



MarinTrust Standard V2

By-product Fishery Assessment Report Template

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 Areas 34-41-47 Atlantic Eastern Central, Southwest, Southeast
	Country of origin of the product:	Ivory Coast
	Stock:	Atlantic bigeye tuna
Date	7 April 2021	
Report Code	BP45	
Assessor	Geraldine Criquet	
Country of origin of the product - PASS	Ivory Coast	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Name: Marine Biotechnology Products			
Address:			
Country: Ivory Coast		Zip:	
Tel. No.:		Fax. No.:	
Email address:		Applicant Code:	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Geraldine Criquet	Sam Dignan	0.5	Surveillance 1
Assessment Period	April 2021		

Scope Details	
Main Species	Bigeye tuna, <i>Thunnus obesus</i>
Stock	Atlantic bigeye tuna
Fishery Location	FAO Areas 34-41-47 Atlantic Eastern Central, Southwest, Southeast
Management Authority (Country/ State)	International Commission for the Conservation of Atlantic Tunas (ICCAT)/Ivory Coast
Gear Type(s)	Longline, pole & line and purse seine
Outcome of Assessment	
Peer Review Evaluation	Agree with assessment outcome based on evidence provided
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 MARINTRUST raw material. Bigeye tuna (<i>Thunnus obesus</i>) is not listed as Endangered or Critically Endangered on IUCN’s Red List, nor it is listed in CITES appendices; therefore, Atlantic bigeye tuna is eligible for approval for use as MARIN TRUST by-product raw material.</p> <p>There is a single bigeye tuna stock in the Atlantic. This stock is managed at the international level by the International Commission for the Conservation of Atlantic Tunas (ICCAT). ICCAT conducts stock assessments; reference points are defined for the Atlantic bigeye tuna stock The stock is classified as Category C.</p> <p>Fishery removals of the stock are considered in the various stock assessment processes so the stock PASSES Clause C1.1.</p> <p>The stock assessment concluded that the stock is overfished and overfishing is occurring. Also, there is no information provided on the stock status relative to a limit reference point as it is not defined for the stock. Moreover, catches have been exceeded every year the agreed TAC set from 2016, catches can’t be considered negligible. Therefore, the assessor determines that, the stock cannot be considered to have a biomass above the limit reference point, and catches cannot be considered negligible, it FAILS Clause C1.2.</p> <p>As per the Martin Trust requirements, when a stock fails Claude C1, it should be assessed as Category D instead. Therefore, the assessor further assessed the stock in Table D1. A Productivity and Susceptibility Analysis was performed. With an average productivity score of 2 and an average susceptibility score of 1.75, the stock passes as per Table D3.</p> <p>Therefore, Atlantic bigeye tuna is APPROVED by the assessor for the production of fishmeal and fish oil under the current Marin Trust v.2.0 by-product Standard.</p>
Fishery Assessment Peer Review Comments
<p>Agree with assessment outcome based on evidence provided</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 ¹	CITES Appendix 1 ²
Bigeye tuna	<i>Thunnus obesus</i>	Atlantic bigeye tuna	International Commission for the Conservation of Atlantic Tunas (ICCAT)/Ivory Coast	C	VU	No

¹ <https://www.iucnredlist.org/>

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

CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment.

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		
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. FAIL
		Clause outcome: FAIL

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 last stock assessment for bigeye tuna was conducted in 2018 using fishery data from the 1950-2017 period. Total catches from the 1950-2018 period are shown in Figure 1.

Therefore, the stock **PASSES** Clause C1.1.

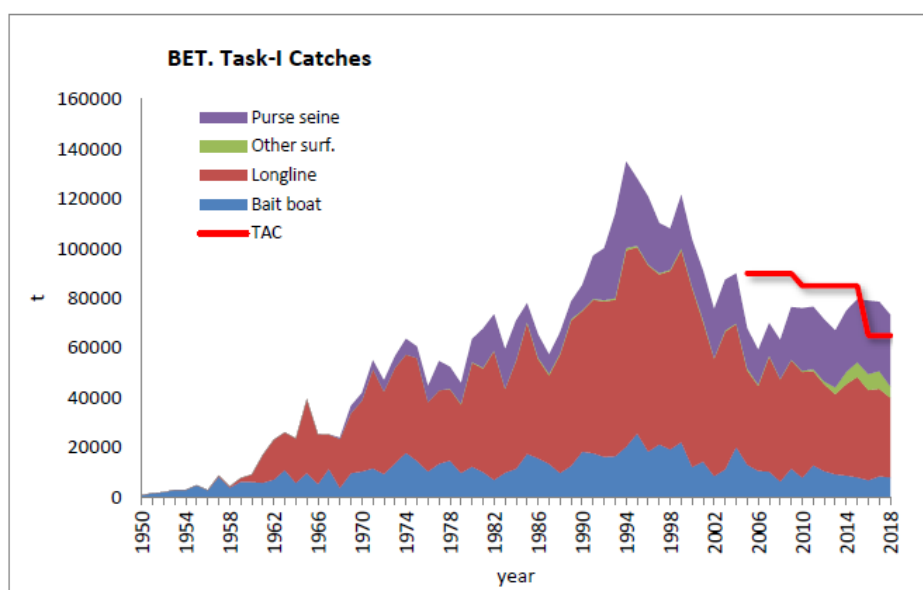


Figure 1. Bigeye estimated and reported catches for all the Atlantic stock (t). The value for 2018 represents preliminary estimates because some countries have yet to provide data for this year or are under revision.

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 last stock assessment for bigeye tuna was conducted in 2018 using fishery data from the 1950-2017 period and all indices of relative abundance used in the assessment were constructed through 2017. The stock assessment concluded that the stock is overfished and overfishing is occurring (Table 4, Figure 2). SSB_{2017} is below SSB_{MSY} . Also, there is no information provided on the stock status relative to a limit reference point as it is not defined for the stock.

Moreover, catches have been exceeded every year the agreed TAC set from 2016, catches can't be considered negligible.

Therefore, the assessor determines that, the stock cannot be considered to have a biomass above the limit reference point, and catches cannot be considered negligible, it **FAILS** Clause C1.2.

As per the Martin Trust requirements, when a stock fails Clause C1, it should be assessed as Category D instead. Therefore, the assessor further assessed the stock in Table D.

Table 4. Atlantic bigeye tuna stock status summary.

ATLANTIC BIGEYE TUNA SUMMARY	
Maximum Sustainable Yield	76,232 t (72,664-79,700 t) ¹
Current (2018) Yield	73,366 t ²
Relative Spawning Biomass (SSB ₂₀₁₇ /SSB _{MSY})	0.59 (0.42-0.80) ¹
Relative Fishing Mortality (F ₂₀₁₇ /F _{MSY})	1.63 (1.14-2.12) ¹
Stock Status (2017)	Overfished: Yes ³ Overfishing: Yes ³
Conservation & management measures in effect:	Rec. 16-01, Rec. 18-01 <ul style="list-style-type: none"> - Total allowable catch for 2016-2019 was set at 65,000 t for Contracting Parties and Cooperating non-Contracting Parties, Entities or Fishing Entities. - Be restricted to the number of their vessels notified to ICCAT in 2005 as fishing for bigeye tuna. - Specific limits of number of longline boats; China (65), Chinese Taipei (75), Philippines (5), Korea (14), EU (269) and Japan (231). - Specific limits of number of purse seine boats; EU (34) and Ghana (17). - No fishing with natural or artificial floating objects during January and February in the area encompassed by the African coast, 20° W, 5°N and 4°S. - No more than 500 FADs active at any time by vessel. - Use of non-entangling FADs.

¹ Combined result of SS3 18 uncertainty grid. Median and 10 and 90% percentile in brackets.

² Reports for 2018 reflect most recent data but should be considered provisional.

³ Probability of overfished > 99%, probability of overfishing > 99%.

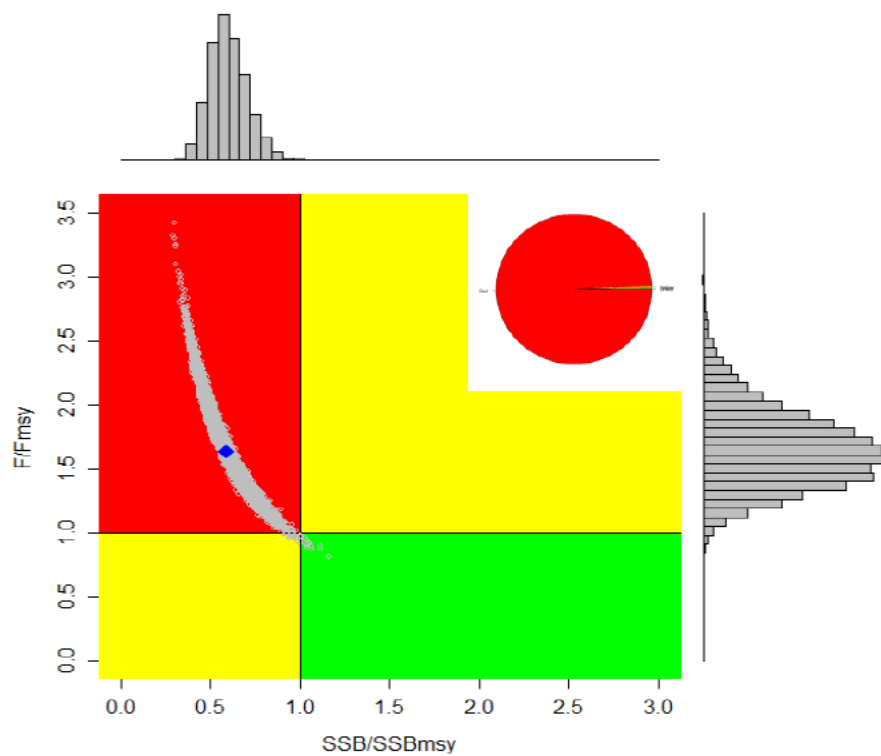


Figure 2. Kobe plot of SSB/SSBMSY and F/FMSY for stock status of Atlantic bigeye tuna in 2017 based on the log multivariate normal approximation across the 18 uncertainty grid model runs of Stock Synthesis with an insert pie chart showing the probability of being in the red quadrant (99.5 %), green quadrant (0.2 %), and in yellow (0.3 %). Blue square is the median and marginal histograms represent distribution of either SSB/SSBMSY or F/FMSY.

References

Collette, B., Acero, A., Amorim, A.F., Boustany, A., Canales Ramirez, C., Cardenas, G., Carpenter, K.E., Chang, S.-K., Chiang, W., de Oliveira Leite Jr., N., Di Natale, A., Die, D., Fox, W., Fredou, F.L., Graves, J., Viera Hazin, F.H., Hinton, M., Juan Jorda, M., Minte Vera, C., Miyabe, N., Montano Cruz, R., Nelson, R., Oxenford, H., Restrepo, V., Schaefer, K., Schratwieser, J., Serra, R., Sun, C., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E., Uozumi, Y. & Yanez, E. 2011. *Thunnus obesus*. *The IUCN Red List of Threatened Species* 2011: e.T21859A9329255. <https://dx.doi.org/10.2305/IUCN.UK.2011-2.RLTS.T21859A9329255.en>.

ICCAT Stock Assessment and Executive Summary – Bigeye tuna
<https://www.iccat.int/en/assess.html>

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 make up less than 5% of landings and 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)	3 years old	2
	Average maximum age (years)	Over 10 years	2
	Fecundity (eggs/spawning)	4,274,342 (estimated as geometric mean)	1
	Average maximum size (cm)	250	3
	Average size at maturity (cm)	100 cm	2
	Reproductive strategy	Eggs and larvae are pelagic – broadcast spawner	1
	Mean trophic level	Feed on a wide variety of fish, cephalopods and crustaceans – 4.5	3
	Average Productivity Score		2
	Susceptibility Attribute	Value	Score
	Overlap of adult species range with fishery	No information	N/A
	Distribution	Throughout region/global distribution	1
	Habitat	Not scored	N/A
	Depth range	Usually 0-500 m, up to 1,500 m	1
	Selectivity	Species > 2 times mesh size	3
	Post-capture mortality	Alive after capture	2
	Average Susceptibility Score		1.75
	PSA Risk Rating (From Table D3)		PASS
	Compliance rating		PASS
References			
https://www.fishbase.in/Summary/SpeciesSummary.php?ID=146&AT=bigeye+tuna ICCAT Stock Assessment and Executive Summary – Bigeye tuna https://www.iccat.int/en/assess.html			
Standard clauses 1.3.2.2			

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

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	