MarinTrust Standard V2

By-product Fishery Assessment

Yellowfin tuna (Thunnus albacares)

FAO 77 & 87-Eastern Pacific Ocean

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Yellowfin tuna (*Thunnus albacares*)
	Geographical area:	FAO 77 and 87
	Country of origin of the product:	Mexico
	Stock:	Eastern Pacific Ocean
Date	February 2024	
Report Code	MEX01	
Assessor	Blanca Gonzalez	
Country of origin of the product - PASS	Mexico	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Maz Industrial SA de CV			
Country: Mexico			
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	Re-approval
Assessment Period	February 2024 – February 2025		

Scope Details	
Main Species	Yellowfin tuna (*Thunnus albacares*)
Stock	Eastern Pacific Ocean
Fishery Location	FAO 77 and FAO 87
Management Authority (Country/ State)	Inter-American Tropical Tuna Commission (IATTC)
Gear Type(s)	Purse seine, longline, pole & line, handline
Outcome of Assessment	
Peer Review Evaluation	Agree with recommendation
Recommendation	PASS

Table 2. Assessment Determination

Assessment Determination
Yellowfin tuna (*Thunnus albacares*) was assessed as a category C species considering that it is a Least Concern species by the IUCN, it is not in included in any CITES Appendixes, and the stock is managed relative Stock Status Indicators (SSIs) by the Inter-American Tropical Tuna Commission (IATTC). The most recent yellowfin tuna stock assessment in the Eastern Pacific Ocean was carried out in 2023 using SSIs requires data from fishing effort, catch, catch per unit effort, and the size of fish in the catch. Results indicates that biomass is above the limit reference point and the probability of being below the reference point is low. The yellowfin tuna by-product meets the Marin Trust requirements and it should be re- approved for use as a raw material.
Fishery Assessment Peer Review Comments
The assessor has correctly concluded that yellowfin tuna in the Eastern Pacific Ocean is eligible for MT byproduct assessment, and has correctly assessed the byproduct under Category C. The most recent stock assessment utilised all international catch data and concluded that stock biomass was above the limit reference point level, and therefore the byproduct meets the MT requirements. The peer reviewer agrees that this byproduct should remain approved for use as a raw material.
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 an 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	*Thunnus albacares*	Eastern Pacific 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 (*Thunnus albacare*)**	
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 stock in the Eastern Pacific Ocean is managed and assessed by the Inter-American Tropical Tunas Commission (IATTC). The last benchmark assessment for yellowfin tuna was conducted in 2020 and followed a risk assessment framework, considered sufficiently reliable to be used as the basis for providing management advice. This framework uses Stock Status Indicators (SSIs), which have become particularly important as supplemental information to, or temporary replacement of, formal stock assessments for yellowfin because the staff considered that the results of the assessments at that time were not sufficiently reliable to be used as the basis for its management advice. SSIs are simply time series of raw or lightly processed data for a stock that may reflect trends in abundance or exploitation of that stock. SSIs estimations include quantities such as fishing effort, catch, catch per unit effort, and the size of fish in the catch (IATTC 2023a). Thus, removals of the species are included in the stock assessment process (figure 1).

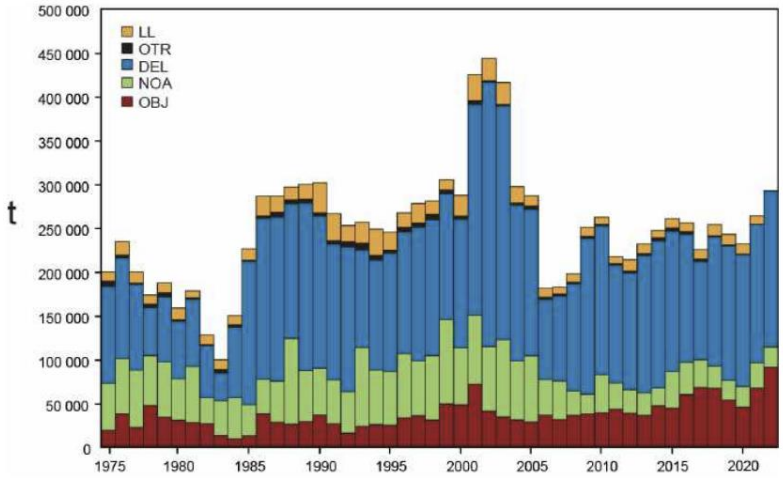

Figure 1. Total catches (retained catches plus discards) for the purse-seine fisheries, by set type (DEL, NOA, OBJ), and retained catches for the longline (LL) and other (OTR) fisheries, of yellowfin tuna in the eastern Pacific Ocean, 1975-2022. The purse-seine catches are adjusted to the species composition estimate obtained from sampling the catches. (IATTC 2023b)

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:

The results from multiple reference models are combined in a risk analysis to provide management advice. The most recent results published in 2023 indicates that the probability of the spawning biomass being below S_{MSY_d} is low (12%) and the probability of the spawning biomass exceeding S_{LIMIT} is zero (IATTC 2023b).

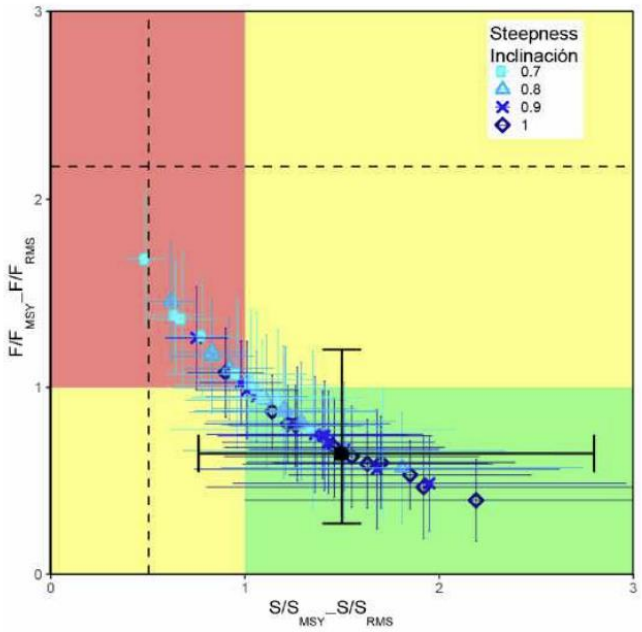

Figure 1. . Kobe (phase) plot of the time series of estimates of spawning stock size (S) and fishing mortality (F) of yellowfin tuna relative to their MSY reference points. The colored panels are separated by the target reference points (S_{MSY} and F_{MSY}). Limit reference points (dashed lines), which correspond to a 50% reduction in recruitment from its average unexploited level, based on a conservative steepness (h) of 0.75 for the Beverton-Holt stock-recruitment relationship, are merely indicative, since they vary by model and are based on all models combined. The center point for each model indicates the current stock status, based on the average fishing mortality (F) over the last three years; The solid black circle represents all models combined; to be consistent with the probabilistic nature of the risk analysis and the HCR, it is based on $P(S_{cur}/S_{LIMIT}<x) = 0.5$ and $P(F_{cur}/F_{MSY}>x) = 0.5$. The lines around each estimate represent its approximate 95% confidence interval. (IATTC 2023b).

References

IATTC (2023a). Stock Status Indicators (SSIs) for tropical tunas in the Eastern Pacific Ocean. Document SAC-14-04. May 2023. https://www.iattc.org/GetAttachment/663cdcdd-f599-4802-b9fd-6611959ff893/SAC-14-04_Stock-status-indicators-(SSIs)-for-tropical-tunas-in-the-EPO.pdf

IATTC (2023b). The tuna fishery in the Eastern Pacific Ocean in 2022. https://www.iattc.org/GetAttachment/0f48f889-2aa5-437f-8d03-648d62ecfb75/No-21-2023_Tunas,-stocks-and-ecosystem-in-the-eastern-Pacific-Ocean-in-2022.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		
	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) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		
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