



MarinTrust Standard V2

By-product Fishery Assessment *Eastern Indian Ocean Bullet tuna (Auxis rochei)*

MarinTrust Programme

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: standards@marin-trust.com

T: +44 2039 780 819

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Bullet tuna (<i>Auxis rochei</i>)
	Geographical area:	FAO Area 57 (Indian Ocean, Eastern)
	Country of origin of the product:	Sri Lanka, India, Indonesia, Pakistan, Madagascar, Thailand (Flag country)
	Stock:	Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>)
Date	June 2022	
Report Code	THA10	
Assessor	Vito Romito	
Country of origin of the product - PASS	Sri Lanka, India, Indonesia, Pakistan, Madagascar, Thailand (Flag country)	
Country of origin of the product - FAIL		

Application details and summary of the assessment outcome			
Company Name(s): South East Asian Packaging and Canning Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Vito Romito	Ivan Mateo	0.5	Surveillance 2
Assessment Period	To June 2022		

Scope Details	
Main Species	Bullet tuna
Stock	Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>)
Fishery Location	Eastern Indian Ocean
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC) and Contracting Parties (Members) and Cooperating Non-Contracting Parties (CPCs)
Gear Type(s)	Gillnet, handline, purse seine and trolling
Outcome of Assessment	
Peer Review Evaluation	Approve
Recommendation	Approve

Table 2. Assessment Determination

Assessment Determination
<p>If a species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as MarinTrust RS raw material. Bullet tuna (<i>Auxis rochei</i>) is listed on the IUCN Red List as Least Concern (LC) globally and is not listed in CITES; therefore, byproducts derived for this stock are eligible for approval for use as MarinTrust RS by-product raw material.</p> <p>Little is known on the biology and stock structure of bullet tuna in the Indian Ocean. The Indian Ocean Tuna Commission indicates that a new assessment was carried out in 2021 using the data-limited techniques (CMSY and LB-SPR), however the catch data for bullet tuna are very uncertain given the high percentage of the catches that had to be estimated due to a range of reporting issues. Due to a lack of fishery data for several gears, only preliminary stock status indicators can be used. The lack of data on which to base an assessment of the stock is a cause for concern. Stock status in relation to the Commission's BMSY and FMSY reference points remains unknown.</p> <p>Due to the lack of information on stocks status, as per MarinTrust requirements, this stock has been risk assessed through the Productivity and Selectivity Analysis (PSA) in Category D.</p> <p>As the stock passes Category D requirements the by-product covered by this report is recommended for APPROVAL for the production of fishmeal and fish oil under the current MarinTrust RS v 2.2 by-product standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>) stock as category D, reference points are not defined to assess the stock status relative to.</p> <p>A PSA was performed. With an average productivity score of 1.57 and an average susceptibility score of 2.75, the stock passes Table D3.</p> <p>Therefore, the peer reviewer agrees with the assessor's determination that the fishery passes Table D3 and Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>) is thus approved</p>
Notes for On-site Auditor

Species Categorisation

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

IUCN Red list Category

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

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

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

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

Table 3 Species Categorisation Table

Common name	Latin name	Stock	Management	Category	IUCN Red List Category ¹	CITES Appendix 1 ²
Bullet tuna	<i>Auxis rochei</i>	Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>)	Indian Ocean Tuna Commission (IOTC) and Contracting Parties (Members) and Cooperating Non-Contracting Parties (CPCs)	D	LC	NO

¹ <https://www.iucnredlist.org/>

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

CATEGORY C SPECIES

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

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

Species Name		
C1	Category C Stock Status - Minimum Requirements	
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.
	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.
		Clause outcome:
<p>C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.</p> <p>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.</p>		
References		
Links		
MarinTrust Standard clause	1.3.2.2	
FAO CCRF	7.5.3	
GSSI	D.3.04, D5.01	

CATEGORY D SPECIES

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

D1	Species Name	Eastern Indian Ocean Bullet tuna (<i>Auxis rochei</i>)	
	Productivity Attribute	Value	Score
	Average age at maturity (years)	2 years	2
	Average maximum age (years)	5 years	1
	Fecundity (eggs/spawning)	It is a multiple spawner with fecundity ranging between 31,000 and 103,000 eggs per spawning (according to the size of the fish). Larval studies indicate that bullet tuna spawn throughout its range.	1
	Average maximum size (cm)	50 cm	1
	Average size at maturity (cm)	Females and males ~35 cm FL	2
	Reproductive strategy	Nonguarders: open water/substratum egg scatterers	1
	Mean trophic level	4.4	3
		Average Productivity Score	1.57
	Susceptibility Attribute	Value	Score
	Availability (area overlap)	This species is distributed across the Indian Ocean. Adults are principally caught in coastal waters and around islands that have oceanic salinities. It is likely that >50% of the stock occurs in the area fished.	3
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	This is a pelagic species caught in the upper surface of the water column. There is likely a medium overlap with fishing gears.	2
	Selectivity of gear type	Species is more than 2 times mesh size.	3
	Post-capture mortality	Mostly retained.	3
		Average Susceptibility Score	2.75
		PSA Risk Rating (From Table D3)	Pass
		Compliance rating	Pass
	Further justification for susceptibility scoring (where relevant) <i>None provided.</i>		

References

- CITES. 2022. Cites Appendix 1. <https://cites.org/eng/app/appendices.php>
- Collette, B., Acero, A., Amorim, A.F., Boustany, A., Canales Ramirez, C., Cardenas, G., Carpenter, K.E., de Oliveira Leite Jr., N., Di Natale, A., Fox, W., Fredou, F.L., Graves, J., Guzman-Mora, A., Viera Hazin, F.H., Juan Jorda, M., Kada, O., Minte Vera, C., Miyabe, N., Montano Cruz, R., Nelson, R., Oxenford, H., Salas, E., Schaefer, K., Serra, R., Sun, C., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E., Uozumi, Y. & Yanez, E. 2011. *Auxis rochei*. The IUCN Red List of Threatened Species 2011: e.T170355A6765188. <https://dx.doi.org/10.2305/IUCN.UK.2011-2.RLTS.T170355A6765188.en>.
- Fishbase. 2022. *Auxis rochei* (Risso, 1810) Bullet tuna. [https://www.fishbase.se/summary/Auxis-rochei#:~:text=A%20large%2C%20single%2Dpointed%20flap,smaller%20keels%20\(Ref%209684\)](https://www.fishbase.se/summary/Auxis-rochei#:~:text=A%20large%2C%20single%2Dpointed%20flap,smaller%20keels%20(Ref%209684).).

IOTC. 2017. Bullet tuna supporting information. Indian Ocean Tuna Commission.

[https://www.iotc.org/sites/default/files/documents/science/species_summaries/english/Bullet tuna Supporting information.pdf](https://www.iotc.org/sites/default/files/documents/science/species_summaries/english/Bullet_tuna_Supporting_information.pdf)

IOTC. 2021. Executive summary bullet tuna 2021. Indian Ocean Tuna Commission.

https://www.iotc.org/sites/default/files/documents/science/species_summaries/english/10_Bullet2021E.pdf

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

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

D4 Species Name			
Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements			
D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.		
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.		
Outcome:			
Evidence			
D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.			
D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.			
References			
Links			
MarinTrust Standard clause		1.3.2.2, 4.1.4	
FAO CCRF		7.5.1	
GSSI		D.5.01	