MarinTrust Standard V2

By-product Fishery Assessment
Bigeye tuna (*Thunnus obesus*) in FAO
51- Western Indian Ocean

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Bigeye tuna (*Thunnus obesus*)
	Geographical area:	FAO 51 - Western Indian Ocean
	Country of origin of the product:	El Salvador Flag countries: El Salvador, Ecuador, Spain, Panama
	Stock:	Western Indian Ocean bigeye tuna

Date	20th September 2023
Report Code	SLV07
Assessor	Ana Elisa Almeida Ayres
Country of origin of the product - PASS	El Salvador Flag countries: El Salvador, Ecuador, Spain, Panama
Country of origin of the product - FAIL	N/A

Application details and summary of the assessment outcome			
Company Name(s): Calvo Conseras SA			
Country: El Salvador			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:	NSF		
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ana Elisa Almeida Ayres	Léa Lebechnech	0.5	Surveillance 2
Assessment Period	October 2023 – October 2024		

Scope Details	
Main Species	Bigeye tuna (*Thunnus obesus*)
Stock	Western Indian Ocean bigeye tuna
Fishery Location	FAO 51 - Western Indian Ocean
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	Purse seine, longline, line, baitboat, gillnet
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's recommendation
Recommendation	APPROVED

Marine Ingredients Certifications Ltd (09357209) | Doc FISH1- Issued October 2022 – Version 2.3 | Approved by Libby Woodhatch

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Page 6 of 7

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on Union for Conservation of Nature's Red List of Threatened Species - IUCN's Red List, or if it appears in the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES appendices, it cannot be approved for use as MarinTrust raw material. Bigeye tuna (*Thunnus obesus*) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, bigeye tuna (*Thunnus obesus*) is eligible for approval for use as MarinTrust by-product raw material.

The bigeye tuna in FAO 51- Western Indian Ocean is managed by the Indian Ocean Tuna Commission (IOTC), which is an intergovernmental organization responsible for managing tuna and tuna-like species in the Indian Ocean. The IOTC provides stock assessments and advice for these species on a three-year cycle (approximately). The most recent stock assessment for bigeye tuna was conducted in 2022. Fishery removals of the species in the fishery under assessment are included in the stock assessment process, so it passes clause C.1.1. Bigeye tuna is considered, in its most recent stock assessment, to have a biomass above the limit reference point of $0.5*SBMSY$, thus it passes C.1.2.

Therefore, bigeye tuna (*Thunnus obesus*) in FAO 51 - Western Indian Ocean is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard. |

Fishery Assessment Peer Review Comments
The assessor correctly classified bigeye tuna (*Thunnus obesus*) in FAO 51- Western Indian Ocean as Category C, the stock is subject to a specific management regime and reference points are defined.

Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that the stock is above proxy reference point. Therefore, the stock is considered to satisfy C1.1. and C1.2.

In conclusion, bigeye tuna (*Thunnus obesus*) in FAO 51- Western Indian Ocean passes both clauses (C1.1 and C1.2) and therefore should be approved under the MarinTrust Standard v2.3. |

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*	Western Indian Ocean bigeye tuna	Indian Ocean Tuna Commission (IOTC)	C	VU	No

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[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 (*Thunnus obesus*)	
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.	Yes
	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.	Yes
	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 fisheries removals are reported as commercial catches (Figure 1). Data are considered to be relatively reliable for the main industrial fleets targeting bigeye tuna, with the proportion of catches estimated or adjusted by the IOTC Secretariat relatively low. Therefore, each IOTC dataset (nominal catch, catch-and-effort, and length frequency) are assessed against IOTC reporting standards.
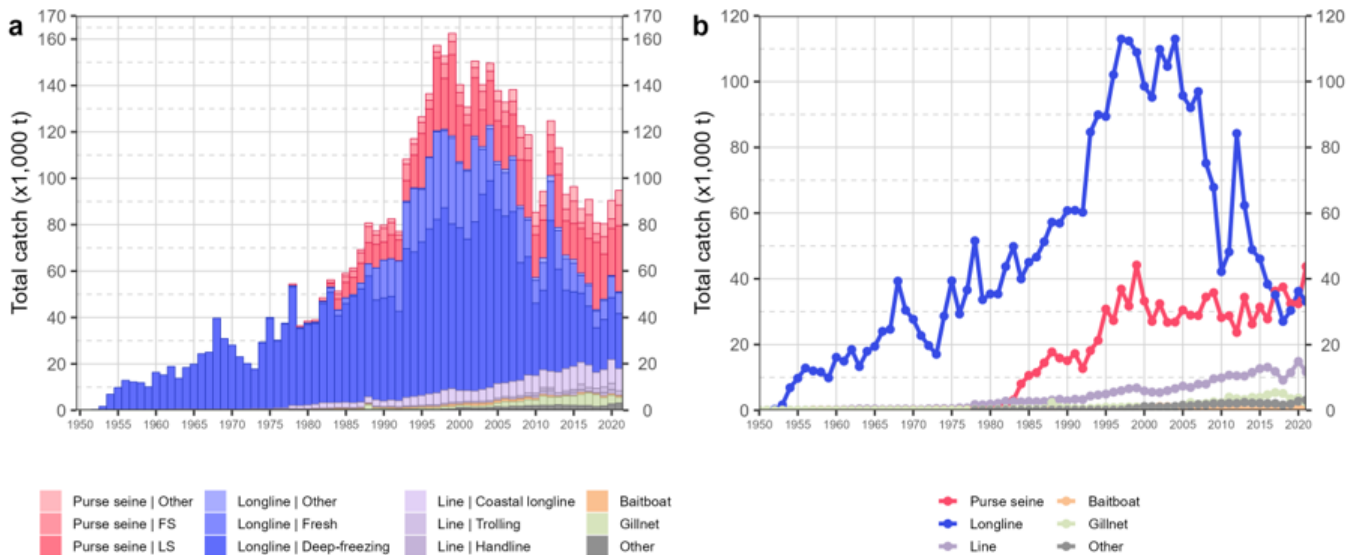
Fig. 1. Annual time series of (a) cumulative nominal catches (metric tonnes; t) by fishery group and (b) individual nominal catches (metric tonnes; t) by fishery for bigeye tuna during 1950–2021. FS = free-swimming school; LS = schools associated with drifting floating objects; Purse seine | Other: coastal purse seine, purse seine of unknown school association type, ring net; Longline | Other: swordfish and sharks-targeted longlines; Other: all remaining fishing gears

Figure 1. Source: IOTC (2022).

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process. C.1.1 is met.

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.

According to IOCT (2022): "In 2022 a new stock assessment was carried out for bigeye tuna in the IOTC area of competence to update the stock assessment undertaken in 2019. Two models were applied to the bigeye stock (Statistical Catch at Size (SCAS) and Stock Synthesis (SS3)), with the SS3 stock assessment selected to provide scientific advice. The reported stock status is based on a grid of 24 model configurations designed to capture the uncertainty on stock recruitment relationship, longline selectivity, growth and natural mortality. Spawning biomass in 2021 was estimated to be 25% (80% CI: 23-27%) of the unfished levels in 2021 (Table 1) and 90% (75-105%) of the level that can support MSY. Fishing mortality was estimated at 1.43 (1.1-1.77) times the FMSY level. Considering the characterized uncertainty, the assessment indicates that SB2021 is below SBMSY and that F$_{2021}$ is above FMSY (79%). On the weight-of-evidence available in 2022, the bigeye tuna stock is determined to be overfished and subject to overfishing (Table 1)." (Figure 2).

According to Resolution 15/10 (LEAP, 2023), the interim limit reference point of bigeye tuna is 0.5*SBMSY, thus as bigeye tuna presented SB2021/SBMSY= 90%, the species has a biomass above the limit reference point.
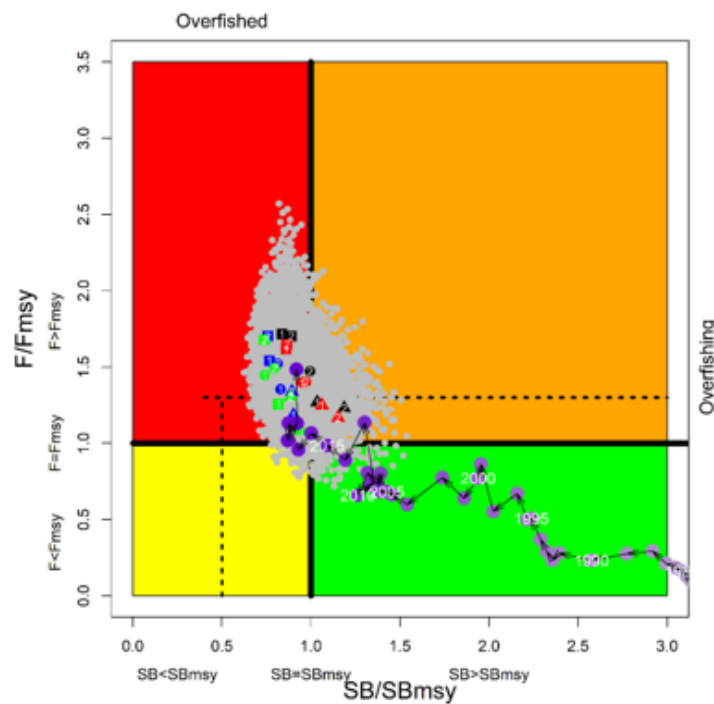
Fig. 3. Bigeye tuna: SS3 Aggregated Indian Ocean assessment Kobe plot. The coloured points represent stock status estimates from the 24 model options. Coloured symbols represent Maximum posterior density (MPD) estimates from individual models: square, circle, and Triangles represents alternative steepness options; black, red, blue, and green represents alternative growth and natural mortality option combination; 1,2, represents alternative selectivity options. The purple dot and arrowed line represent estimates of the reference model (the last purple dot represents the terminal year of 2021). Grey dots represent uncertainty from individual models. The dashed lines represent limit reference points for IO bigeye tuna (SBlim = 0.5 SBMSY and Flim = 1.4 FMSY)

Figure 2. Source: IOTC (2022).

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). C.1.2 is met.

References

IOTC. 2022. Executive summary Bigeye Tuna 2022_rev1. https://iotc.org/sites/default/files/content/Stock_status/IOTC-2022-SC25-ES02_BET_E_rev1.docx

LEAP. 2023. Resolution 15/10 on target and limit reference points and a decision framework. https://leap.unep.org/countries/national-legislation/resolution-1510-target-and-limit-reference-points-and-decision

Links

MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01