



MarinTrust Standard V2

By-product Fishery Assessment Yellowfin tuna (*Thunnus albacares*), FAO 51,57 (Western and Eastern Indian Ocean)

MarinTrust Programme

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Yellowfin tuna (<i>Thunnus albacares</i>)
	Geographical area:	FAO 51,57 – Western and Eastern Indian Ocean
	Country of origin of the product:	El Salvador, Ecuador, Spain, USA, Phillipines, Panama, Portugal
	Stock:	FAO 51,57 – Western and Eastern Indian Ocean
Date	May 2024	
Report Code	SLV03	
Assessor	Blanca Gonzalez	
Country of origin of the product - PASS	El Salvador, Ecuador, Spain, USA, Phillipines, Panama, Portugal	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Calvo Conservas El Salvador SA de CV			
Country: El Salvador			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Blanca Gonzalez	Sam Peacock	0.5	Surveillance 1
Assessment Period	May 2024 – May 2025		

Scope Details	
Main Species	Yellowfin tuna (<i>Thunnus albacares</i>)
Stock	FAO 51,57 – Western and Eastern Indian Ocean
Fishery Location	FAO 51,57 – Western and Eastern Indian Ocean
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	Purse seine, longline, handline, gillnet and pole-and-line
Outcome of Assessment	
Peer Review Evaluation	Agree with assessment outcome
Recommendation	PASS

Table 2. Assessment Determination

Assessment Determination
<p>Yellowfin tuna (<i>Thunus albacares</i>) was assessed as a category C species considering that it is a Least Concern species by the IUCN, it is not included in any CITES Appendixes, and the stock is managed using annual quotas relative to established reference points.</p> <p>The yellowfin tuna in the Western and Eastern Indian Ocean (FAO 51,57) last assessment was carried out in 2021 using catches data in the model and spawning biomass is below the target reference point but above the limit reference point. Therefore, both clauses in the assessment were met.</p> <p>The yellowfin tuna by-product meets the Marin Trust requirements and it should remain approved for use as a raw material.</p>
Fishery Assessment Peer Review Comments
<p>The peer reviewer agrees that this species is eligible for assessment under the MarinTrust byproduct assessment methodology, and that the stock falls into Category C. The most recent stock assessment was adequate to meet the requirements of C1.1, and biomass is currently estimated to be below the target reference point level but above the limit reference point level, thus meeting the requirements of C1.2. Overall, the peer reviewer agrees that this stock should be approved as a source of byproduct raw material for MarinTrust certified facilities.</p>
Notes for On-site Auditor
<p>None</p>

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
Yellowfin tuna	<i>Thunus albacares</i>	FAO 51,57 (Western and Eastern Indian Ocean)	Yes	C	Least Concern ³	No

¹ <https://www.iucnredlist.org/>

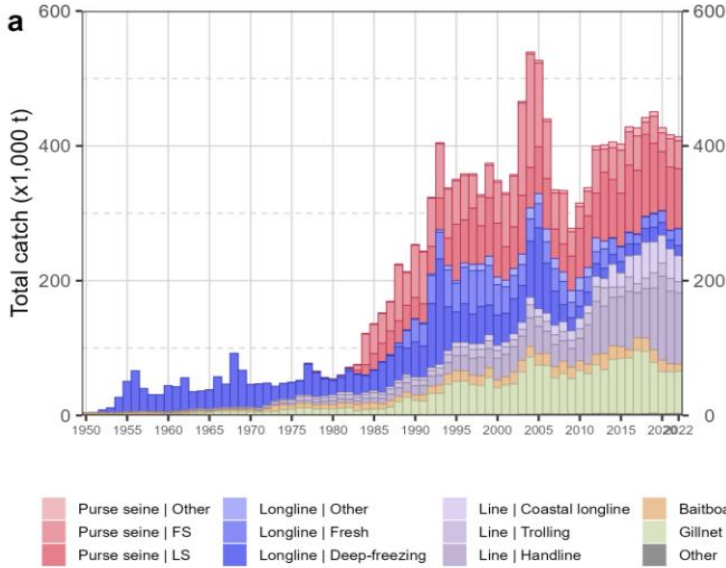
² <https://cites.org/eng/app/appendices.php>

³ <https://www.iucnredlist.org/species/21857/46624561>

CATEGORY C SPECIES

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

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

Species Name		Yellowfin tuna (<i>Thunus albacares</i>)	
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.	PASS
	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.			
The clause is met considering that:			
The Yellowfin tuna in the Western and Eastern Indian Ocean (FAO 51,57) stock has not been assessed in 2023, so the advice is based on the last assessment that was carried out in 2021. The 2021 stock assessment used a Stock Synthesis III (SS3) model, which uses four types of data: catch, size frequency, tagging and CPUE indices. Thus, removals of the species are included in the stock assessment process (IOTC 2023) (figure 1).			
			
<p>Figure 1. Yellowfin tuna annual time series of cumulative nominal catches (metric tonnes; t) by fishery in the Indian Ocean. (IOTC 2023)</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.

The Clause is met considering that:

In the 2021 assessment overall stock status estimates do not differ substantially from the previous assessment. Spawning biomass in 2020 was estimated to be 31% on average of the unfished levels and 87% of the level that supports the maximum sustainable yield ($SB_{2020}/SB_{MSY} = 0.87$); thus, spawning biomass is considered to be 13 % below the interim target reference point of SB_{MSY} and above the interim limit reference point of $0.4 SB_{MSY}$ (figure 1) (IOTC 2023).

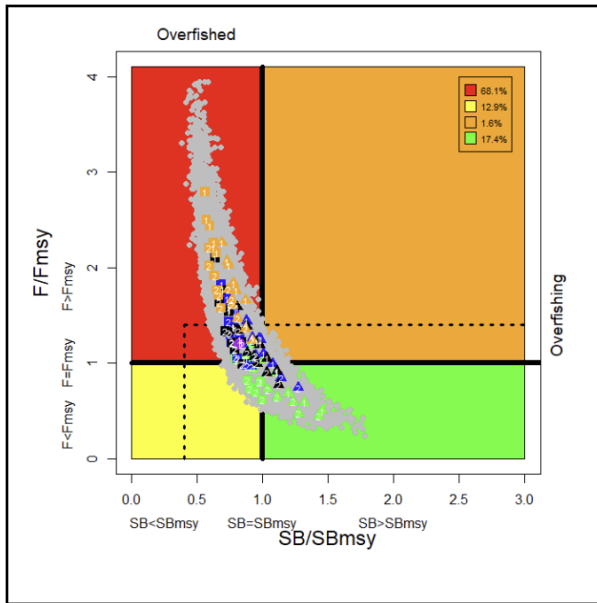


Figure 1. Yellowfin tuna: SS3 Indian Ocean assessment Kobe plot: (left): current (2020) stock status, relative to SB_{MSY} (x-axis) and F_{MSY} (y-axis) reference points for the final model options. Coloured symbols represent Maximum posterior density (MPD) estimates from individual models: square and Triangles and represents LL CPUE catchability options q_1 and q_2 respectively; green, blue, black, and orange represents growth and natural mortality option combination G_{base_Mbase} , G_{Dortel_Mbase} , G_{base_Mlow} , and G_{Dortel_Mlow} respectively; 1,2, represents spatial structure option io and sp respectively. The purple dot represents the base model. Grey dots represent uncertainty from individual models. The dashed lines represent limit reference points for IO yellowfin tuna ($SB_{lim} = 0.4 SB_{MSY}$ and $F_{lim} = 1.4 F_{MSY}$) (IOTC 2023).

References

IOTC (2023). Appendix 4. EXECUTIVE SUMMARY: YELLOWFIN TUNA (2023). https://iotc.org/sites/default/files/content/Stock_status/2023/Yellowfin_ES_2023.pdf

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

Table D2 - Productivity / Susceptibility attributes and scores.

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

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

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

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