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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	Longfin/Albacore Tuna <i>(Thunnus alalunga)</i> FAO 37
Date	May 2019
Assessor	Jim Daly

Application details and summary of the assessment outcome				
Name: Sarval Ltd				
Address:				
Country: Spain & Portugal		Zip:		
Tel. No.:		Fax. No.:		
Email address:		Applicant Code		
Key Contact:		Title:		
Certification Body Details				
Name of Certification Body:		SAI Global (Ireland)		
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval	Whole fish/ By-product
Jim Daly	Virginia Polonio	0.5	SURV 1	By product
Assessment Period	2018			

Scope Details	
Management Authority (Country/State)	Spain & Portugal
Main Species	Longfin Tuna (<i>Thunnus alalunga</i>)
Fishery Location	FAO 37 Mediterranean
Gear Type(s)	All gears
Outcome of Assessment	
Overall Outcome	Pass
Clauses Failed	None
Peer Review Evaluation	Approve
Recommendation	PASS

Assessment Determination
<p>Legal and administrative frameworks exist at the national and international level. Assessments are carried out on the stock in the Mediterranean by the International Commission for the Conservation of Atlantic Tunas (ICCAT). The Standing Committee on Research and Statistics (SCRS) on which each member of the Commission may be represented, is responsible for developing and recommending to the Commission all policy and procedures for the collection, compilation, analysis and dissemination of fishery statistics. The status of the Mediterranean albacore stock is based on the 2017 assessment using available data up to 2015.</p> <p>In the Mediterranean, there is a need to integrate different available studies so as to better characterize growth of Mediterranean albacore. Besides some additional recent studies on maturity, in general, there is poor knowledge about Mediterranean albacore biology and ecology. In 2017 reported landings were 2,780 t. The majority of the catch came from longline fisheries.</p> <p>The stock assessment (2017) was conducted using catch data up until 2015 and CPUE data up until 2014. Methods used were coherent with the “limited data” category of this stock. Methods applied included a length-based catch curve analysis and a bayesian state space surplus production model (JABBA). During 2018, only two of three indices (namely, the larval index and the Spanish longline index) were preliminarily updated. The larval index still showed a general decreasing trend in the last years, while the Spanish longline index did not.</p> <p>Recent fishing mortality levels appear to be below FMSY, and current biomass is approximately at BMSY level. There is considerable uncertainty about current stock status. The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point.</p> <p>In 2017 ICCAT adopted Rec 17-05, according to which, no increase in catch and fishing effort is allowed until more accurate scientific advice can be provided by the SCRS. Moreover, a time closure of two months (1 October - 30 November), originally aimed at protecting Mediterranean swordfish juveniles, now applies to longline fleets targeting albacore. Furthermore, the number of vessels for each Contracting Party (CPC) is limited to the number of vessels that were authorized to target Mediterranean albacore in 2017. Fishery removals of the species in the fishery under assessment are included in the stock assessment process.</p>

The regional assessments for Europe and the Mediterranean categorise Longfin Tuna as a Species of Least Concern <http://www.iucnredlist.org/details/21856/0> (accessed 07.05.19)

Longfin tuna is approved by the assessment team for the production of fishmeal and fish oil under the IFFO-RS v 2.0 by-products standard.

Peer Review Comments

Notes for On-site Auditor

Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C	Longfin tuna <i>Thunnus alalunga</i>	N/A	PASS	
Category D				

[List all Category A and B species. List approximate total % age of landings which are Category C and D species; these do not need to be individually named here]

HOW TO COMPLETE THIS ASSESSMENT REPORT

This assessment template uses a modular approach to assessing fisheries against the IFFO RS standard.

Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table, to determine which categories of species are present in the fishery.
2. ALL ASSESSMENTS: Complete clauses M1, M2, M3: Management.
3. IF THERE ARE CATEGORY A SPECIES IN THE FISHERY: Complete clauses A1, A2, A3, A4 for **each** Category A species.
4. IF THERE ARE CATEGORY B SPECIES IN THE FISHERY: Complete the Section B risk assessment for **each** Category B species.
5. IF THERE ARE CATEGORY C SPECIES IN THE FISHERY: Complete clause C1 for **each** Category C species.
6. IF THERE ARE CATEGORY D SPECIES IN THE FISHERY: Complete Section D.
7. ALL ASSESSMENTS: Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

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
Longfin tuna	<i>Thunnus alalunga</i>	FAO 37	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		Longfin tuna <i>Thunnus alalunga</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

Evidence

C1.1:

In 2017, the stock assessment for Mediterranean albacore was conducted using catch data up until 2015 and CPUE data up until 2014. The methods used were coherent with “limited data” category of this stock. The methods applied included a length-based catch curve analysis and a bayesian state space surplus production model (JABBA).

Two standardized CPUE series for EU-Spain and EU-Italy longline fisheries were used. In addition, a larval index independent of the fishery, providing information on the trends of the spawning biomass, was used. The three indices showed a decreasing trend for the period 2013-2014.

Fishery removals of the species in the fishery under assessment are included in the stock assessment process, the species passes Clause C1.1.

C1.2:

The results of the 2017 assessment, based on the limited information available, show that the status of the stock is highly uncertain with respect to both fishing mortality and biomass. Despite the high uncertainty, the results would seem to indicate that recent albacore median biomass levels are at about BMSY, and median fishing mortality levels are below FMSY (Figure 1a, b). The probability to be in the red, yellow and green parts of the Kobe plot is 35.7%, 15.8% and 48.5%, respectively:

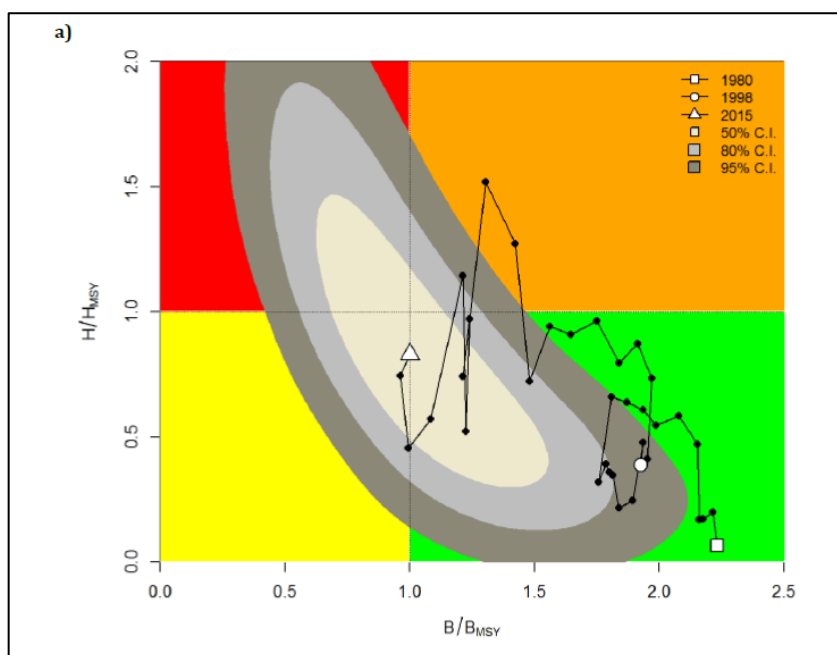


Figure 1a: Stock status trajectories of B/BMSY and F/FMSY, as well as uncertainty around the current estimate (Kobe plots) for the base case JABBA model. See Fig1b **R1**.



Figure 1b: Probability of being overfished and overfishing (red, 36%), of being neither overfished nor overfishing (green (48%), and of being overfished or overfishing, but not both (yellow, 16%). **R1**

The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy).

References

R1 ICCAT 2018 State of the stocks Executive Summary Mediterranean Longfin tuna:
https://iccat.int/Documents/SCRS/ExecSum/ALB_ENG.pdf 25pp

Standard clauses 1.3.2.2

CATEGORY D SPECIES

In a whole fish assessment, 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. In a by-product assessment, Category D species are those which are not subject to a species-specific management regime. In both cases, 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.

The process for assessing Category D species involves the use of a Productivity-Susceptibility Analysis (PSA) to further subdivide the species into ‘Critical Risk’, ‘Major Risk’ and ‘Minor Risk’ groups. If there are no Category D species in the fishery under assessment, this section can be deleted.

Productivity and susceptibility ratings are calculated using a process derived from the APFIC document “Regional Guidelines for the Management of Tropical Trawl Fisheries, which in turn was derived from papers by Patrick *et al* (2009) and Hobday *et al* (2007). Table D1 should be completed for each Category D species as follows:

- Firstly, the best available information should be used to fill in values for each productivity and susceptibility attribute.
- Table D2 should be used to convert each attribute value into a score between 1 and 3.
- The average score for productivity attributes and the average for susceptibility attributes should be calculated.
- Table D3 should be used to determine whether the species is required to meet the requirements of Table D4. A species which does not need to meet the requirements of D4 is automatically awarded a pass.
- Table D4 should be used to assess those species indicated by Table D3 to determine a pass/fail rating.
- Any Category D species which has been categorised by the IUCN Red List as Endangered or Critically Endangered, or which appears in the CITES appendices, automatically results in a fail.

SOCIAL CRITERION

In addition to the scored criteria listed above, applicants must commit to ensuring that vessels operating in the fishery adhere to internationally recognised guidance on human rights. They must also commit to ensuring there is no use of enforced or unpaid labour in the fleet(s) operating upon the resource.

Appendix A - Determining Resilience Ratings

The assessment of Category B species described in this assessment report template utilises a resilience rating system suggested by the American Fisheries Society. This approach was chosen because it is also used by FishBase, and so the resilience ratings for many thousands of species are freely available online. As described by FishBase, the following is the process used to arrive at the resilience ratings:

“The American Fisheries Society (AFS) has suggested values for several biological parameters that allow classification of a fish population or species into categories of high, medium, low and very low resilience or productivity (Musick 1999). If no reliable estimate of r_m (see below) is available, the assignment is to the lowest category for which any of the available parameters fits. For each of these categories, AFS has suggested thresholds for decline over the longer of 10 years or three generations. If an observed decline measured in biomass or numbers of mature individuals exceeds the indicated threshold value, the population or species is

considered vulnerable to extinction unless explicitly shown otherwise. If one sex strongly limits the reproductive capacity of the species or population, then only the decline in the limiting sex should be considered. We decided to restrict the automatic assignment of resilience categories in the Key Facts page to values of K , t_m and t_{max} and those records of fecundity estimates that referred to minimum number of eggs or pups per female per year, assuming that these were equivalent to average fecundity at first maturity (Musick 1999). Note that many small fishes may spawn several times per year (we exclude these for the time being) and large live bearers such as the coelacanth may have gestation periods of more than one year (we corrected fecundity estimates for those cases reported in the literature). Also, we excluded resilience estimates based on r_m (see below) as we are not yet confident with the reliability of the current method for estimating r_m . If users have independent r_m or fecundity estimates, they can refer to Table 1 for using this information.”

Parameter	High	Medium	Low	Very low
Threshold	0.99	0.95	0.85	0.70
r_{max} (1/year)	> 0.5	0.16 – 0.50	0.05 – 0.15	< 0.05
K (1/year)	> 0.3	0.16 – 0.30	0.05 – 0.15	< 0.05
Fecundity (1/year)	> 10,000	100 – 1000	10 – 100	< 10
t_m (years)	< 1	2 – 4	5 – 10	> 10
t_{max} (years)	1 - 3	4 – 10	11 – 30	> 30

Taken from the FishBase manual, “Estimation of Life-History Key Facts”:
<http://www.fishbase.us/manual/English/key%20facts.htm#resilience>

Appendix B – Background on the 5% catch rule

The proposed fishery assessment methodology uses a species categorisation approach to divide the catch in the assessment fishery into groups. These groups are:

- **Category A:** “Target” species with a species-specific management regime in place.
- **Category B:** “Target” species with no species-specific management regime in place.
- **Category C:** “Non-target” species with a species-specific management regime in place.
- **Category D:** “Non-target” species with no species-specific management regime in place

The distinction between 'target' and 'non-target' species is made to enable the assessment to consider the impact of the fishery on all the species caught regularly, without requiring a full assessment be conducted for each. Thus 'target' species are subjected to a more detailed assessment, while 'non-target' species are considered more briefly. For the purposes of the IFFO RS fishery assessment, 'target' and 'non-target' species are defined by their prevalence in the catch, by weight. Applicants must declare which species are considered 'target' species in the fishery, and the combined weight of these must be at least 95% of the annual catch. The remaining 5% can be made up of 'non-target' species. Note also that ETP species are considered separately, irrespective of their frequency of occurrence in the catch.

The proposed use of 5% as a limit for 'non-target' species is one area in which feedback is being sought via the public consultation. The decision to propose a value of 5% ensures consistency with other fishery assessment programmes, such as the MSC which uses 5% to distinguish between 'main' and 'minor' species (see MSC Standard, SA3.4 and GSA3.4.2); and Seafood Watch, which uses 5% when defining the 'main' species for the assessment (see Seafood Watch Standard, Criterion 2). The value is also consistent with the approached used in Version 1 of the IFFO RS Standard, in which up to 5% of the raw material could be comprised of 'unassessed' species.