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IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients

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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	European pilchard/Sardine <i>Sardina pilchardus</i> FAO 37 Mediterranean GSA 7
Date	June 2020
Report Code	2020-259
Assessor	Virginia Polonio
Stock Pass	PASS
Stock Fail	

Application details and summary of the assessment outcome				
Name: Sarval Bio-Industries				
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		
Assessor Name	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval	Whole fish/ By-product
Virginia Polonio	Geraldine Criquet	0.5	SURV 2	By-product
Assessment Period	To June 2020			

Scope Details	
Management Authority (Country/State)	GFCM & national (Spain and Portugal)
Main Species	European pilchard / Sardine <i>Sardina pilchardus</i>
Fishery Location	FAO 37 Mediterranean GSA 7
Gear Type(s)	Purse seiners, Pelagic trawlers
Outcome of Assessment	
Peer Review Evaluation	Agree with determination
Recommendation	APPROVED

Assessment Determination
<p>Stock assessment in the General Fisheries Commission for the Mediterranean (GFCM) area of application is often conducted by management units, based on Geographical Sub Areas (GSAs). This method does not ensure that the whole stock is assessed, since stocks may cover several different management units.</p> <p>In some cases, when there is scientific evidence of a stock spreading through different GSAs, as well as information on species from different GSAs, existing information is combined across GSAs; then defined as a “joint stock assessment of a shared stock”.</p> <p>The assessment covers the whole GSA07 area corresponding to the Gulf of Lions. However, the Gulf of Lions may not correspond to a complete stock unit. Similarly, part of the young recruited in the Gulf of Lions sardine population may come from larval transport from spawners of the Ligurian Sea. Further, preliminary genetic analyses have shown no differences between Spanish and French stocks of sardines in the North Western Mediterranean Sea. Because of these questions about the stock unit, further investigations have been conducted combining French and Spanish landing data in order to see whether the disappearance of large individuals from the Gulf of Lions might result from a migration towards Spanish waters. This does not seem to be the case and scientists have considered that the two GSA may be assessed independently.</p> <p>In summary, the stock is in a similar state to that of last years and this does not result from overexploitation. Moreover, the WG has re-evaluated the use of Patterson E for assessing the status of the stock proposing an approach based on resampling of SSB and harvest rate to produce the joint probability of SSB being above SSB_{pa} and Harvest Rate below HR_{pa} (p~0.7). Management measures need to ensure that if size increases again the fishing activity would not increase too much to allow the stock for a recovery (R3 & R4).</p> <p>European pilchard is currently listed as a species of least concern in the Mediterranean assessment and globally on the IUCN Red List (accessed June 2020) and is not currently listed on CITES appendices of threatened species. (R1 & R2).</p> <p>Therefore, Sardine in the area GSA 7 Gulf of Lions is APPROVED by SAIG assessor for the production of fishmeal and fish oil under the IFFO-RS v 2.0 by-products standard.</p>
Peer Review Comments
Agree with determination - APPROVED

Notes for On-site Auditor

Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C	European pilchard <i>Sardina pilchardus</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
European pilchard/ Sardine	<i>Sardina pilchardus</i>	FAO 37 Mediterranean GSA 7 (Gulf of lion)	N/A	Species-specific management regime (EU, GFCM & national)	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		European pilchard / Sardine <i>Sardina pilchardus</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
<p>Evidence:</p> <p>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. Commercial catch data is used in the assessment. Landings series from 1995 to 2016 have been used in the models. Data used in the assessment come from EU DCF (Data Collection Framework). Also, information from acoustic surveys is included in the last stock assessment.</p> <p>Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and the fishery PASSES clause C1.1. (R3)</p> <p>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. No reference points have been defined for this stock, however, exploitation rate (E) has been used as a proxy. An exploitation rate of 0.4 (from Patterson model) was set up and the results have shown an E of 0.1 showing a very low fishing mortality.</p> <p>Biomass slightly increased in 2019 in comparison to 2018, but it is still below the Bpa (B/Bpa = 0.79). As in 2017, landings in 2018 were extremely low. The fishing effort is both lower and more opportunistic than before. Therefore the stock is below limits.</p> <p>However, in the last WGSASP 2019 report, the exploitation level was low and the current situation of the stock is supposed to be driven mainly by exogenous environmental factors. The stock is ecologically unbalanced and management actions should ensure effort does not increase to ensure recovery of the stock. Although looking at the exploitation rate the catches can be considered negligible (R3 & R4).</p> <p>Therefore, removals by the fishery under assessment are considered by scientific authorities to be negligible and the fishery PASSES clause C1.2.</p>			
<p>References</p> <p>R1. Di Natale, A., Molinari, A., Oral, M., Kada, O. & Golani, D. 2011. <i>Sardina pilchardus</i>. The IUCN Red List of Threatened Species 2011: e.T198580A9039349. Downloaded on 16 June 2020.</p> <p>R2. Tous, P., Sidibé, A, Mbye, E., de Morais, L., Camara, Y.H., Adeofe, T.A., Munroe, T., Camara, K., Cissoko, K., Djiman, R., Sagna, A. & Sylla, M. 2015. <i>Sardina pilchardus</i>. The IUCN Red List of Threatened Species 2015:e.T198580A15542481. https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T198580A15542481.en. Downloaded on 16 June 2020.</p>			

R3. Claire Saraux & Jean-Hervé Bourdeix. 2017. Stock Assessment Form Small Pelagics Reference Year: 2016. Reporting Year: 2017. IFREMER

R4. Working Group on Stock Assessment of Small Pelagic Species (WGSASP). 2019. FAO - General Fisheries Commission for the Mediterranean - GFCM

Standard clauses 1.3.2.2