catches are shown in the chart below.</p> <p>The IOTC executive summary for the stock notes that “aspects of the fisheries for this species” and the “lack of data” are “a cause for considerable concern”. However, as the stock assessment process recognises these uncertainties and produces estimates of stock status with clearly defined confidence intervals, the assessor considers it adequate to meet the requirements of this clause.</p> <p><b>C1.1 is met.</b></p>			
			
Kawakawa catches in the Indian Ocean by gear type, 1950-2024 (IOTC 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 2023 stock assessment concluded that, as of 2021, fishing mortality was very close to  $F_{MSY}$  and biomass was very close to  $B_{MSY}$ . However, there is a high degree of uncertainty around the outcomes of the stock assessment, and while the stock is officially classed as “overfished but not subject to overfishing”, the probability that the stock status is within each of the four Kobe quadrants is roughly equal. This means there is approximately a 50% chance the stock is currently below the biomass target reference point. The probability that biomass is below the limit reference point,  $0.5B_{MSY}$ , is much lower, and so the assessor considers **C1.2 to be met**. A Kobe chart showing the outcomes of the stock assessment is provided below.



Kobe plot for kawakawa in the Indian Ocean. The Kobe plot presents the trajectories (median) for the range of plausible model trajectories included in the formulation of the final management advice. The shaded contour lines represent 50%, 80%, and 95% confidence intervals of estimated stock status in 2021 (IOTC 2025)

**References**

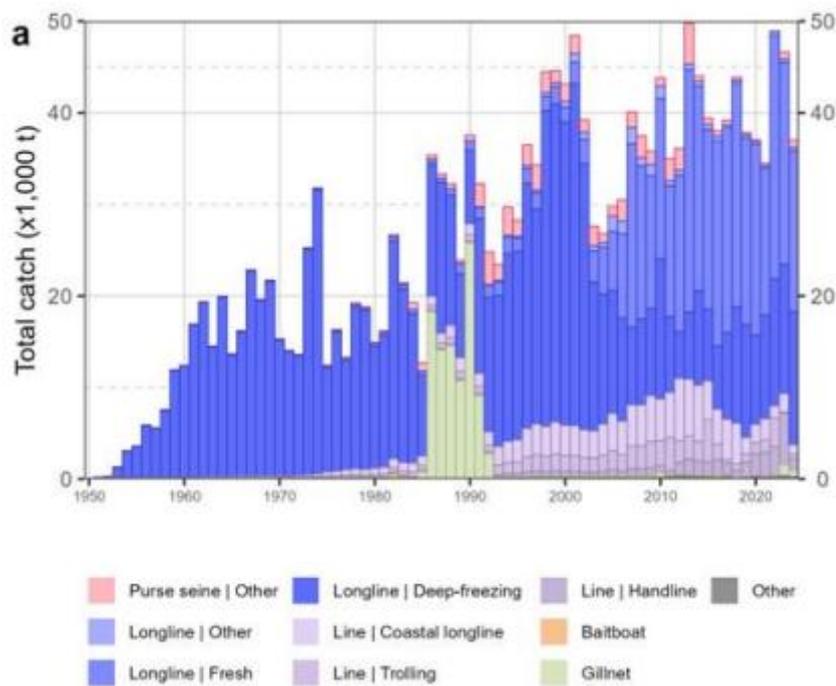
IOTC (2025). Stock status executive summary, kawakawa.  
[https://iotc.org/sites/default/files/content/Stock\\_status/2025/English/IOTC-2025-SC28-ES08\\_KAWE.pdf](https://iotc.org/sites/default/files/content/Stock_status/2025/English/IOTC-2025-SC28-ES08_KAWE.pdf)

<b>Species name</b>		<i>Thunnus alalunga</i> - Albacore tuna	
<b>Fishing area and stock</b>		Indian Ocean albacore	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	PASS
	<b>C1.2</b>	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
		<b>Clause outcome:</b> 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.**

Albacore in the Indian Ocean is subject to regular stock assessment by the ITOC. The most recent was conducted in 2025 using Stock Synthesis III, and utilised international catch and CPUE data. There are several CPUE indices available – including those for the North-Western and South-Western fisheries, and several eastern indices – which indicate trends in separate components of the Indian Ocean albacore stock. The stock assessment summary concludes that the western indices “may best represent the abundance of albacore at this time”, and that “the eastern indices are affected by changes in targeting” (IOTC 2025).

Catches are presented in the figure below. **C1.1 is met.**

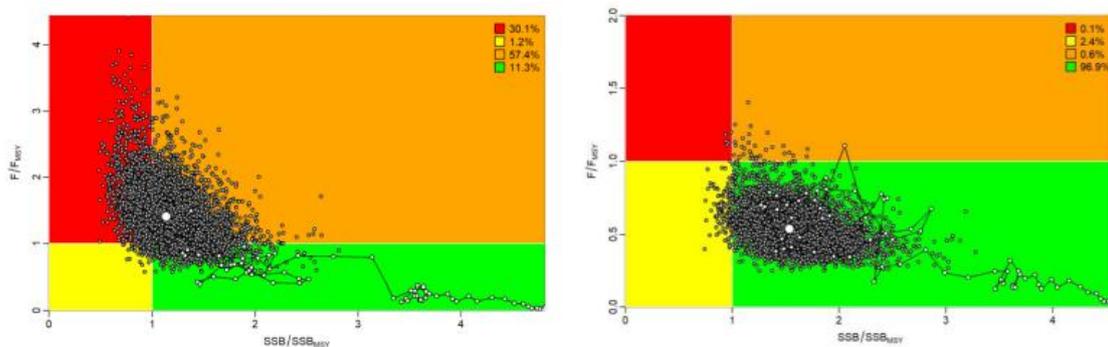


Albacore tuna in the Indian Ocean: Cumulative nominal catches by gear type (IOTC 2025)

**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 2025 stock assessment concluded that in relation to the IOTC’s interim target reference points, the stock is “not overfished and is not subject to overfishing” (IOTC 2025). The biomass target reference point is set at  $0.4 \times SB_{MSY}$  (i.e. 40% of the target reference point  $SB_{MSY}$ ), and therefore the stock assessment also concluded that “current spawning biomass is considered to be...above the limit reference point” (IOTC 2025).

Kobe charts showing the current fishery status are shown below. **C1.2 is met.**



Albacore tuna in the Indian Ocean: Kobe plots for two model options. On the left, the model fitted to the North-Western CPUE; on the right, the model fitted to the South-Western CPUE. White circles indicate the trajectory of the point estimates for the spawning biomass (SB) ratio and fishing mortality (F) ratio for each year 1950–2023 (the grey lines represent the 95 percentiles of the 2023 estimate) (IOTC 2025).

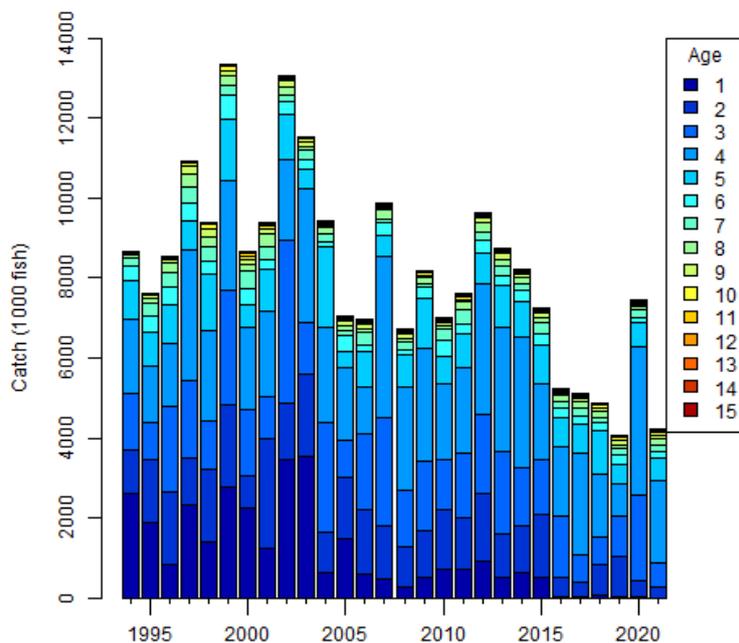
#### References

IOTC (2025). Albacore tuna stock status and advice, executive summary, 2025. [https://iotc.org/sites/default/files/content/Stock\\_status/2025/English/IOTC-2025-SC28-ES01\\_ALBE.pdf](https://iotc.org/sites/default/files/content/Stock_status/2025/English/IOTC-2025-SC28-ES01_ALBE.pdf)

<b>Species name</b>		<i>Thunnus alalunga</i> - Albacore tuna	
<b>Fishing area and stock</b>		North Pacific albacore	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
		<b>Clause outcome:</b> <b>PASS</b>	

**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.**

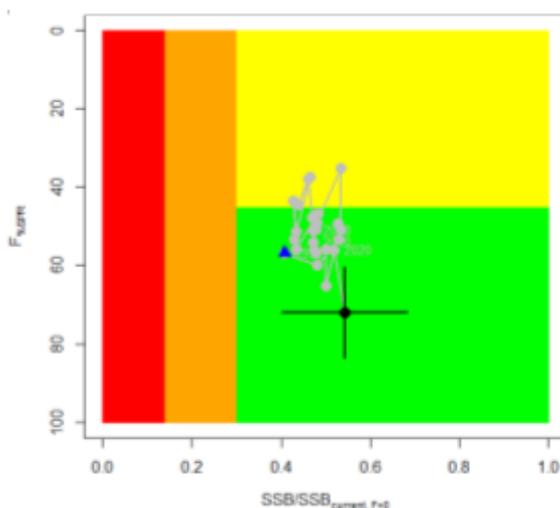
The most recent available stock assessment for the northern Pacific albacore stock was conducted in 2023 and utilised all available data up to 2021. Catch and size composition data were used to inform a length-based, age- and sex-structured Stock Synthesis model. No concerns were raised in the reporting documentation as to the completeness of the catch data (WCPFC 2024). Catches of albacore in the North Pacific are shown in the chart below. **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  $14\%SSB_{current, F=0}$  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  $SSB_{current, F=0}$ , 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. A Kobe plot summarising the current status of the stock is shown below. **C1.2 is met.**



Stock status phase plot showing the status of the north Pacific albacore (*Thunnus alalunga*) stock relative to the biomass-based threshold and limit reference points, and fishing intensity-based target reference point (F45%SPR) over the modelling period (1994 – 2021). (WCPFC 2024).

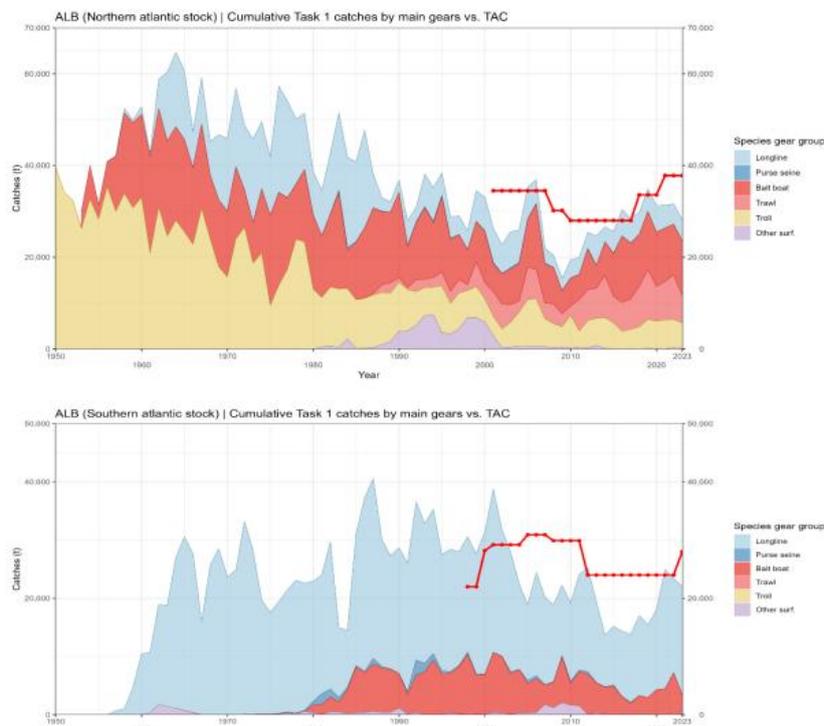
#### References

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

<b>Species name</b>		<i>Thunnus alalunga</i> - Albacore tuna	
<b>Fishing area and stock</b>		South Atlantic albacore	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
		<b>Clause outcome:</b> <b>PASS</b>	

**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.**

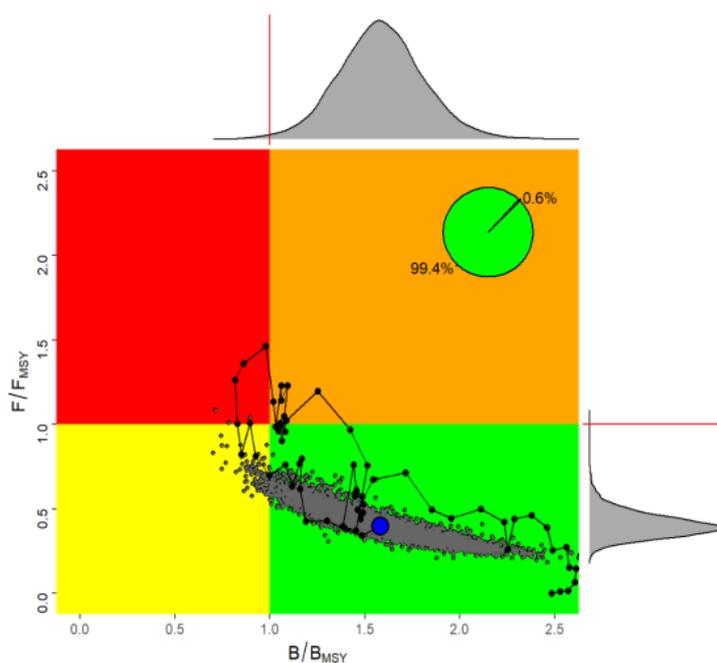
Stock assessments are carried out on behalf of the International Commission for the Conservation of Atlantic Tunas (ICCAT). The most recent stock assessment for South Atlantic albacore was conducted in 2020 (ICCAT 2025). The stock assessment utilised catch and effort data up to 2018 and 2021 respectively, and no concerns were raised relating to the completeness of the data. Catches of albacore in the Atlantic Ocean are shown in the chart below. **C1.1 is met.**



Total albacore catches for the North (top) and South (bottom) Atlantic albacore stocks by gear type. Red dotted line shows the TAC (ICCAT 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 most recent stock assessment for South Atlantic albacore, 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. A Kobe chart summarising the current status of South Atlantic albacore is shown below. C1.2 is met.



South Atlantic albacore tuna, Kobe plot. Stock status trajectories of  $B/B_{MSY}$  and  $F/F_{MSY}$  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).

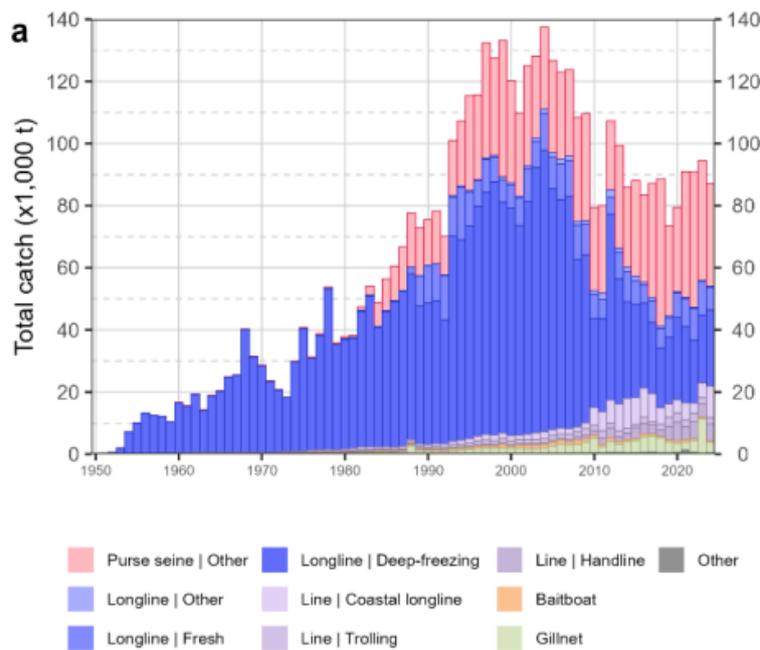
**References**

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

<b>Species name</b>		<i>Thunnus obesus</i> - Bigeye tuna	
<b>Fishing area and stock</b>		Indian Ocean bigeye	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
		<b>Clause outcome:</b>	<b>PASS</b>

**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 Indian Ocean (IO bigeye) is subject to regular stock assessment by the IOTC. The most recent stock assessment was carried out in 2025 using a Stock Synthesis model with 36 model configurations. The assessment incorporated international catch data, and the range of models used was intended to capture uncertainty on stock recruitment relationship, longline selectivity, growth, and natural mortality (IOTC 2025). Catches are shown in the chart below. **C1.1 is met.**

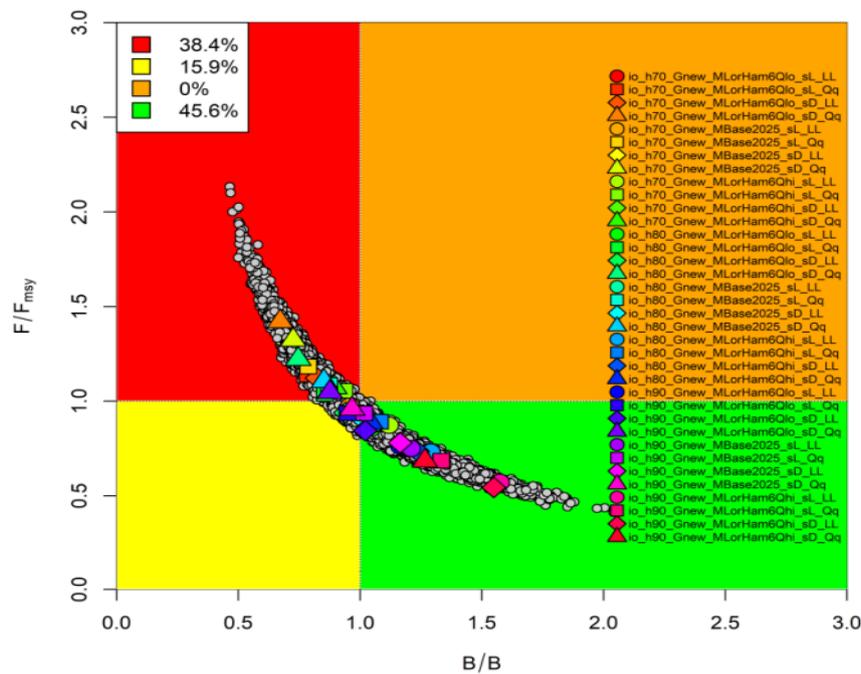


Indian Ocean bigeye tuna, catches (IOTC 2025)

**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 2025 stock assessment concluded that spawning biomass levels in 2024 had “nearly recovered to the target SBMSY level” (IOTC 2025). Taking into account the uncertainty in the assessment process, the IOTC documentation concludes that the stock is “overfished but not subject to overfishing” (IOTC 2025), where the previous assessment had concluded that it was both overfished and subject to overfishing. The 2025 conclusion still indicates that the stock is likely below the target reference point; however, the limit reference point for the stock is defined as  $0.5 * SB_{MSY}$ , i.e. the level at which stock biomass is half the level which can support MSY. As the stock is currently estimated to be at 98% of this level (with an 85% confidence interval that it is between 71% and 125%), biomass is very likely above the limit reference point.

A Kobe chart showing the status of the fishery as estimated by the 2025 stock assessment is shown below. **C1.2 is met.**



Aggregated Indian Ocean stock assessment Kobe plot for bigeye tuna. The coloured points represent stock status estimates from the 36 model options (IOTC 2025).

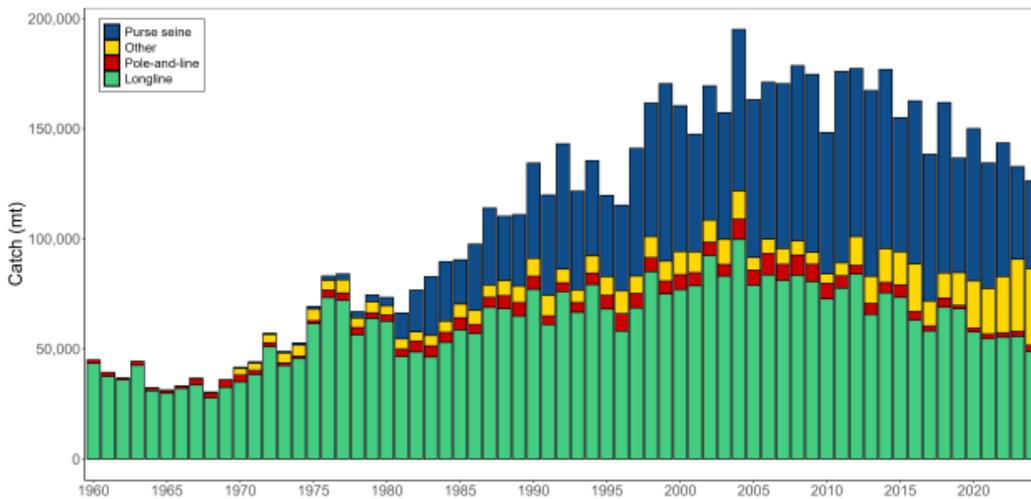
**References**

IOTC (2025). Indian Ocean bigeye tuna stock status and advice, executive summary. [https://iotc.org/sites/default/files/content/Stock\\_status/2025/English/IOTC-2025-SC28-ES02\\_BETE.pdf](https://iotc.org/sites/default/files/content/Stock_status/2025/English/IOTC-2025-SC28-ES02_BETE.pdf)

Species name	Thunnus obesus - Bigeye tuna		
Fishing area and stock	Western and Central Pacific bigeye		
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>PASS</b>
	<b>C1.2</b>	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.	<b>PASS</b>
		<b>Clause outcome:</b>	<b>PASS</b>

**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.**

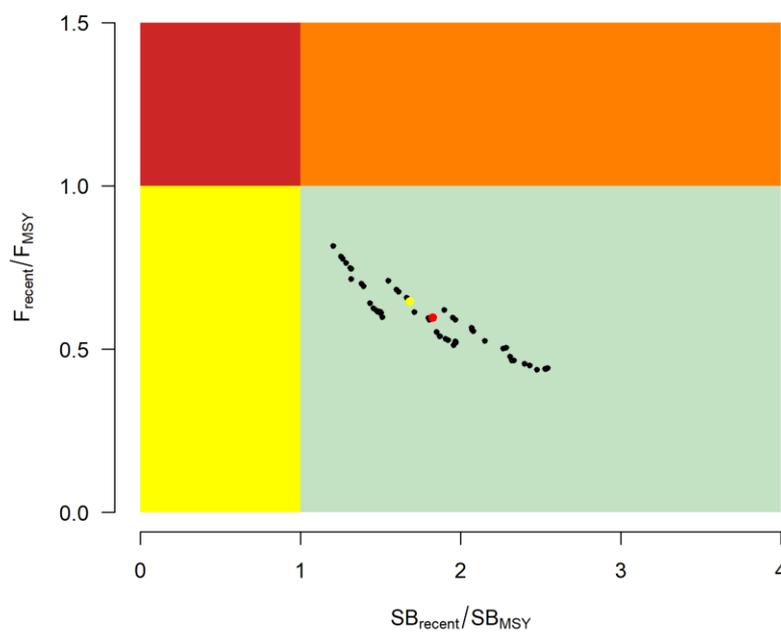
Bigeye tuna in the Western and Central Pacific Ocean is subject to regular stock assessment by the Western and Central Pacific Fisheries Commission. The most recent stock assessment was conducted in 2023, using data up to 2021. The assessment utilised all international catch data. 54 models were applied to take into account the main sources of uncertainty, and the results are presented alongside the likely confidence intervals (WCPFC 2024). All available catch data are incorporated into the assessment, and a chart summarising these data is provided below. **C1.1 is met.**



Western and Central Pacific bigeye catch (mt) by gear (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 results of the most recent stock assessment produced an estimate of the current status of the stock relative to target reference point  $SB_{MSY}$ . The assessment concluded across all 54 models that the mean value of  $SB_{latest}/SB_{MSY}$  was 1.76, with an 80% certainty that it was between 1.28 and 2.31 (WCPFC 2024). This translates to a very high probability that stock biomass is above the target reference point  $SB_{MSY}$ , and therefore also above any potential limit reference point. The most recent stock assessment summary also states that “For all models in the grid  $SB_{recent}/SB_{F=0}$  was above the biomass limit reference point” (WCPFC 2024). A Kobe plot summarising the outcomes of the stock assessment is provided below. **C1.2 is met.**



Western and Central Pacific bigeye tuna, Kobe plot for recent spawning potential (2018-2021) summarising the results for each of the models in the structural uncertainty grid. Median value is shown in red (WCPFC 2024)

### References

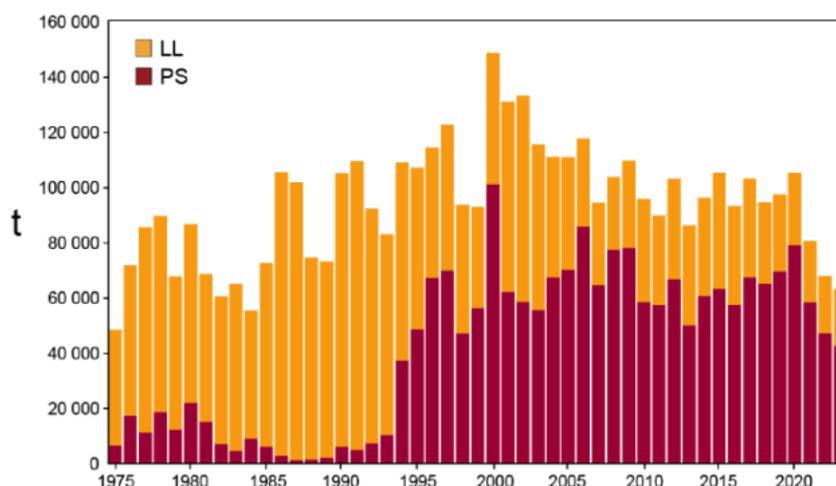
WCPFC (2024). WCPO bigeye tuna stock status and management advice. <https://www.wcpfc.int/doc/01/bigeye-tuna>

WCPFC (2025). Overview of tuna fisheries in the Western and Central Pacific Ocean, including economic conditions – 2024. <https://meetings.wcpfc.int/node/26697>

<b>Species name</b>		<i>Thunnus obesus</i> - Bigeye tuna
<b>Fishing area and stock</b>		East Pacific bigeye
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>	
	<b>C1.1</b>	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. <b>PASS</b>
	<b>C1.2</b>	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. <b>PASS</b>
		<b>Clause outcome:</b> <b>PASS</b>

**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.**

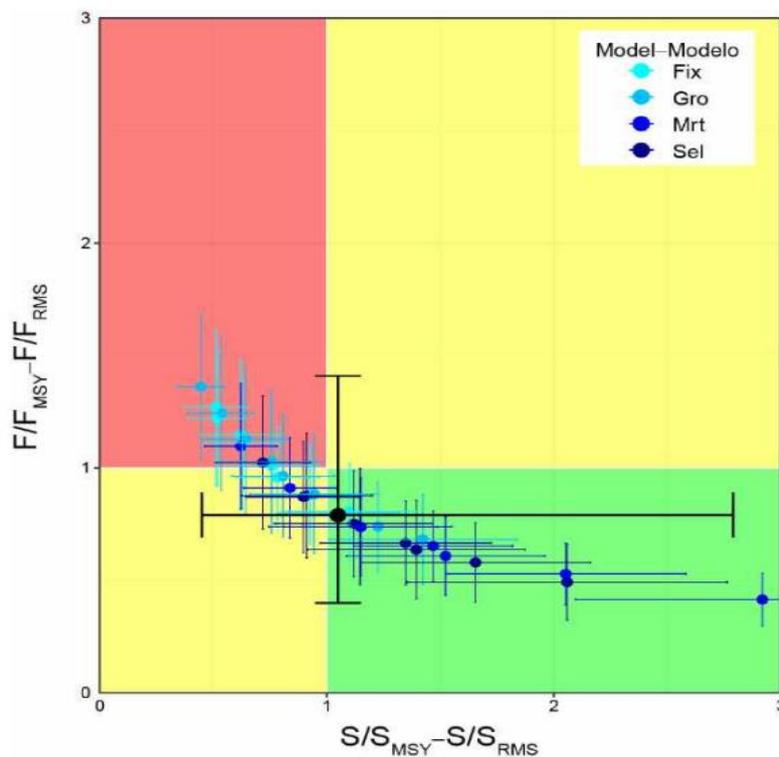
Bigeye tuna in the EPO is subject to regular stock assessment by the Inter-American Tropical Tuna Commission (IATTC). The most recent full stock assessment was conducted in 2024. The assessment utilised all international catch data. 33 models were applied to take into account the main sources of uncertainty, 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 unreliable to form the basis for management advice. In the case of bigeye, they are incorporated into the annual stock status review (IATTC 2024). Catches of EPO bigeye are shown in the chart below. **C1.1 is met.**



Total EPO bigeye catch by purse seine gears (PS), and retained catches by longline gears (LL), 1975 – 2023. 2020 and 2021 data are preliminary (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 2024 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 were that there is a “46.6% probability that the spawning biomass at the beginning of 2024 is below the target reference point”, and a “0.2% probability that the spawning biomass at the beginning of 2024 is below the limit reference point” (IATTC 2024). Therefore, there was a very low probability of the biomass being below the limit reference point. A Kobe plot summarising the current status of the stock is provided below. **C1.2 is met.**



Kobe plot of the most recent estimates of spawning biomass (S) and fishing mortality (F) relative to their MSY reference points ( $S_{MSY}$  and  $F_{MSY}$ ) from the thirty-three reference models. Each dot is based on the average F over the most recent three years, 2021-2023, and the error bars represent the 95% confidence interval of model estimates. The black dot and error bars represent the medium and 95% confidence interval of combined values, respectively. (IATTC 2024)

#### References

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](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)

<b>Species name</b>		Indian Oil Sardine ( <i>Sardinella longiceps</i> )	
<b>Fishing area and stock</b>		Indian Ocean IOS	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>FAIL</b>
	<b>C1.2</b>	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.	<b>FAIL</b>
<b>Clause outcome:</b>			<b>FAIL</b>
<p>Stock structure for Indian Oil Sardine in the Indian Ocean is poorly understood, particularly in international waters. There are potentially 8 or more stocks or sub-stocks which have been identified in the national waters of India, Oman and Yemen (Fishsource 2026). Stock assessments have been conducted for some of these, although generally not in recent years. There is no evidence of any stock assessment conducted for international waters, and stock status across the Indian Ocean is therefore unknown. The applicant was not able to provide any further detail on the specific location(s) where catches are taken beyond the FAO Areas. <b>Overall, it is not possible to conduct a Category C assessment for this byproduct, which therefore Fails this section.</b></p>			
<b>References</b>			
<p>Fishsource (2026). Indian Oil Sardine stocks.  <a href="https://www.fishsource.org/search?query=indian+oil+sardine&amp;type=">https://www.fishsource.org/search?query=indian+oil+sardine&amp;type=</a></p>			

<b>Species name</b>		Indian Oil Sardine ( <i>Sardinella longiceps</i> )	
<b>Fishing area and stock</b>		Pacific Ocean IOS	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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.	<b>FAIL</b>
	<b>C1.2</b>	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.	<b>FAIL</b>
<b>Clause outcome:</b>			<b>FAIL</b>
<p>Although there are some reports of <i>S. longiceps</i> being present in the Western Pacific Ocean, there are no recognised stocks in this region and consequently there do not appear to be any stock assessments which have been conducted for the species in the Pacific. <b>This renders a Category C assessment impossible, and the byproduct fails this stage of the assessment.</b></p>			
<b>References</b>			

### Traceability information

The applicant provided information on the FAO Areas where catches are taken for all byproducts, but did not provide port states or port state regions for any byproduct.

<b>Species name</b>		Skipjack tuna ( <i>Katsuwonus pelamis</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Skipjack tuna ( <i>Katsuwonus pelamis</i> ) in the WCPO		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Yellowfin tuna ( <i>Thunnus albacares</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Yellowfin tuna ( <i>Thunnus albacares</i> ) in the WCPO		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Kawakawa ( <i>Euthynnus affinis</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Albacore tuna ( <i>Thunnus alalunga</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Albacore tuna ( <i>Thunnus alalunga</i> ) in the North Pacific		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Albacore tuna ( <i>Thunnus alalunga</i> ) in the South Pacific		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Bigeye tuna ( <i>Thunnus obesus</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>			
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Bigeye tuna ( <i>Thunnus obesus</i> ) in the WCPO		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Bigeye tuna ( <i>Thunnus obesus</i> ) in the EPO		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Indian Oil Sardine ( <i>Sardinella longiceps</i> ) in the Indian Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk High (Yemen)	Not provided	Remains High Risk
				Choose an item.

<b>Species name</b>		Indian Oil Sardine ( <i>Sardinella longiceps</i> ) in the Pacific Ocean		
<b>Path 1</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Confirm all KDEs are provided		Yes <input type="checkbox"/> No <input type="checkbox"/>		
<b>Path 2</b>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <i>If yes for Path 2, complete the next section</i>		
<b>Path 2 outcome</b>	<b>Flag country</b>	<b>Coastal score</b>	<b>Port score</b>	<b>Risk outcome</b>
	<b>All flag states</b>	Multiple coastal states, highest risk Medium	Not provided	Remains High Risk
				Choose an item.

**Guidance for Applicants/Certificate holders on improved traceability**

When by-product origin cannot be made more granular than major FAO Areas, or when the source fishery is taking place in the High Seas (i.e. outside of EEZs of all relevant nations), an assessor must evaluate the Coastal and Port scores for each nation that straddles that FAO Area. This may lead to higher risk outcomes for an applicant. To mitigate that risk, better practice involves securing KDEs from the source fishery of the by-products, thereby meeting Path 1 instead of Path 2.

**What does better practices look like?**

**Comprehensive data collection and sharing:** Collect detailed information using Key Data Elements (KDEs) including vessel identification and authorisation, species, catch areas, fishing method and dates. These are defined in the MarinTrust Standard clauses 2.11.2.2 and 3.2.5.

**Supply chain transparency:** Maintain detailed records at each step of the supply chain, from capture to final sale, to ensure traceability.

**Interoperable systems and technologies** to support the collection and transfer of this information.