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Global Standard for Responsible Supply of Marine Ingredients Fishery Assessment Methodology and Template Report V2.0



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Fishery Under Assessment	Yellowfin tuna <i>Thunnus albacares</i> Atlantic Stock
Date	March 2020
Report Code	2020-250
Assessor	Jim Daly
Stock Pass	FAO 34, 41-47 Atlantic Stock
Stock Fail	

Application details and summary of the assessment outcome				
Name: Marine Biotechnology Products, Ivory Coast				
Address: Abidjan				
Country: Ivory Coast		Zip:		
Tel. No.:		Fax. No.:		
Email address:		Applicant Code:		
Key Contact:		Title:		
Certification Body Details				
Name of Certification Body:		SAI Global Ltd		
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval	Whole fish/ By-product
Jim Daly	Conor Donnelly	0.5	Initial	By-product
Assessment Period	2020			

Scope Details	
Management Authority (Country/State)	ICCAT
Main Species	Yellowfin tuna <i>Thunnus albacares</i>
Stock:	FAO 34, 41-47
Fishery Location	Atlantic
Gear Type(s)	Longline, baitboat and purse seine.
Outcome of Assessment	
Peer Review Evaluation	AGREE
Recommendation	APPROVE

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 IFFO RS raw material. Yellowfin tuna does not appear as Endangered or Critically Endangered on IUCN's Red List, nor does it appear in CITES appendices; therefore, Yellowfin tuna is eligible for approval for use as IFFO RS by-product raw material.

A single stock for the entire Atlantic is currently assumed. A Multi-annual Management and Conservation Programme (ICCAT) initiated in 2012 for yellowfin tuna is still in place.

One stock forms part of this assessment:

- 1) FAO 34 Atlantic Eastern Central; FAO 41-47 Atlantic Southwest, Southeast

Fishery removals of the stock are considered in the various stock assessment processes so the stock **PASSES** Clause C1.1.

For Yellowfin tuna in the assessment area the most recent estimated spawning stock biomass (SSB) is above Blim and removals are not considered to be negligible 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:

- 1) Yellowfin tuna is **APPROVED** by SAI Global assessors in the assessment area for the production of fishmeal and fish oil under the current IFFO RS v 2.0 by-products standard.

Peer Review Comments

Notes for On-site Auditor

HOW TO COMPLETE THIS ASSESSMENT REPORT

By-products

The process for completing the template for **by-product raw material** is as follows:

1. **ALL ASSESSMENTS:** Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The “% landings” column can be left empty; all by-products are considered as Category C and D.
2. **IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT:** Complete clause C1 for **each** Category C by-product.
3. **IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT:** Complete Section D.
4. **ALL OTHER SECTIONS CAN BE DELETED.** Clauses M1 - M3, F1 - F3, and Sections A and B do not need to be completed for a by-product assessment.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the IFFO RS Standard.

SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch should be listed, along with an estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2 as follows:

- **Type 1 Species** can be considered the ‘target’ or ‘main’ species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.
- **Type 2 Species** can be considered the ‘bycatch’ or ‘minor’ species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual catch (see Appendix B).

Species which make up less than 0.1% of landings do not need to be listed (NOTE: ETP species are considered separately). The table should be extended if more space is needed. Discarded species should be included when known.

The ‘stock’ column should be used to differentiate when there are multiple biological or management stocks of one species captured by the fishery. The ‘management’ column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases, it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

NOTE: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it **cannot** be approved for use as an IFFO RS raw material. This applied to whole fish as well as by-products.

TYPE 1 SPECIES (Representing 95% of the catch or more)

Category A: Species-specific management regime in place.

Category B: No species-specific management regime in place.

TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)

Category C: Species-specific management regime in place.

Category D: No species-specific management regime in place.

Common name	Latin name	Stock	% of landings	Management	Category
Yellowfin tuna	<i>Thunnus albacares</i>	FAO 34	n/a	ICCAT	C

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. 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. A Category C species does not meet the minimum requirements of clause C1 should be re-assessed as a Category D species.

Species Name		Yellowfin tuna <i>Thunnus albacares</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

Evidence

This assessment covers Yellowfin tuna harvested from the area outlined in **Figure 1:**

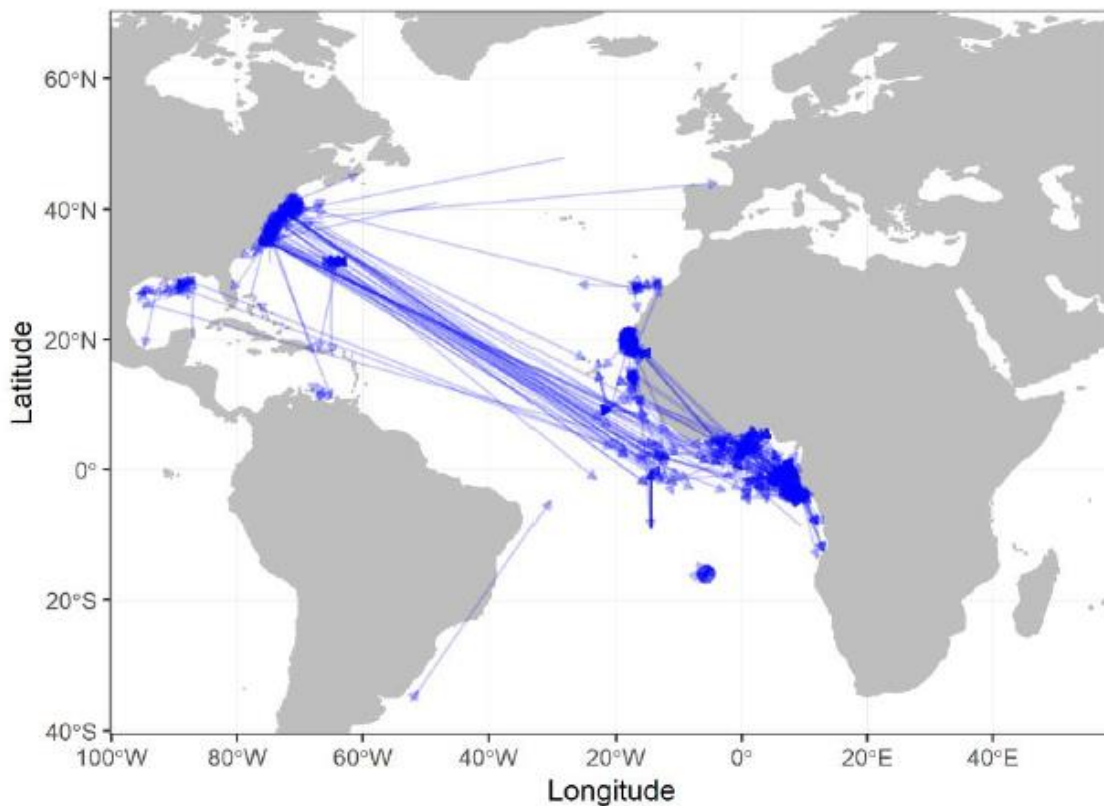


Figure 1: Yellowfin tuna movements calculated from conventional tagging data ICCAT tagging database **R1**

A stock assessment was conducted in 2019, using catch and effort data through 2018. Although distinct spawning areas might imply separate stocks, or substantial heterogeneity in the distribution of yellowfin tuna, a single stock for the entire Atlantic is currently assumed.

In the eastern Atlantic, purse seine catches increased to 90,250 t in 2018. Baitboat catches declined to 7,225 t in 2018. Longline catches declined to 5,031 t in 2018. In the western Atlantic, purse seine catches have declined to 3,008 t in 2018. Baitboat catches also declined, for 2018 were estimated to be 943 t (**Table 1**).

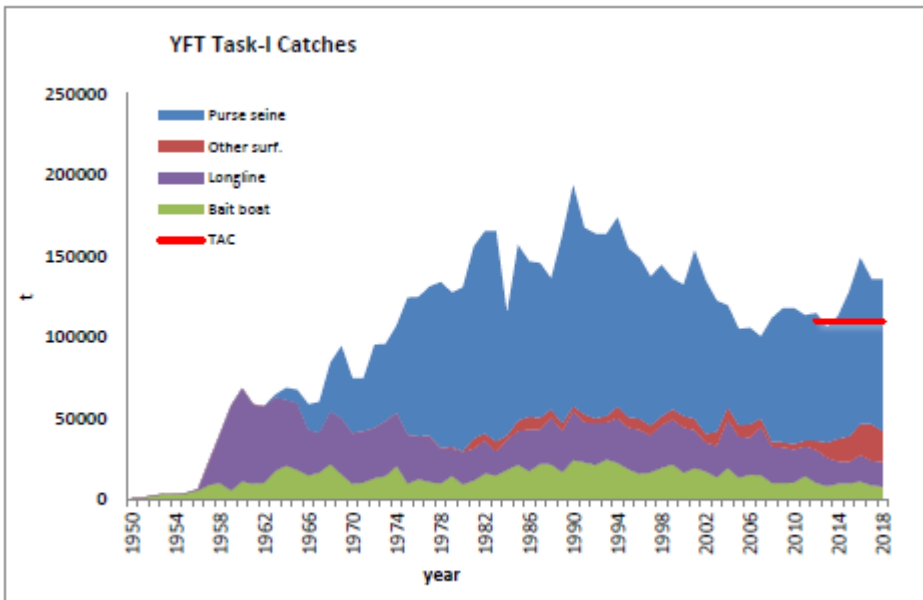


Table 1: Yellowfin tuna total catch 1950 – 2018 by main fishing gear group. Y axis t -tonnes **R1**

Four indices of abundance were used in various stock assessment model runs used to develop management advice. A joint longline index using high resolution catch and effort information from main longline fleets operating in the Atlantic was developed. A new echosounder-based buoy associated index (BAI) index was developed and was assumed to represent abundance of juvenile yellowfin tuna. An index of larger yellowfin tuna (>80 cm, 10 kg) in free schools for the EU purse seine fleet (EUPSFS index) was also used. Two production models (JABBA, MPB) and one age-structured model (Stock Synthesis) were applied to available catch data through 2018.

C1.2

Evidence

The trend in the estimated biomass (relative to BMSY) for all models shows a general continuous decline through time. Most model runs lead to biomasses at the end of 2018 above the level that produces MSY (**Figure 2**):

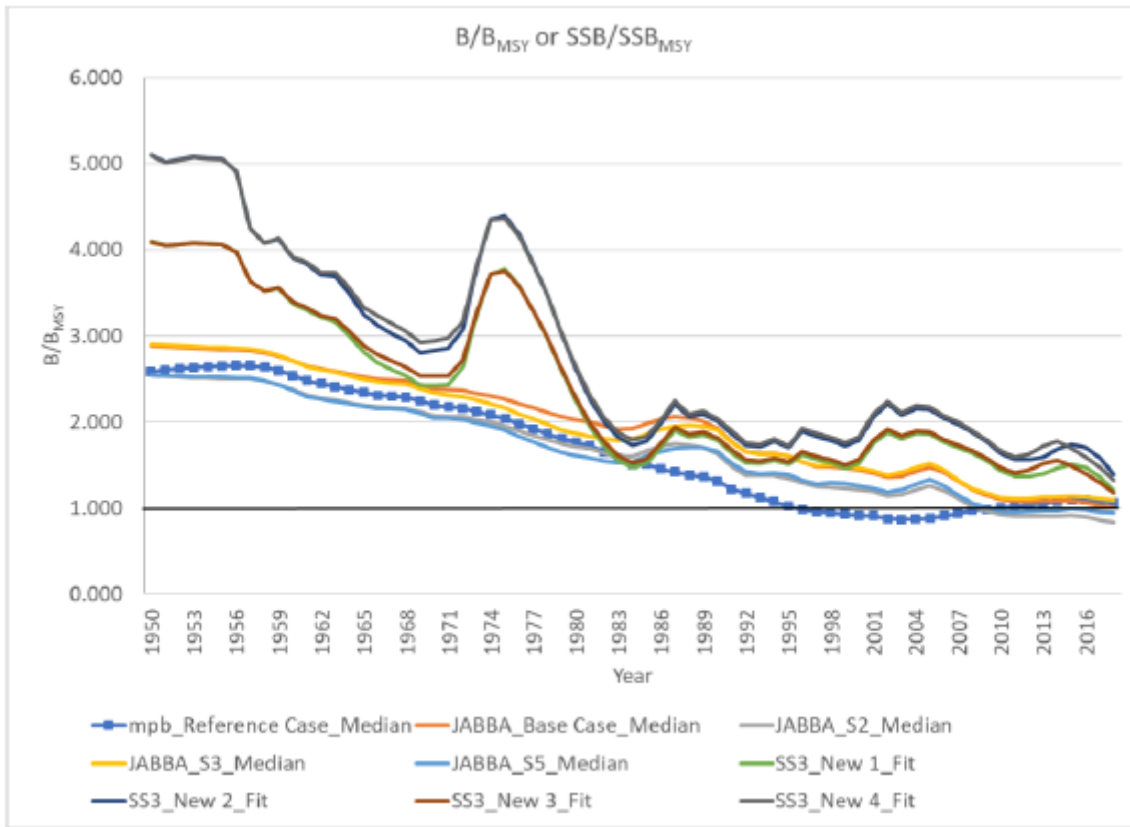


Figure 2: Estimates of relative Biomass (B/B_{MSY}) obtained for all model runs used to develop the management advice. Relative Biomass: $B_{2018}/B_{MSY} = 1.17$ (0.75 - 1.62) **R1**

The median MSY estimated is 121,298t (**Table 2**). Combining results of all models estimates the probability of the stock being in each quadrant of the Kobe plot in 2018 (**Figure 3**). The corresponding probabilities are 54% in the green (not overfished not subject to overfishing), 21% in the orange (subject to overfishing but not overfished) 2% in the yellow (overfished but not subject to overfishing) and 22% in the red (overfished and subject to overfishing).

In summary, results point to a stock status of not overfished (24% probability of overfished status), with no overfishing (43% probability of overfishing taking place):

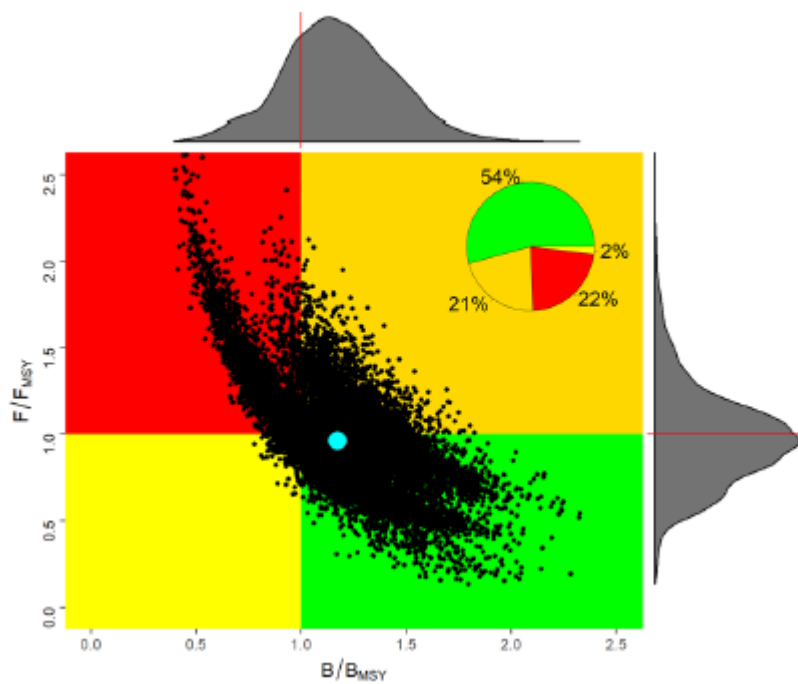


Figure 3: Kobe plot estimated from the combination of Stock Synthesis, JABBA and MPB model runs **R1**

Table 2: Atlantic Yellowfin Tuna summary of the stock assessment **R1**

ATLANTIC YELLOWFIN TUNA SUMMARY	
Estimates	Mean (90% confidence intervals)
Maximum Sustainable Yield (MSY)	121,298 t (90,428 - 267,350 t) ¹
2018 Yield	135,689 t
Relative Biomass ² : B_{2018}/B_{MSY}	1.17 (0.75 - 1.62)
Relative Fishing Mortality: F_{2018}/F_{MSY}	0.96 (0.56 - 1.50)
2018 Total Biomass ³	729,436 t
Stock Status (2018)	Overfished: No ⁴ Overfishing: No ⁵
[Rec. 16-01]	
- 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.	
- TAC of 110,000 t (since Rec. 11-01).	
- Specific authorization to fish for tropical tunas for vessels 20 meters or greater	
- Specific limits of number of longline and/or purse seine boats for a number of fleets	
- Specific limits on FADs, non-entangling FADs required	

1) Minimum and maximum values of 90%LCI and 90%UCI among all runs by the Stock Synthesis, JABBA, and MPB

2) SSB (Stock Synthesis) or exploited biomass (production models)

3) Mean of the central estimates of the SS, JABBA and MPB models

4) (24% probability of overfished status)

5) (43% probability of overfishing taking place)

Combined projections show that 120,000 t constant catch will maintain more than 50% probability of the stock being in the green Kobe quadrant through 2033.

References

R1: ICCAT (2019) Stock Assessments and Executive Summaries: Yellowfin tuna Atlantic Stock
https://iccat.int/Documents/SCRS/ExecSum/YFT_ENG.pdf

R2: Fishsource Yellowfin tuna: https://www.fishsource.org/stock_page/1054

Standard clauses 1.3.2.2