



MarinTrust Standard V2

By-product Fishery Assessment ESP02 – Yellowfin tuna in FAO 71, 77, 81

MarinTrust Programme

Unit C, Printworks

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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 71 Pacific Western Central FAO 77 Pacific, Eastern Central FAO 81 Pacific, Southwest
	Country of origin of the product:	Spain and Portugal
	Stock:	Western Central Pacific Ocean (WCPO) Yellowfin Tuna Eastern Pacific Ocean (EPO) Yellowfin Tuna
Date	June, 2024	
Report Code	ESP02	
Assessor	Jose Peiro Crespo	
Country of origin of the product - PASS	Spain and Portugal	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Arteixo, Hijos de Emilio Ramirez SA - Pescave			
Country: Spain and Portugal			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Jose Peiro Crespo	Sam Peacock	0.5	Surveillance 1
Assessment Period	June 2024 - June 2025		

Scope Details	
Main Species	Yellowfin Tuna (<i>Thunnus albacares</i>)
Stock	Western Central Pacific Ocean (WCPO) Yellowfin Tuna and Eastern Pacific Ocean (EPO) Yellowfin tuna
Fishery Location	FAO 71 Pacific Western Central, FAO 77 Pacific, Eastern Central and FAO 81 Pacific, Southwest
Management Authority (Country/ State)	The Western and Central Pacific Fisheries Commission (WCPFC) The Inter-American Tropical Tuna Commission (IATTC).
Gear Type(s)	
Outcome of Assessment	
Peer Review Evaluation	Agree with assessment outcome
Recommendation	Pass

Table 2. Assessment Determination

Assessment Determination
<p>Yellowfin tuna (<i>Thunnus albacares</i>) meets the eligibility criteria for approval as Marin Trust by-product raw material, as it is not categorized as Endangered or Critically Endangered on the Union for Conservation of Nature's Red List (IUCN) (it is listed as Least Concern), nor does it appear in CITES appendices.</p> <p>For assessment and management purposes, two discrete stocks of yellowfin are recognised in the Pacific Ocean delimited:</p> <ol style="list-style-type: none"> 1. Western Central Pacific Ocean (WCPO) yellowfin, managed via the Western and Central Pacific Fisheries Commission (WCPFC). 2. Eastern Pacific Ocean (EPO) yellowfin, managed by the Inter-American Tropical Tuna Commission (IATTC). <p>Those stocks are assessed by the WCPFC and the IATTC respectively using reference points. Therefore, they are assessed under category C.</p> <p>Both stock assessment processes take into account fishery removals from the stocks, ensuring that both stock attains a pass against Clause C1.1. In the most recent stock assessment conducted for EPO yellowfin tuna in 2023, concluded that there was a low probability that stock biomass is below the target reference point, and zero probability that the stock biomass is below the limit reference point. In the case of the WCPO yellowfin tuna stock, all models in the grid indicated that SSB was above the biomass limit reference point. Therefore, both stocks pass against C1.2.</p> <p>Consequently, Yellowfin tuna from FAO 71, 77 and 81 has been granted approval for the production of fishmeal and fish oil, adhering to the existing MarinTrust v2.3 by-products standard.</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 both relevant stocks fall into Category C. The most recent stock assessments for both EPO and WCPO yellowfin were adequate to meet the requirements of C1.1. Biomass of the EPO stock is considered likely to be above the target reference point, and biomass of the WCPO is highly likely to be above the limit reference point, meaning that both stocks meet the requirements of C1.2. Overall, the peer reviewer agrees that both stocks should be approved as sources of byproduct raw material for MarinTrust certified facilities.</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 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	<i>Thunnus albacares</i>	WCPO and EPO	WCPFC and IATTC	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>Thunnus 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 Eastern Pacific Ocean (EPO) yellowfin tuna stock is 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. A new risk-based approach was introduced to the management of the stock in 2022, with Stock Status Indicators (SSIs) developed using catch and other data collected from the EPO as a whole. Data on annual catches of yellowfin in the Pacific Ocean during 1993-2022 are available. The 2022 EPO catch of 292 thousand t is 20% higher than the average of 243 thousand t for the previous 5-year period (2017-2021). In the WCPO, the catches of yellowfin reached a record high of 771 thousand t in 2021 (IATTC 2023).

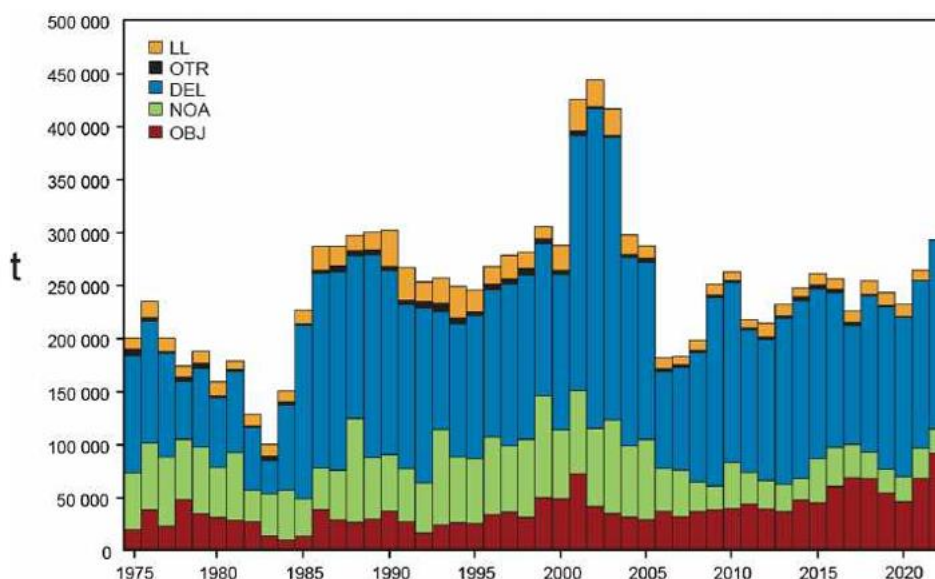


FIGURE 1 TOTAL CATCHES (RETAINED CATCHES PLUS DISCARDS) FOR THE PURSE-SEINE FISHERIES, BY SET TYPE (DEL, NOA, OBJ), AND RETAINED CATCHES FOR THE LONGLINE (LL) AND OTHER (OTR) FISHERIES, OF YELLOWFIN TUNA IN

THE EASTERN PACIFIC OCEAN, 1975-2021. THE PURSE-SEINE CATCHES ARE ADJUSTED TO THE SPECIES COMPOSITION ESTIMATE OBTAINED FROM SAMPLING THE CATCHES (IATTC 2023).

Western Central Pacific Yellowfin Tuna Fishery removals of the species in the fishery under assessment are included in the stock assessment process via Western and Central Pacific Fisheries Commission (WCPFC) processes. SC19 noted that the preliminary estimate of total catch of WCPO yellowfin tuna for 2022 was 721,169 mt which was lower than the 2021 level. Longline catch in 2022 (84,232 mt) was higher than the 2021 catch, but lower than the recent 10-year average. Purse-seine catch in 2022 (379,715 mt) was similar to the 2021 catch, and higher than the recent 10-year average (Figure YFT-02).

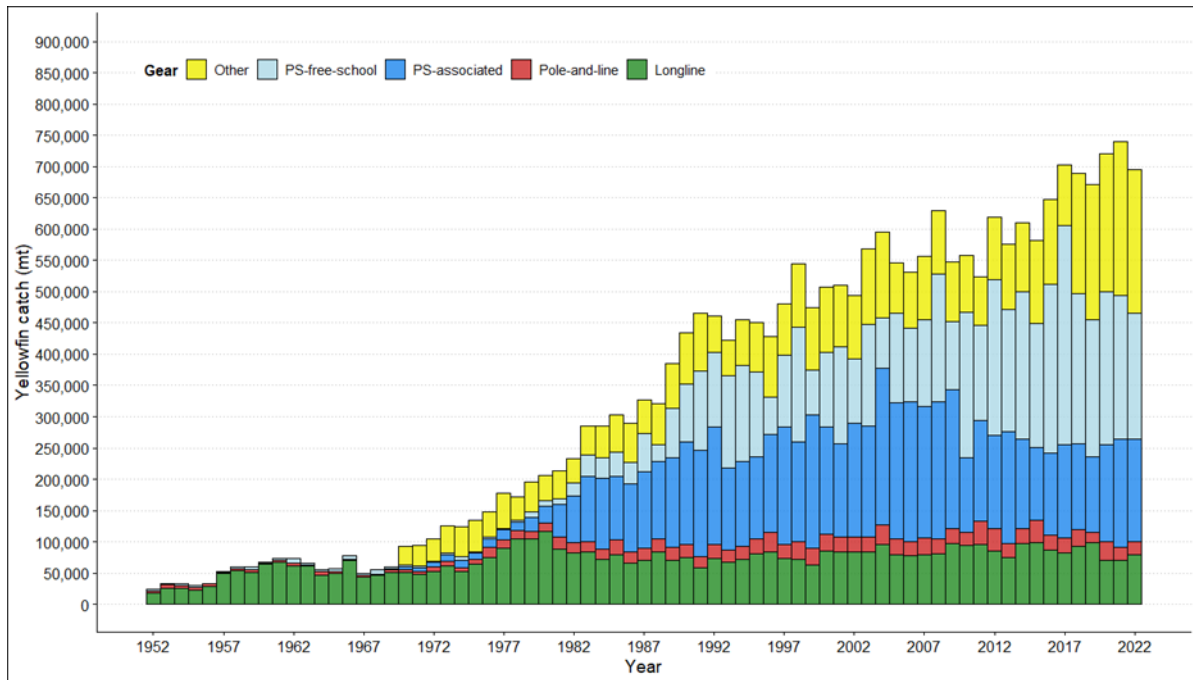


FIGURE 2 : ANNUAL CATCHES OF YELLOWFIN BY GEAR TYPE IN THE WCPO AREA COVERED BY THE ASSESSMENT (FIGURE 3 FROM SC19-SA-WP-04) (WCPFC 2023).

Therefore, fishery removals of both stocks of relevance to this assessment are included in their respective stock assessment processes such that **the fishery PASSES Clause C1.1.**

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.

EPO stock

The last benchmark assessment for yellowfin tuna was conducted in 2020 and followed a risk assessment framework, which includes the development of hypotheses, the implementation and weighting of models, and the construction of risk tables based on the combined result. At the beginning of 2020, the spawning biomass (S) of yellowfin ranged from 145% to 345% of the limit reference level (Slimit); no models suggest that it was below that limit. During 2017-2019 the fishing mortality (F) of yellowfin ranged from 40% to 168% of the level at MSY (FMSY); 14 models suggested that it was above that level. During 2017-2019, the fishing mortality of yellowfin ranged from 22% to 65% of the limit reference level (Flimit); no models suggest that it was above that limit. Every reference model suggests that lower steepness values correspond to more pessimistic estimates of stock status: lower S and higher F relative to the reference points (IATTC 2023).

The results from the reference models are combined in a risk analysis to provide management advice. The probabilities of exceeding the reference points were computed using each model result and its associated weight. There is a low probability of Fcur being above FMSY (9%). The probability of Fcur being above FLIMIT is

zero. The probability of the spawning biomass being below S_{MSY_d} is low (12%). The probability of the spawning biomass exceeding S_{LIMIT} is zero. The combined expected risk of F exceeding F_{MSY} is below 50% for six closure durations, varying from 26% (no 50 closure) to 5% (100 days), with a low risk (9%) for the current closure (72 days) (IATTC 2023).

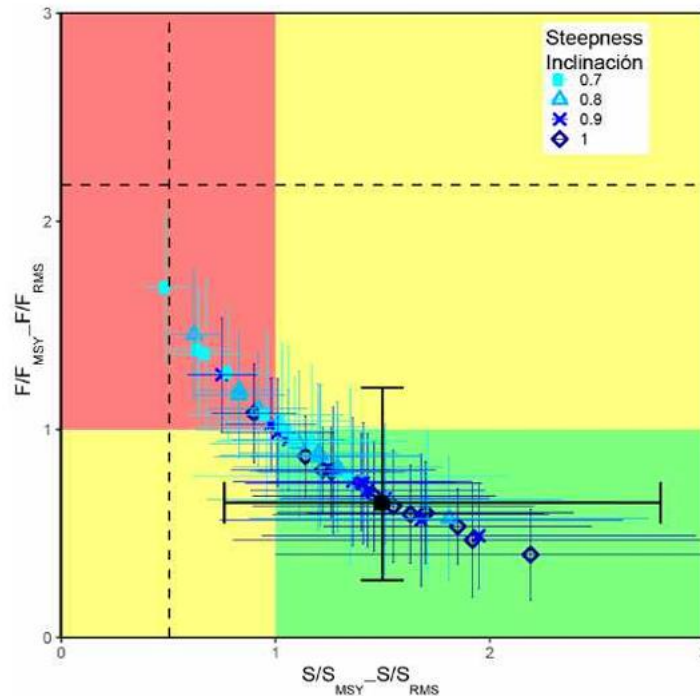


FIGURE 3 KOBE (PHASE) PLOT OF THE TIME SERIES OF ESTIMATES OF SPAWNING STOCK SIZE (S) AND FISHING MORTALITY (F) OF YELLOWFIN TUNA RELATIVE TO THEIR MSY REFERENCE POINTS (IATTC 2023)

WCPO stock

The 2023 WCPO yellowfin tuna assessment provides stock status based upon a 54-model structural uncertainty grid with four axes: steepness with three levels, tag mixing period with two levels, and size and age composition data with three levels each. The 2023 WCPO yellowfin tuna stock assessment median depletion from the model grid for the recent period (2018–2021; $S_{recent}/S_{F=0}$) was estimated at 0.47 (10th to 90th percentile interval of 0.42 to 0.52, including estimation and structural uncertainty). For all models in the grid $S_{recent}/S_{F=0}$ was above the biomass limit reference point. The recent median fishing mortality (2017–2020; F_{recent}/F_{MSY}) was 0.50 (10th to 90th percentile interval of 0.41 to 0.62, including estimation and structural uncertainty, Table YFT-02). For all models in the grid, F_{recent}/F_{MSY} was less than one. The stock is above Blim.

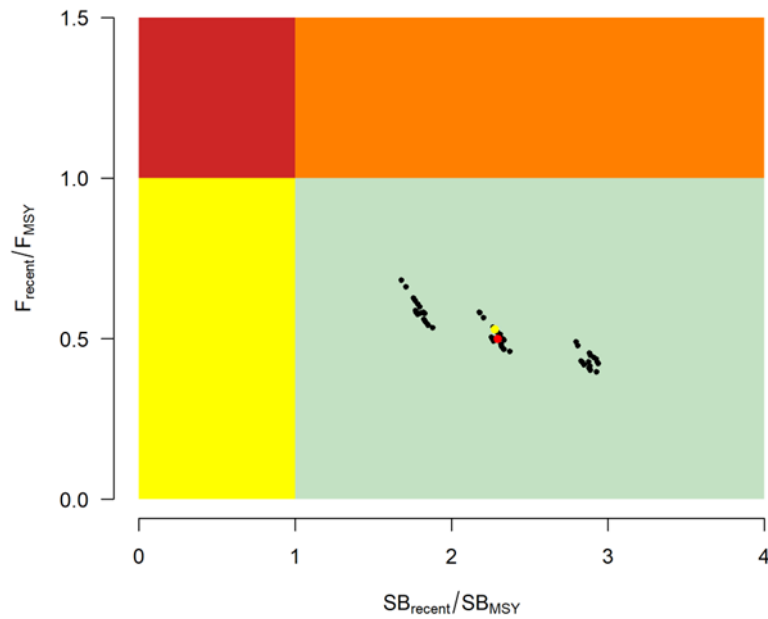


FIGURE 4 KOBE PLOT SUMMARISING THE RESULTS FOR EACH OF THE MODELS IN THE STRUCTURAL UNCERTAINTY GRID FOR THE RECENT PERIOD (2018-2021). THE YELLOW POINT IS THE 2023 DIAGNOSTIC MODEL AND THE RED POINT IS THE MEDIAN (FIGURE 64 FROM SC19-SA-WP-04) (WCPFC 2023).

Therefore, the fishery **passes Clause C1.2.**

References

IATCC (2023). Report on the tuna fishery, stocks, and ecosystem in the Eastern Pacific Ocean in 2022. https://www.iatcc.org/GetAttachment/0f48f889-2aa5-437f-8d03-648d62ecfb75/No-21-2023_Tunas,-stocks-and-ecosystem-inthe-eastern-Pacific-Ocean-in-2022.pdf

WCPFC (2023). WCPO YELLOWFIN TUNA (*Thunnus albacares*). STOCK STATUS AND MANAGEMENT ADVICE. Available at: <https://www.wcpfc.int/doc/02/yellowfin-tuna>

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	n/a	
	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	n/a	
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	