MarinTrust Standard V2

By-product Fishery Assessment

SLV05 – Bigeye tuna in FAO areas 77 and 87 (Eastern Pacific Ocean)

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:	Bigeye tuna (*Thunnus obesus*)
	Geographical area:	FAO 77 Pacific, Eastern Central FAO 87 Pacific, Southeast
	Country of origin of the product:	El Salvador, Ecuador, Spain, Panama
	Stock:	Eastern Pacific Ocean bigeye tuna
Date	August 2024	
Report Code	SLV05	
Assessor	Jose Peiro Crespo	
Country of origin of the product - PASS	El Salvador, Ecuador, Spain, Panama	
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:			
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Jose Peiro Crespo	Sam Peacock	0.2	Re-approval
Assessment Period	Up to September 2025		

Scope Details	
Main Species	Bigeye tuna (*Thunnus obesus*)
Stock	Eastern Pacific Ocean bigeye tuna
Fishery Location	FAO 77 (Pacific, Eastern Central) FAO 87 (Pacific, Southeast)
Management Authority (Country/ State)	Inter-American Tropical Tuna Commission (IATTC)
Gear Type(s)	Not provided
Outcome of Assessment	
Peer Review Evaluation	Agree with Assessor's recommendation
Recommendation	**Approve**

Table 2. Assessment Determination

Assessment Determination
Bigeye tuna (*Thunnus obesus*) has been categorised by the IUCN as Vulnerable, and does not appear in the CITES appendices. Therefore, it is eligible for approval for use as Marin Trust by-product raw material. The stock is managed using biomass-based limit reference points and has therefore been assessed under Category C. The most recent stock assessment conducted by the IATTC in 2020 used catch data from the purse seine and longline fisheries for producing statistical probabilities for the status of the stock relative to target and limit reference points. The assessment indicated that the probabilities of spawning biomass at the beginning of 2020 ($Scur$) being lower than the target and limit reference levels are 53% and 6%, respectively (IATTC 2023). As a result, the fishery effectively **complies with clauses C1.1 and C1.2.** Consequently, bigeye tuna (*Thunnus obesus*) caught in FAO areas 77 and 87 is granted **approval** for the production of fishmeal and fish oil, adhering to the existing MarinTrust v2.3 by-products standard.
Fishery Assessment Peer Review Comments
The peer reviewer agrees that this stock is eligible for MarinTrust approval, and that it should be assessed under Category C. The assessor has demonstrated, with references, that the stock is subject to a regular stock assessment which incorporates fishery removals, and that stock biomass is currently highly likely to be above the limit reference point level. For these reasons, the peer reviewer agrees that this byproduct should be re-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]
Bigeye tuna	*Thunnus obesus*	Eastern Pacific Ocean	IATTC	C	Vulnerable	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		**Bigeye tuna**	
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 bigeye tuna (Th*unnus obesus*) stock in the Eastern Pacific Ocean is regularly evaluated by the Inter-American Tropical Tuna Commission (IATTC). The most recent comprehensive stock assessment took place in 2020, utilizing catch data from the purse seine and longline fisheries. To address key uncertainties, 44 models were applied, with results presented alongside confidence intervals to reflect probable outcomes. In 2023, risk-based Stock Status Indicators (SSIs) were introduced as valuable alternatives to formal stock assessments, especially when such assessments may be too uncertain to guide management decisions (IATTC 2022). For bigeye tuna, SSIs are now integrated into the annual stock status review (IATTC 2023). The assessment includes all available catch data, ensuring that criterion **C1.1 is met.**

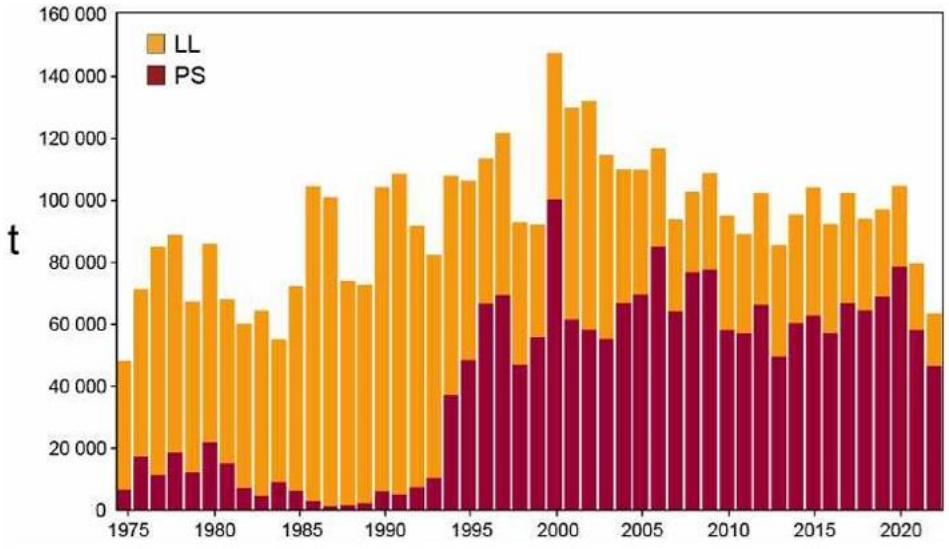

FIGURE 1 TOTAL CATCHES (RETAINED CATCHES PLUS DISCARDS) BY THE PURSE-SEINE (PS) FISHERIES, AND RETAINED CATCHES BY THE LONGLINE (LL) FISHERIES, OF BIGEYE TUNA IN THE EASTERN PACIFIC OCEAN, 1975-2022. THE PURSE SEINE CATCHES ARE ADJUSTED TO THE SPECIES COMPOSITION ESTIMATE OBTAINED FROM SAMPLING THE CATCHES. 2020 AND 2021 DATA ARE PRELIMINARY (IATCC 2023).

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 2020 stock assessment produced statistical probabilities for the status of the stock relative to target and limit reference points. The key conclusion of the assessment were: (1) the probabilities of fishing mortality during 2017-2019 ($Fcur$) being higher than the target and limit reference levels are 50% and 5%, respectively; (2) the probabilities of spawning biomass at the beginning of 2020 ($Scur$) being lower than the target and limit reference levels are 53% and 6%, respectively (IATTC 2023). Therefore, there was a very low probability of the biomass being below the limit reference point, and **C1.2 is met.**

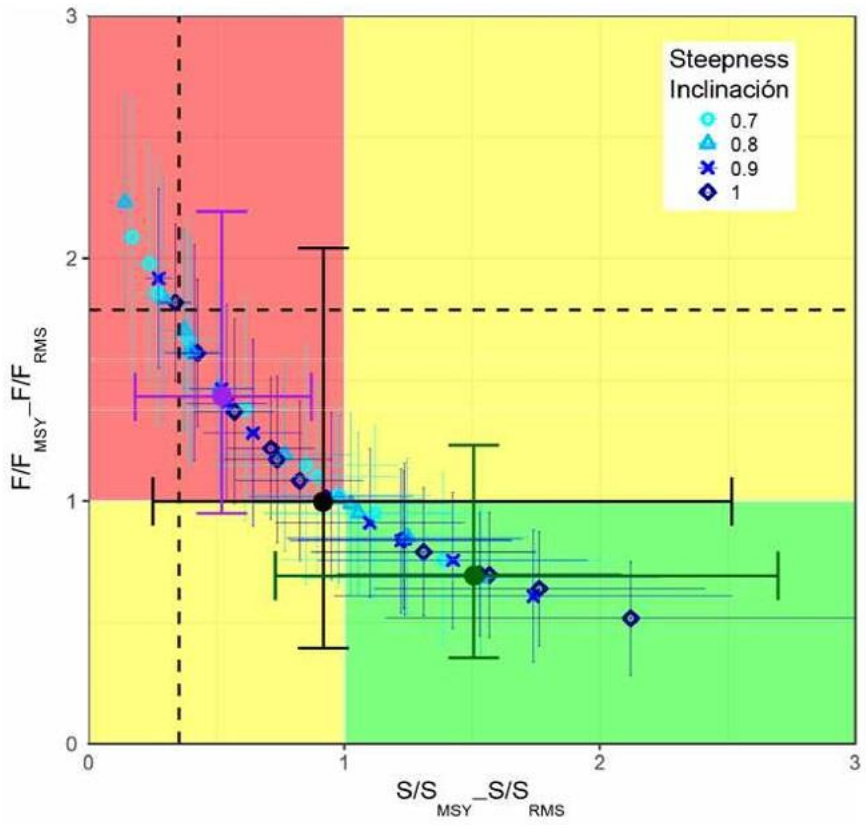

FIGURE 2 KOBE PLOT OF THE MOST RECENT ESTIMATES OF SPAWNING BIOMASS (S) AND FISHING MORTALITY (F) RELATIVE TO THEIR MSY REFERENCE POINTS (SMSY_D AND FMSY) ESTIMATED BY THE 44 CONVERGED REFERENCE MODEL RUNS. THE DASHED LINES REPRESENT THE LIMIT REFERENCE POINTS AVERAGED FOR THE 44 CONVERGED REFERENCE MODEL RUNS. THE ERROR BARS REPRESENT THE 95% CONFIDENCE INTERVAL OF THE ESTIMATES. THE BLACK, PURPLE, AND GREEN DOTS ARE THE COMBINED ESTIMATES ACROSS ALL MODELS, ALL PESSIMISTIC MODELS, AND ALL OPTIMISTIC MODELS, RESPECTIVELY (IATTC 2023).

References

IATTC (2023). The tuna fishery in the Eastern Pacific Ocean in 2022. https://www.iattc.org/GetAttachment/0f48f889-2aa5-437f8d03-648d62ecfb75/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