



## MarinTrust Standard V2

### By-product Fishery Assessment

### THA04

### Bigeye tuna (*Thunnus obesus*)

### in FAO 21, 27, 31 and 34 Atlantic Ocean

**MarinTrust Programme**

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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 34, 41, 47 - Atlantic Ocean
	Country of origin of the product:	Thailand Flag countries: Senegal, Ghana, Liberia
	Stock:	Atlantic Ocean bigeye tuna
Date	May 2024	
Report Code	THA04	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Thailand Flag countries: Senegal, Ghana, Liberia	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): TCF Co. Ltd, Chotiwat Manufacturing Public Co. Ltd, Thai Union Ingredients Co. Ltd			
Country: Thailand Flag countries: Senegal, Ghana, Liberia			
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
Ana Elisa Almeida Ayres	Matthew Jew	0.5	Surveillance 2
Assessment Period	May 2024 – May 2025		

Scope Details	
Main Species	Bigeye tuna ( <i>Thunnus obesus</i> )
Stock	Atlantic Ocean bigeye tuna
Fishery Location	FAO 34, 41, 47 - Atlantic Ocean
Management Authority (Country/ State)	International Commission for the Conservation of Atlantic Tunas (ICCAT) and Contracting (State) Parties
Gear Type(s)	Purse seines, longlines and bait boat
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	<b>APPROVED</b>

**Table 2. Assessment Determination**

Assessment Determination
<p>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 (<i>Thunnus obesus</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, bigeye tuna (<i>Thunnus obesus</i>) is eligible for approval for use as MarinTrust by-product raw material.</p> <p>At this point in time, it is assumed there is a single Atlantic-wide population of bigeye tuna. This is based on a lack of identified genetic heterogeneity, time/area distribution of fish and movement patterns of tagged fish, therefore, the Atlantic stock is considered in this report. This stock is managed at the international level by the International Commission for the Conservation of Atlantic Tunas (ICCAT), which ICCAT conducts stock assessments. 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 <math>0.4 \times BMSY</math>, thus it passes C.1.2.</p> <p>Therefore, bigeye tuna (<i>Thunnus obesus</i>) in FAO 34, 41, 47 - Atlantic Ocean is <b>APPROVED</b> for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified bigeye tuna (<i>Thunnus obesus</i>) in FAO 21, 27, 31, and 34 - Atlantic Ocean as Category C, the stock is subject to a specific management regime and reference points are defined.</p> <p>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.</p> <p>In conclusion, bigeye tuna (<i>Thunnus obesus</i>) in FAO 21, 27, 31, and 34 - Atlantic Ocean 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
<p>N/A</p>

## 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 a 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>	Atlantic Ocean bigeye tuna	Yes	C	VU <sup>3</sup>	No

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

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

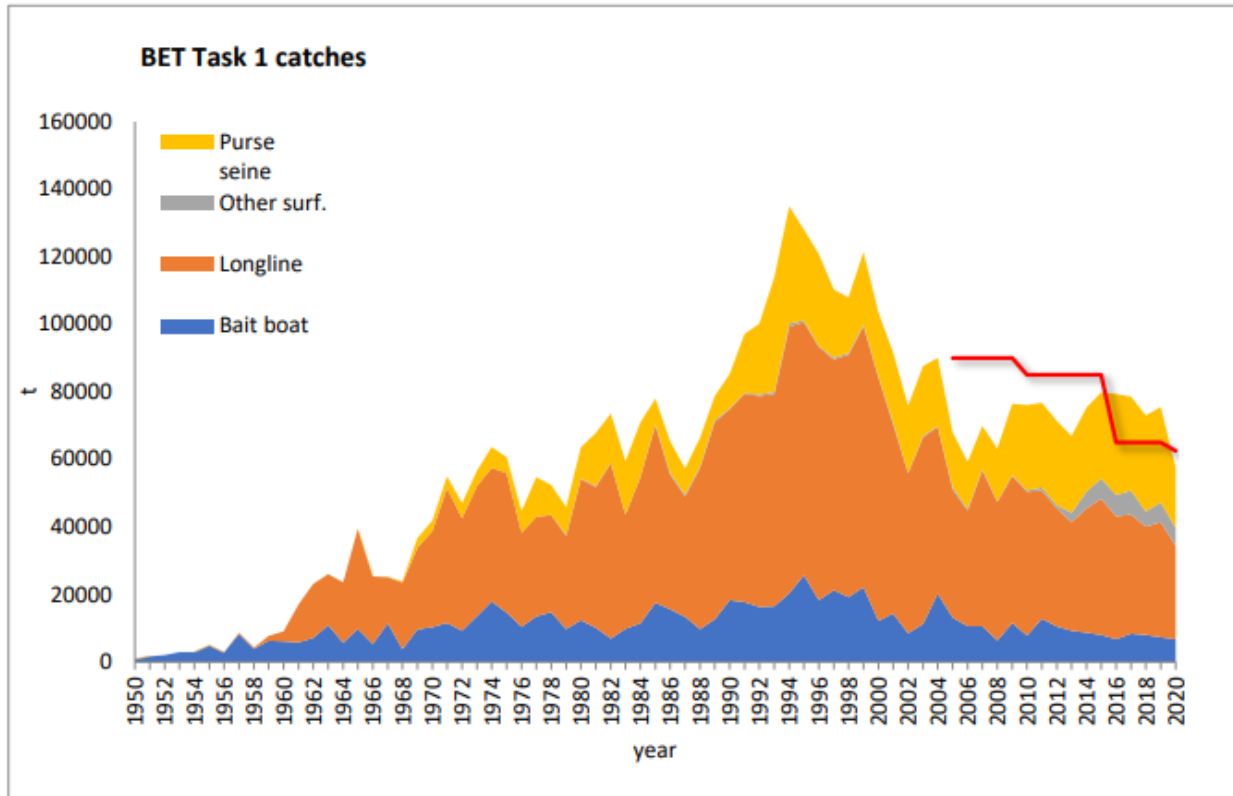
<sup>3</sup> <https://www.iucnredlist.org/es/species/21859/46912402>

## 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.

<b>Species Name</b>		Bigeye tuna ( <i>Thunnus obesus</i> )	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	<b>C1.1</b>	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
	<b>C1.2</b>	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
			<b>Clause outcome:</b> Pass
<p><b>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.</b></p> <p>According to ICCAT (2021): “A stock assessment for bigeye tuna was conducted in 2021 (Anon. 2021a) through a process that included a data preparatory meeting in April and an assessment meeting in July. The stock assessment used fishery data from the period 1950-2019 and indices of relative abundance used in the assessment were calculated through 2019.”</p> <p>The total annual Task I catch (Figure 1, named “BET-Figure 3”, Total Allowable Catch - TAC is represented by the red line) increased continuously up to the mid - 1970s reaching 60,000 t and fluctuated over the next 15 years. In 1992, catch reached 100,000 t and continued to increase, reaching a historic high of about 135,000 t in 1994. Since then, reported and estimated catch continuously declined and fell to 59,192 t by 2006. From the low level of 2006, catches increased again and reached 79,524 t in 2015. Catches averaged 77,241 t in the period 2015-2019. The preliminary catch reported for 2020 was 57,486 t, below the TAC of 62,500 t.</p>			



**BET-Figure 3.** Bigeye tuna estimated and reported catches for all the Atlantic stock (t). The value for 2020 represents catch reports until September 18, 2021.

Figure 1. Source: ICCAT (2021).

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.

The 2021 stock assessment was conducted using similar assessment models to those used in 2018, updating the data until 2019, but with some significant changes in natural mortality assumptions, derived from new information and new assumptions on maximum age, the relative abundance indices used and the fleet structure of the model used for providing management advice.

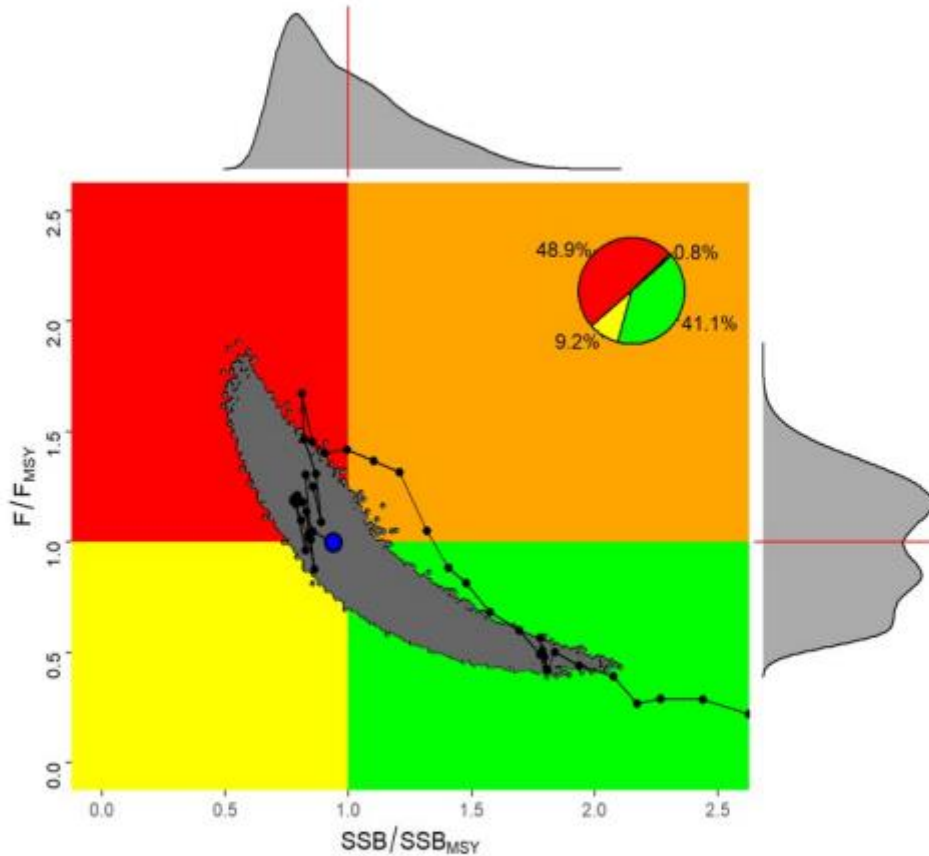
The Atlantic bigeye tuna stock in 2019 was estimated to be overfished but not undergoing overfishing. According to the Kobe strategy matrix, a future constant catch of 61,500 t, which is the TAC established in Rec. 19-02, will have a high probability (97%) of maintaining the stock in the green quadrant of the Kobe plot by 2034.

Furthermore, it needs to be noted that the estimated catches for 2020 and the assumed catches for 2021 (=TAC= 61,500 t) result in a strong reduction of fishing mortality and a growth in SSB in those two first years of the projection period. This leads to a prediction that the BET stock at the end of 2021 will be in a significantly better status (probability of being in the green zone > 80%) than the stock at the end of the last year of the assessment in 2019 (probability of being in the green zone=41%). The rapid change in probabilities of overfishing and overfished during 2020 and 2021 are the result of the fact that estimated stock status is close to the centre point of the Kobe plot. When a stock is at such centre point, decreases in fishing mortality initially lead to large changes in these probabilities as can be seen from the marginal histograms (Figure 2, named “BET-Figure 8”).

In this last stock assessment, Relative Spawning Biomass, which is the ratio between the current spawning biomass and spawning biomass at maximum sustainable yield ( $SSB_{2019}/SSB_{MSY}$ ) was set at 0.94 (0.71-1.37).

According to ICCAT (2022): “When assessing stock status and providing management recommendations to the Commission, the SCRS shall consider the interim limit reference (LRP) of  $0.4 \cdot B_{MSY}$  or any more robust LRP established through further analysis.”

Thus, the current spawning biomass of bigeye tuna ( $SSB_{current}/SSB_{MSY}=0,94$ ) is above the limit reference point ( $LRP= 0,4 \cdot SSB_{MSY}$ ).



**BET-Figure 8.** Stock Synthesis: Kobe plot of  $SSB/SSB_{MSY}$  and  $F/F_{MSY}$  for stock status of Atlantic bigeye tuna in 2019 based on the log multivariate normal approximation across the 27 uncertainty grid model runs of Stock Synthesis with an insert pie chart showing the probability of being in the red quadrant (48.9 %), green quadrant (41.1 %), orange (0.8%) and in yellow (9.2 %). Blue circle is the median and marginal histograms represent distribution of either  $SSB/SSB_{MSY}$  or  $F/F_{MSY}$ .

Figure 2. Source: ICCAT (2021).

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**

ICAAT. 2021. Executive summary BET. [https://iccat.int/Documents/SCRS/ExecSum/BET\\_ENG.pdf](https://iccat.int/Documents/SCRS/ExecSum/BET_ENG.pdf)

ICCAT. 2022. Compendium Management recommendations and resolutions Adopted by ICCAT for the conservation of Atlantic Tunas and tuna-like species. [https://www.iccat.int/com2022/ENG/PLE\\_102\\_ENG.pd](https://www.iccat.int/com2022/ENG/PLE_102_ENG.pd)

**Links**

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