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, Ecuador, Spain, and Panama
	Stock:	Bigeye tuna in FAO 51 Western Indian Ocean
Date	16 September 2022	
Report Code	SLV07	
Assessor	Matthew Jew	
Country of origin of the product - PASS	El Salvador (Flag countries: El Salvador, Ecuador, Spain, and Panama)	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Calvo Conservas El Salvador S.A. de C.V.			
Country: El Salvador			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Matthew Jew	Léa Lebechnech	0.5	Surveillance 1
Assessment Period	Up to September 2022		

Scope Details	
Main Species	Bigeye tuna (*Thunnus obesus*)
Stock	Bigeye tuna in FAO 51 Western Indian Ocean
Fishery Location	FAO 51 Eastern 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 of approval
Recommendation	Approved

Table 2. Assessment Determination

Assessment Determination
If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin trust raw material. Bigeye tuna (*Thunnus obesus*) do not appear as Endangered or Critically Endangered on IUCN's Red List, nor do they appear in CITES appendices; therefore, *Thunnus obesus* is eligible for approval for use as Marin trust by-product raw material. The most recent stock assessment for Indian Ocean bigeye tuna was conducted in 2019, but the Indian Ocean Tuna Commission (IOTC) provides updated management advice annually. This assessment is based on the 2019 stock assessment and 2021 management advice. The assessment considers bigeye tuna in the Indian Ocean to be a single stock (which includes FAO Area 51) and this is the only stock under assessment. The stock is subject to a specific management regime, therefore it was assessed under Category C. Fishery removals are included in the stock assessment and it PASSES Clause C1.1. The stock is considered, in its most recent stock assessment, to have biomass above the limit reference point, it PASSES Clause C1.2. Therefore, bigeye tuna in FAO subareas 51 (Eastern Indian Ocean) is **APPROVED** for the production of fishmeal and fish oil under the current MarinTrust v2.0 by-products.
Fishery Assessment Peer Review Comments
The internal peer reviewer agrees with the assessor's determination, who correctly classified the stock of Eastern Indian Ocean bigeye tuna under Category C, as the stock is subject to a specific management regime in place and reference points are defined. Fishery removals are included in the stock assessment and the stock has its biomass above reference point, so it passes Clauses C1.1 and C1.2. Therefore, bigeye tuna in FAO 51, Western Indian Ocean, is **APPROVED** for the production of fishmeal and fish oil under the current MarinTrust v 2.0 by-products standards.
Notes for On-site Auditor
N/A

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*	Bigeye tuna in FAO 51 (Western Indian Ocean)	Indian Ocean Tuna Commission (IOTC)	C	VU	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 (*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.

Fishery removals of the species in the fishery under assessment are included in the stock assessment process via Indian Ocean Tuna Commission (IOTC) processes. The stock is assessed (carried out in 2019) using two models: Stock Synthesis (SS3) and JABBA. Thus, on the weight-of-evidence available in 2019, the bigeye tuna stock is determined to be not overfished but subject to overfishing.

If catches remain at 2018 levels, there is a risk of breaching MSY reference points with 58.9% and 60.8% probability in 2021 and 2028. Maintaining catches of at least 10% below 2018 levels will likely reduce the probabilities of breaching reference levels to 49.1% in 2028. Continued monitoring and improvement in data collection, reporting and analyses is required to reduce the uncertainty in assessments (IOTC 2021).

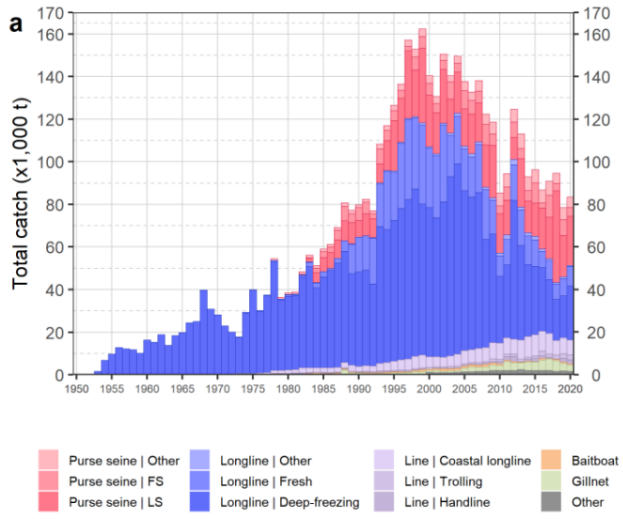

Figure 1. Catches of bigeye tuna by gear type in the Indian Ocean from 1950 to 2019.
Source: IOTC 2021.

Therefore, fishery removals of the stock, including from the fishery under assessment, are included in the stock assessment process. The stock 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.

The most recent analyses of the status of the Indian Ocean bigeye tuna stock were conducted in 2019 (IOTC, 2020). Currently, the spawning biomass is considered to be at 122% of the interim target reference point of SB_{MSY} and well above the interim limit reference point of $0.5*SB_{MSY}$ (IOTC, 2022; Figure 2). However, it is important to note that current fishing mortality is considered to be at 120% of the interim target reference point of F_{MSY}, and 92% of the interim limit reference point of $1.3*F_{MSY}$ (Figure 2).

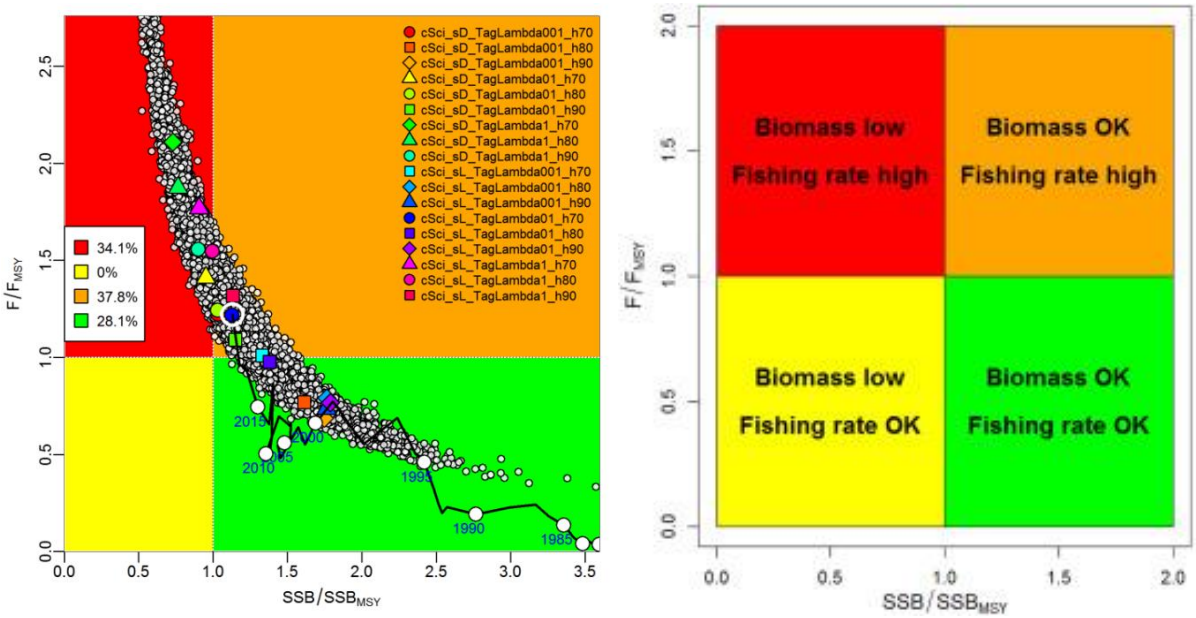

Figure 2. Indian Ocean bigeye tuna (Kobe plot). Left: Stock status trajectories of B/B_{MSY} and F/F_{MSY} over time (1950-2019). The colored points represent stock status estimates from the 18 model options. The grey dots represent 5,000 estimates of the 2018 stock status from multivariate normal approximation from the mean and variance-covariance of the 18 model options. The white circle (around the blue dot) represents the median stock status. Right: Legend for the background colors on the Kobe plot. Source: IOTC 2021.

Therefore, the stock is still considered, in its most recent stock assessment, to have biomass above the limit reference point. The stock PASSES Clause C1.2.

References

IOTC. 2020. Draft Resources Stock Summary-bigeye tuna. IOTC Secretariat- IOTC-2020-SC23-ES02 https://iotc.org/sites/default/files/documents/2020/11/IOTC-2020-SC23-ES02_Bigeye_tuna.pdf.

IOTC. 2021. Executive summary: bigeye tuna (2021). https://iotc.org/sites/default/files/documents/science/species_summaries/english/2_Bigeye2021E.pdf.

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