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

IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients

Fishery Under Assessment	Albacore tuna *Thunnus alalunga*, south Pacific stock, FAO 71 & 77
Date	**April 2018**
Assessor	**Conor Donnelly**

Application details and summary of the assessment outcome				
Name: Thien Quynh Ltd				
Address:				
Country: Vietnam		Zip:		
Tel. No.:		Fax. No.:		
Email address:		Applicant Code		
Key Contact:		Title:		
Certification Body Details				
Name of Certification Body:		SAI Global		
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval	Whole fish/ By-product
Conor Donnelly	Deirdre Hoare	1	Initial	By-product
Assessment Period	2017-2018			

Scope Details	
Management Authority (Country/State)	Western and Central Pacific Fisheries Commission (WCPFC)
Main Species	Albacore tuna *Thunnus alalunga*
Fishery Location	South Pacific stock. FAO 71 Pacific Western Central & FAO 77 Pacific Eastern Central
Gear Type(s)	Set-net, gill-net, longline, pole-and-line, troll, purse-seine
Outcome of Assessment	
Overall Outcome	Pass
Clauses Failed	None
Peer Review Evaluation	Approve
Recommendation	Approve

Assessment Determination

There are two distinct stocks of albacore tuna in the Pacific, northern and southern. This report considers the south Pacific stock within FAO areas 71 and 77. They are managed by the Western & Central Pacific Fisheries Commission with scientific advice co-ordinated by its Scientific Committee (SC).

Given the existence of species-specific management regime for albacore tuna it was assessed under clause C. The south Pacific stock passed clause C as fishery removals are included in the stock assessment process and the stock is considered, in its most recent assessment, to have a biomass above the limit reference point.

The SC note that despite the fact that the southern stock is not overfished and overfishing is not occurring, they recommend that longline fishing mortality and longline catch be reduced to avoid further decline in the vulnerable biomass so that economically viable catch rates can be maintained.

Albacore tuna is categorised as 'near threatened' on the IUCN Red List of Threatened Species (global assessment, undertaken in 2011) and is not listed on CITES.

Southern stock of albacore tuna in FAO 71 and 77 is recommended for approval as by-product material under the IFFO RS 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	Albacore tuna *Thunnus alalunga*	NA	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
Albacore tuna	*Thunnus alalunga*	South Pacific	NA	Western & Central Pacific Fishery Commission (WCPFC)	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		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

Evidence

Two distinct stocks of albacore occur in the Pacific; northern and southern which are separated at the equator (ISC, 2017). The stocks are managed by the RFMO, Western & Central Pacific Fishery Commission (WCPFC). Scientific advice is co-ordinated by the WCPFC Scientific Committee.

WCPFC has adopted a limit reference point (LRP) of 20%$SB_{current\ F=0}$ for the south Pacific albacore stock (https://www.wcpfc.int/harvest-strategy).

A stock assessment was not undertaken in 2017, the most recent assessment is from 2015 (WCPFC, 2015). The stock is assessed using an integrated stock assessment model (MULTIFAN-CL) and includes catch data, CPUE, size information and information on biological parameters of albacore in particular results from the age and growth study aimed to address uncertainty around growth which has troubled previous assessments (WCPFC, 2015).

The assessment concludes that the south Pacific albacore spawning stock is currently above both the level that will support the MSY and the adopted spawning biomass limit reference point, and overfishing is not occurring (F less than Fmsy) (figure 1). While overfishing is not occurring, further increases in effort will yield little or no increase in long-term catches and result in further reduced catch rates. The Scientific Committee re-iterate the point they have made for several years that any increases in catch or effort in sub-tropical longline fisheries are likely to lead to declines in catch rates in some regions (10°S-30°S), especially for longline catches of adult albacore, with associated impacts on vessel profitability. Further, they note that despite the fact that the stock is not overfished and overfishing is not occurring, they recommend that longline fishing mortality and longline catch be reduced to avoid further decline in the vulnerable biomass so that economically viable catch rates can be maintained (WCPFC, 2015). This last point was re-iterated in the Scientific Committee's advice for this stock in 2017 (WCPFC, 2017).

Fishery removals of south Pacific albacore tuna are included in the stock assessment process and the stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point. It passes clause C.
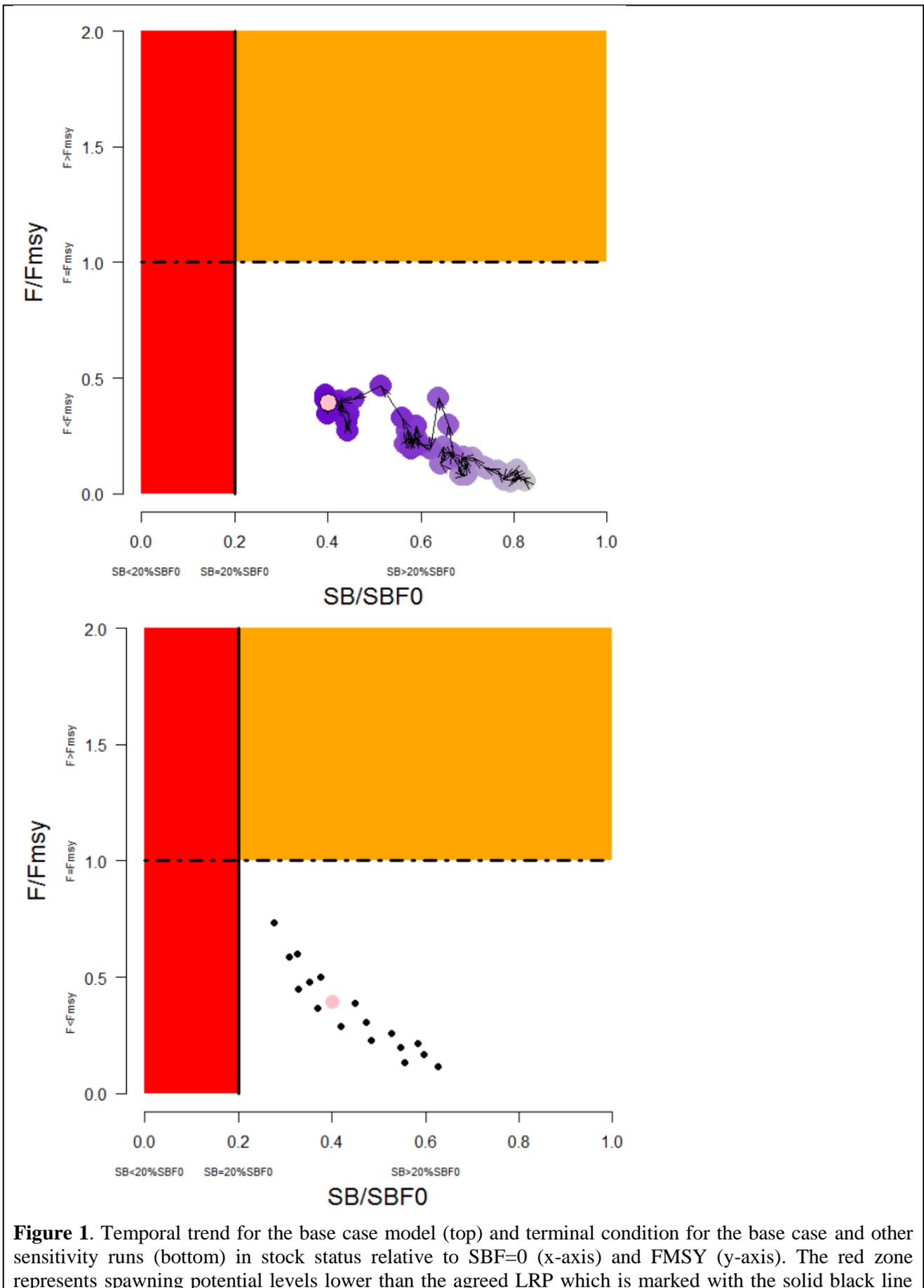
Figure 1. Temporal trend for the base case model (top) and terminal condition for the base case and other sensitivity runs (bottom) in stock status relative to SBF=0 (x-axis) and FMSY (y-axis). The red zone represents spawning potential levels lower than the agreed LRP which is marked with the solid black line

(0.2SBF=0). The orange region is for fishing mortality greater than FMSY (F=FMSY; marked with the black dashed line). The pink circle (top panel) is SB2012/SBF=0 (where SBF=0 was the average over the period 2002-2011). The bottom panel includes the base case (pink circle) and 18 models from the grid. Source: WCPFC, 2015.

References

ISC, 2017. Stock assessment of albacore tuna in the north Pacific Ocean in 2017. Report of the albacore working group. International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean. 12- 17 July 2017, Vancouver, Canada.
http://isc.fra.go.jp/pdf/ISC17/ISC17_Annex12-
Stock_Assessment_of_Albacore_Tuna_in_the_North_Pacific_Ocean_in_2017.pdf

WCPFC, 2017. Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Scientific Committee Thirteenth Regular Session. Rarotonga, Cook Islands, 9-17 August, 2017.
https://www.wcpfc.int/meeting-folders/scientific-committee

WCPFC, 2015. Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Scientific Committee Eleventh Regular Session. Pohnpei, Federated States of Micronesia, 5-13 August, 2015.
https://www.wcpfc.int/system/files/SC11%20Summar%20Report%20-%2019Oct2015-with%20ES.pdf

Standard clauses 1.3.2.2

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 rm. 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.