



MarinTrust Standard V2

By-product Fishery Assessment *Indian Mackerel, FAO 51-57 Indian Ocean*

MarinTrust Programme

Unit C, Printworks

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Indian Mackerel (<i>Rastrelliger kanagurta</i>)
	Geographical area:	FAO 51-57
	Country of origin of the product:	Thailand
	Stock:	Indian Ocean
Date	January 2023	
Report Code	THA31	
Assessor	Vineetha Aravind	
Country of origin of the product - PASS	Thailand	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): South East Asian Packaging and Canning Ltd T. C. Union Agrotech Co, Ltd			
Country: Thailand			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:			
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Vineetha Aravind	Kate Morris	0.5	Surveillance 2
Assessment Period	Jan 2023-Jan 2024		

Scope Details	
Main Species	Indian Mackerel (<i>Rastrelliger kanagurta</i>)
Stock	Indian Ocean
Fishery Location	FAO 51-57
Management Authority (Country/ State)	Thailand
Gear Type(s)	Purse seines and nets
Outcome of Assessment	
Peer Review Evaluation	Pass
Recommendation	Pass

Table 2. Assessment Determination

Assessment Determination
<p>Indian Mackerel has been categorised as Data Deficient by IUCN Red data List and does not appear in CITES appendices. Therefore, it is eligible for approval for use as Marine Trust raw material.</p> <p>The stock is not subject to species specific research and management measures are not in place. Therefore, following Marin Trust criteria, the stock is classified as Category D.</p> <p>The fishery was assessed using the risk-based Productivity, Susceptibility Analysis (PSA) approach as per Marin Trust v 2.0 procedures for Category D species.</p> <p>Table D1 has shown a score of 1.28 for Productivity Attributes and a score of 2.75 for Susceptibility Attributes. As per Table D3 this is a Pass.</p> <p>Therefore, Indian Mackerel in FAO Areas 51-57 is APPROVED by the assessor in the assessment area for the production of fishmeal and fish oil under the current Marin Trust v 2.0 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The by-product fishery under assessment here is the Indian mackerel (<i>Rastrelliger kanagurta</i>) fishery, pursued by vessels in FAO fishing area 51-57. Indian Mackerel is managed by the Thai government. For this Marin Trust assessment, the Indian Mackerel stock is scored against Category D because it is not managed to species specific reference points.</p> <p>The species scoring table has been completed by the auditor with sufficient evidence presented to support their final determination.</p> <p>The peer review supports the auditor’s recommendation to pass the FAO 51-57, Indian Mackerel stock, pursued by the fishery under the Marin Trust IFFO RS v2.0 by-fishery standard for the production of fishmeal and fish oil.</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
Indian mackerel	<i>Rastrelliger Kanagurta</i>	FAO 51-57 Indian Ocean	No	D	DD	No

¹ <https://www.iucnredlist.org/>

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

³ <https://www.iucnredlist.org/species/170328/6750032>

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		
	Productivity Attribute	Value	Score
	Average age at maturity (years)	2.5	1
	Average maximum age (years)	4	1
	Fecundity (eggs/spawning)	37690-170455	2
	Average maximum size (cm)	25 cm	1
	Average size at maturity (cm)	19.9 cm	1
	Reproductive strategy	Broadcast spawner	1
	Mean trophic level	3.2	2
	Average Productivity Score		1.28
	Susceptibility Attribute	Value	Score
	Availability (area overlap)	10-30% overlap	2
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	Targeted	3
	Selectivity of gear type	Retained	3
	Post-capture mortality	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>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision</i>		

References

Productivity attributes: Fishbase. *Rastrelliger kanagartha*, Indian mackerel: fisheries, gamefish, bait (fishbase.se)



*Figure 1. Distribution maps for *Rastrelliger kanagartha* (Indian mackerel), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario. www.aquamaps.org, version 10/2019

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

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

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

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

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