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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	Mackerel *Scomber scombrus* Northeast Atlantic and adjacent waters
Date	January 2020
Assessor	Jim Daly

Application details and summary of the assessment outcome				
Name: Pelagia				
Address:				
Country: UK, Ireland		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	Re-approval	By-product
Assessment Period	2020			

Scope Details	
Management Authority (Country/State)	EU/Common Fisheries Policy
Main Species	Mackerel *Scomber scombrus*
Stock:	Subareas 1–8 and 14, Division 9.a
Fishery Location	Northeast Atlantic
Gear Type(s)	All compliant gears
Outcome of Assessment		
Overall Outcomes:	Outcome	Clause(s) failed
Mackerel (*Scomber scombrus*)	PASS	NONE
Peer Review Evaluation	AGREE	
Recommendations	PASS	

Assessment Determination
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. Mackerel *Scomber scombrus* does not appear as Endangered or Critically Endangered on IUCN'S Red List, nor does it appear in CITES appendices; therefore, Mackerel *Scomber scombrus* is eligible for approval for use as IFFO RS raw material. One stock forms part of this assessment: 1) **Subareas 1‑8 and 14, Division 9.a (Northeast Atlantic and adjacent waters).** Fishery removals of the stock are considered in the stock assessments so the stock **PASSES** Clause C1.1. For Mackerel *Scomber scombrus* 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, each stock assessed must pass both Clause C1.1 and C1.2; therefore: **1)**   Mackerel *Scomber scombrus* is **APPROVED;** by SAI Global assessors in the assessment area for the production of fishmeal and fish oil under 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
Mackerel	*Scomber scombrus*	Subareas 1‑8 and 14, Division 9.a (Northeast Atlantic and adjacent waters).	N/A	EU/Common Fisheries Policy	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			Mackerel *Scomber scombrus*	
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:				**See above**
C1.1 **Evidence** This assessment covers mackerel harvested from Subareas 1‑8 and 14, Division 9.a **Figure 1:**				

Figure 1 Sub-areas, Divisions of FAO fishing areas (FAO 27), including mackerel assessment area **R1**

Catch data, coded wire tagging data (1980‑2006) and RFID tagging data (2014‑2017) from three survey indices are included in the assessment (**R3**):

- SSB index from the triennial egg survey (1992‑2016)
- Abundance indices from the IBTS survey (combined Q1 and Q4; age 0, 1998‑2017)
- IESSNS survey (ages 3‑11, 2010, 2012‑2018).

Catches prior to 2000 are given a very low weight in the assessment. Natural mortality (0.15 for all ages and years) is based on tagging studies from the early 1980s. The stock was benchmarked in 2017 by the ICES Working group on Widely Distributed Stocks; all biological reference points were evaluated and updated as was also the case during an April 2019 interbenchmarking when tagging data was also reviewed (**R3**).

C1.2
Evidence
Spawning-stock biomass (SSB) is estimated to have increased in the late 2000s, reaching a maximum in 2014. It has declined since but has remained above MSY Btrigger since 2008 (**Figure 2**):
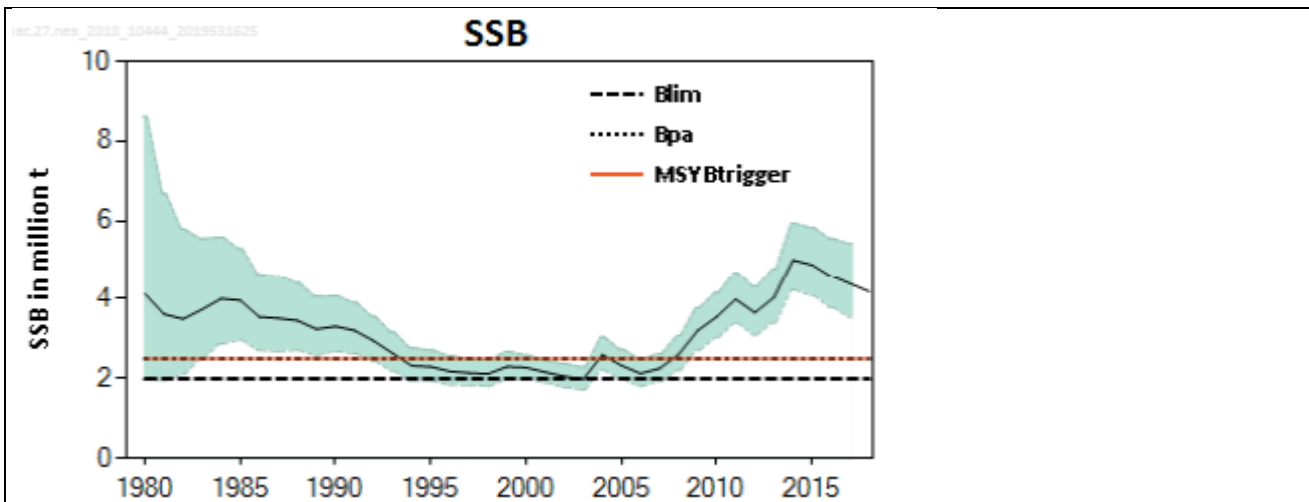
Figure 2: Mackerel in Subareas 1–8 and 14, Division 9.a. Confidence intervals (95%) are included **R3**

ICES assess that spawning stock size (4,186,496t) is above MSY Btrigger, Bpa, and Blim (1,990,000t) (**Figure 2**). The assessment procedure was modified during an interbenchmarking process in April 2019 (**R4**).

References
R1 Sub-areas, Divisions of FAO fishing area 27, including mackerel assessment area
https://ec.europa.eu/fisheries/sites/fisheries/files/docs/body/fishing_areas_en.pdf

R2 IUCN Red List (accessed 29.01.20): Mackerel *S. scombrus*
https://www.iucnredlist.org/species/170354/6764313

R3 ICES advice (updated May 2019) Mackerel (Scomber scombrus) in subareas 1‑8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters)
http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2019/Special_Requests/no.2019.09.pdf

R4 ICES. 2019. Inter benchmark Workshop on the assessment of northeast Atlantic mackerel (IBPNEA Mac). ICES Scientific Reports, 1:5. 71 pp.
http://doi.org/10.17895/ices.pub.4985.
Standard clauses 1.3.2.2