MarinTrust Standard V2

By-product Fishery Assessment

Report – Indian Ocean Albacore Tuna

FAO Areas 51 and 57

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

Fishery Under Assessment	Species:	Albacore tuna, *Thunnus alalunga*
	Geographical area:	FAO Area 51 (Indian Ocean, Western) FAO Area 57 (Indian Ocean, Eastern)
	Country of origin of the product:	Spain and Portugal (Flag State)
	Stock:	Indian Ocean Albacore Tuna
Date	June 2022	
Report Code	ESP16	
Assessor	Ivan Mateo, Ph.D.	
Country of origin of the product - PASS	Spain and Portugal (Flag State)	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Sarval Bio-industries Noroeste			
Country: Spain			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ivan Mateo	Vito Romito	0.5	Surveillance 2
Assessment Period	To June 2022		

Scope Details	
Main Species	Albacore tuna, *Thunnus alalunga*
Stock	Indian Ocean Albacore Tuna
Fishery Location	FAO Area 51 (Indian Ocean, Western) FAO Area 57 (Indian Ocean, Eastern)
Management Authority (Country/ State)	Indian Ocean Tuna Commission (IOTC)
Gear Type(s)	Longlines, purse seines
Outcome of Assessment	
Peer Review Evaluation	Approve
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. Albacore tuna in the Indian Ocean does not appear as Endangered or Critically Endangered on the IUCN's Red List, nor does it appear in CITES appendices; therefore, albacore tuna in the Indian Ocean is eligible for approval for use as Marin Trust by-product raw material. There is a single population of albacore tuna in the Indian Ocean. The albacore tuna stock is managed, and reference point are defined of the stock. Fishery removals of the stock are considered in the IOTC stock assessment processes so the stock PASSES Clause C1.1. As per the latest stock assessment, biomass is estimated to be above the SBMSY level (1.281 (0.574–2.071)) from the SS3 model such that current spawning biomass is considered to be above the corresponding limit reference point of 0.4*SBMSY; therefore, the stock PASSES Clause C1.2. In order to be approved, the stock assessed must pass both Clause C1.1 and C1.2; therefore, Albacore tuna in FAO areas 51 and 57 is APPROVED for the production of fishmeal and fish oil under the current Marin Trust v 2.2 by-product standard.
Fishery Assessment Peer Review Comments
Indian Ocean Albacore tuna has been correctly assessed as a Category C stock. Fishery removals of the stock are considered in the 2019 IOTC stock assessment processes and the stock PASSES Clause C1.1. As per the latest stock assessment, biomass is estimated to be above the SBMSY level (1.281 (0.574–2.071)) from the SS3 model such that current spawning biomass is considered to be above the corresponding limit reference point of 0.4*SBMSY; therefore, the stock PASSES Clause C1.2. Accordingly, the Reviewer agrees that Albacore tuna in FAO areas 51 and 57 shall be APPROVED for the production of fishmeal and fish oil under the current Marin Trust v 2.2 by-product standard.
Notes for On-site Auditor
None.

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]
Albacore tuna	*Thunnus alalunga*	Albacore tuna in the Indian Ocean	IOTC and National authorities of Mauritius	C	LC	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	Albacore tuna, *Thunnus alalunga*	
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.

Fishery removals of the stock in the fishery under assessment are included in the IOTC stock assessment processes. Prior to 1980 there was 20 years of moderate fishing, after which total catches of albacore tuna in the Indian Ocean have more than doubled in subsequent years (Fig. 1). Catches have also increased substantially since 2007 for some fleets (i.e., Indonesian and Taiwan, China longline fisheries), although there is substantial uncertainty regarding the reliability of the catch estimates. Albacore are caught using longline (88.5%), followed by line (9.1%) and purse seine (1.3%) (Fig. 1). The remaining catches taken with other gears contributed to 1.1% of the total catches in recent years. Catches from the longline fisheries are split between deep-freezing longliners and fresh-tuna longliners and average catches 2016-2020 were included in the last stock assessment. Therefore, the primary sources of data that drive the assessment are total catches, CPUE and length data. Accordingly, fishery removals of the species in the fishery under assessment are included in the stock assessment process and the fishery **PASSES clause C1.1.**

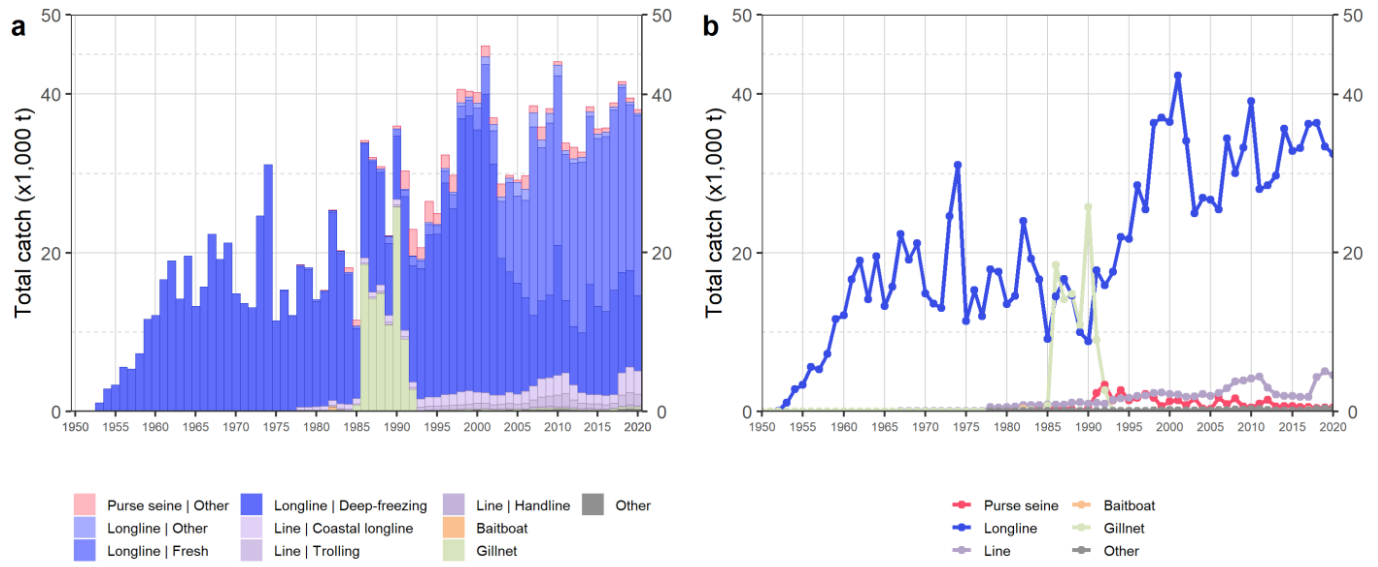

Figure 1. Annual time series of (a) cumulative nominal catches (t) by fishery and (b) individual nominal catches (t) by fishery for albacore during 1950–2020; Other: all remaining fishing gears.

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.

A new stock assessment was carried out for albacore tuna in 2019 to update the assessment undertaken in 2016. The stock assessment was carried out using Stock Synthesis III (SS3), a fully integrated model that is currently also used to provide scientific advice for the three tropical tunas stocks in the Indian Ocean. The model results showed that fishing mortality represented as F2017/FMSY is 1.346 (0.588–2.171). Biomass is estimated to be above the SBMSY level (1.281 (0.574–2.071)) from the SS3 model. Thus, the stock status in relation to the Commission's BMSY and FMSY target reference points indicates that the stock is not overfished but is subject to overfishing. Current spawning biomass is considered to be above the target reference point of SBMSY, and therefore above the limit reference point of 0.4*SBMSY (Fig. 2).

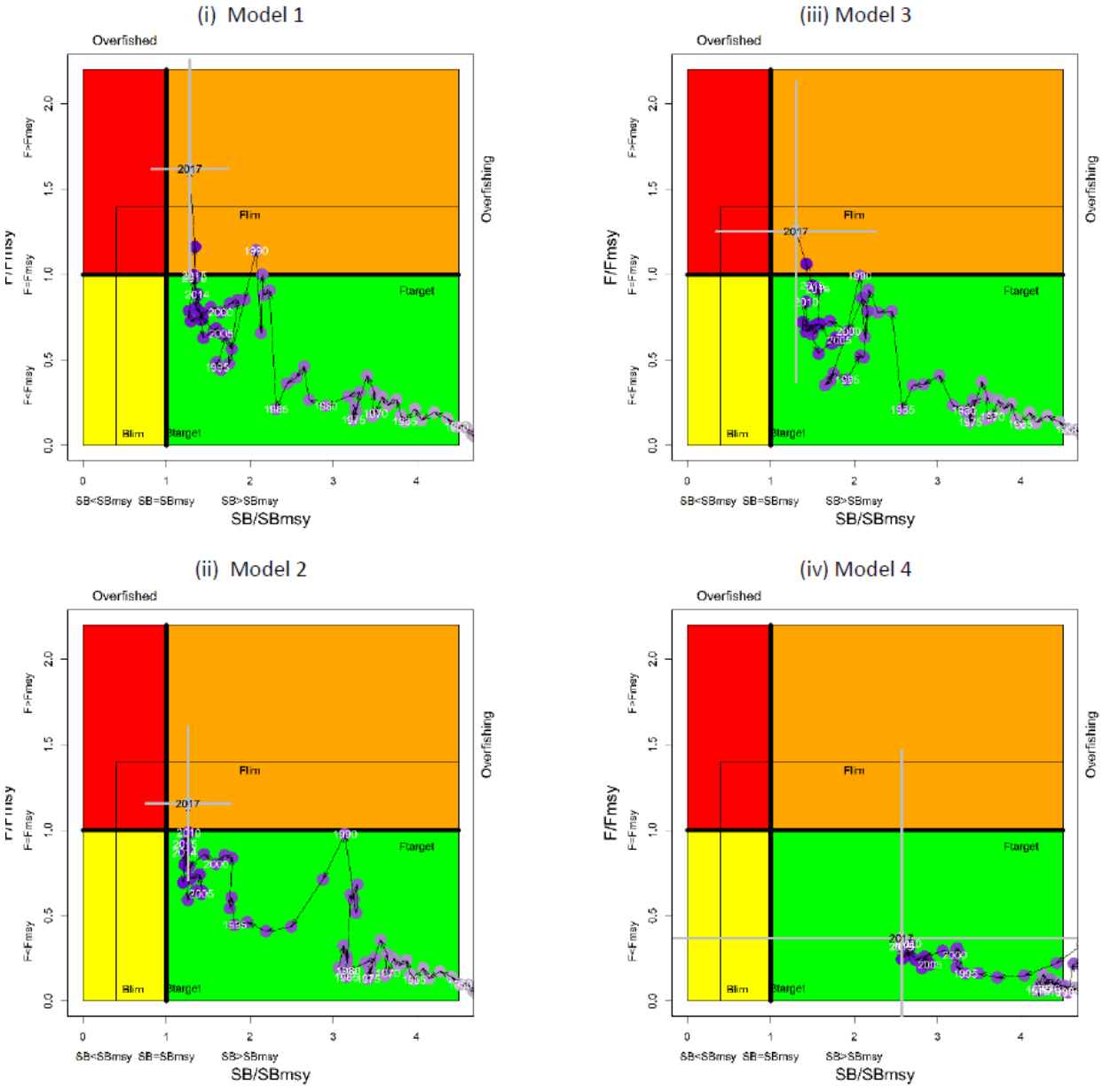

Figure 2. Albacore: SS3 Indian Ocean assessment Kobe plot for the four model options considered: (i) Model 1 (ii) Model 2 (iii) Model 3 (iv) Model 4. Purple circles indicate the trajectory of the point estimates for the spawning biomass (SB) ratio and fishing mortality (F) ratio for each year 1950–2017 (the grey lines represent the 95 percentiles of the 2017 estimate). Target (Ftarget and SBtarget) and limit (Flim and SBlim) reference points are shown.

References

Leite Jr., N., Di Natale, A., Die, D., Fox, W., Fredou, F.L., Graves, J., Guzman-Mora, A., Viera Hazin, F.H., Hinton, M., Juan Jorda, M., Minte Vera, C., Miyabe, N., Montano Cruz, R., Masuti, E., Nelson, R., Oxenford, H., Restrepo, V., Salas, E., Schaefer, K., Schratwieser, J., Serra, R., Sun, C., Teixeira Lessa, R.P., Pires Ferreira Travassos, P.E., Uozumi, Y. & Yanez, E. 2011. Thunnus alalunga. The IUCN Red List of Threatened Species 2011: e.T21856A9325450. https://dx.doi.org/10.2305/IUCN.UK.2011-2.RLTS.T21856A9325450.en

IOTC, 2021. Status of the Indian Ocean albacore (ALB: Thunnus alalunga) resource. Available at https://www.iotc.org/sites/default/files/documents/science/species_summaries/english/1_Albacore2021E.pdf

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 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)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)		
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)		
	Selectivity of gear type		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
	Further justification for susceptibility scoring (where relevant) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		
References			
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