



## MarinTrust Standard V2

# By-product Fishery Assessment MUS02 – Bigeye tuna (*Thunnus obesus*) in FAO Area 51

### MarinTrust Programme

Unit C, Printworks

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**Table 1 Application details and summary of the assessment outcome**

Fishery Under Assessment	Species:	Bigeye tuna ( <i>Thunnus obesus</i> )
	Geographical area:	FAO Area 51
	Country of origin of the product:	Mauritius
	Stock:	Indian Ocean bigeye tuna
Date	April 2024	
Report Code	MUS02	
Assessor	Sam Peacock	
Country of origin of the product - PASS	Mauritius	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Marine Biotechnology Products Ltd			
Country: Mauritius			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		NSF / Global Trust Certification Ltd.	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval
Sam Peacock	Léa Lebechnech	0.2	Surveillance 2
Assessment Period	April 2024 – April 2025		

Scope Details	
Main Species	Bigeye tuna ( <i>Thunnus obesus</i> )
Stock	Indian Ocean bigeye
Fishery Location	FAO Area 51
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	Longline and others
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's determination
Recommendation	APPROVED

**Table 2. Assessment Determination**

Assessment Determination
<p>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 (<i>Thunnus obesus</i>) does not appear as Endangered or Critically Endangered on IUCN’s Red List, and does not appear in CITES appendices; therefore, <i>Thunnus obesus</i> is eligible for approval for use as Marin trust by-product raw material.</p> <p>Bigeye in the Indian Ocean is managed by the Indian Ocean Tuna Commission (IOTC)</p> <p>Bigeye in the Indian Ocean is subject to regular stock assessment by the IOTC. The most recent was conducted in 2022, using all available catch data, meeting C1.1. Although the stock is estimated to be below the target reference point, there is a high probability it is above the limit reference point, meeting C1.2.</p> <p>Therefore, bigeye tuna (<i>Thunnus obesus</i>) in FAO Area 51 should remain <b>APPROVED</b> for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly assessed bigeye tuna (<i>Thunnus obesus</i>) in FAO 51 under Category C, the stock being subject to a specific management regime and reference points are defined.</p> <p>Fishery removals are considered in the stock assessment process and the most recent stock assessment shows that the stock is highly likely to be above limit reference point. Therefore, the stock is considered to satisfy C1.1. and C1.2.</p> <p>In conclusion, Indian Ocean bigeye tuna passes both clauses (C1.1 and C1.2) and therefore should be approved under the MarinTrust Standard v2.3.</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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
Bigeye tuna	<i>Thunnus obesus</i>	Indian Ocean Bigeye tuna	Yes	C	Vulnerable <sup>3</sup>	No

<sup>1</sup> <https://www.iucnredlist.org/>

<sup>2</sup> <https://cites.org/eng/app/appendices.php>

<sup>3</sup> <https://www.iucnredlist.org/species/21859/46912402>

## 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 ( <i>Thunnus obesus</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.**

Bigeye tuna in the Indian Ocean (IO bigeye) is subject to regular stock assessment by the IOTC. The most recent stock assessment was carried out in 2022 using a Stock Synthesis model with 24 model configurations. The assessment incorporated international catch data, and the range of models used was intended to capture uncertainty on stock recruitment relationship, longline selectivity, growth, and natural mortality (IOTC 2023).

Catches are presented in the figure below:

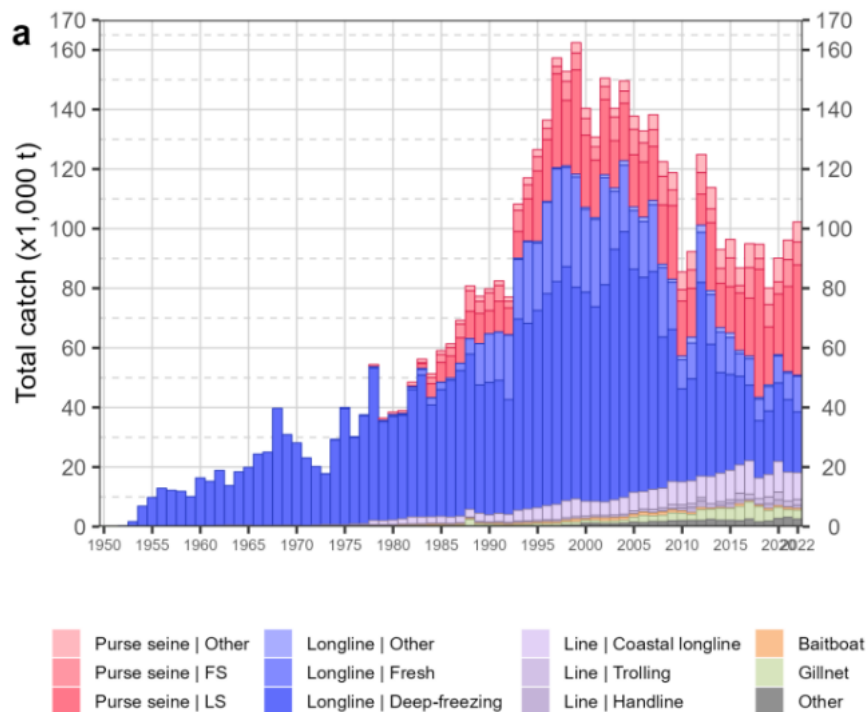


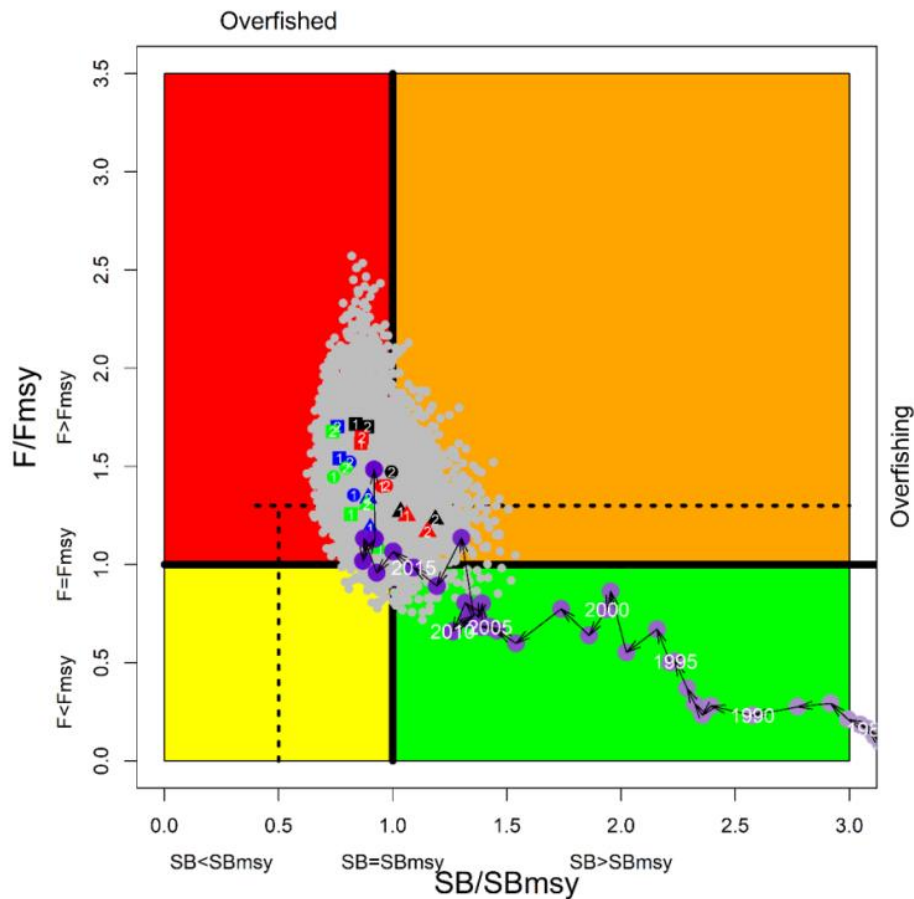
Figure 1. Indian Ocean bigeye tuna, catches (IOTC 2023)

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and therefore 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 2022 stock assessment concluded that spawning biomass levels in 2021 were 25% of the unfished level, and 90% of the level which can support MSY. Taking into account the uncertainty in the assessment process, the IOTC documentation concludes that the stock is “overfished and subject to overfishing” (IOTC 2023). This conclusion indicates that the stock is likely below the target reference point. However, the limit reference point for the stock is defined as  $0.5 \times SB_{MSY}$ ; i.e. the level at which stock biomass is half the level which can support MSY. As the stock is currently estimated to be at 90% of this level, it is likely above the limit reference point. Additionally, none of the outcomes of the 24 models indicated that biomass was below the LRP.

A Kobe chart showing the status of the fishery as estimated by the 2022 stock assessment is shown below.



Aggregated Indian Ocean stock assessment Kobe plot for bigeye tuna. Coloured points represent stock status estimates from each of the 24 models. Purple dots represent the time series of stock status estimates. Grey dots represent uncertainty from individual models. Dashed lines indicate IO bigeye tuna limit reference points (IOTC 2023).

**Therefore, the species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy) and it PASSES clause C1.2.**

**References**

IOTC (2023). Indian Ocean bigeye tuna stock status and advice, executive summary. [https://iotc.org/sites/default/files/content/Stock\\_status/2023/Bigeye\\_ES\\_2023.pdf](https://iotc.org/sites/default/files/content/Stock_status/2023/Bigeye_ES_2023.pdf)

**Links**

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