

MarinTrust RS V2.0



BYPRODUCT FISHERY ASSESSMENT TEMPLATE REPORT

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TABLE 1 APPLICATION DETAILS AND SUMMARY OF THE ASSESSMENT OUTCOME

Fishery Under Assessment	Species:	European Sardine, <i>Sardina pilchardus</i>
	Geographical area:	FAO Area 34 Atlantic, Eastern Central
	Country of origin of the product:	Morocco
	Stock:	Zone North, Zone C
Date	January 2021	
Report Code	277-2020	
Assessor	Virginia Polonio	
Country of origin of the product - PASS	Morocco	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Name:			
Address:			
Country: Morocco		Zip:	
Tel. No.:		Fax. No.:	
Email address:		Applicant Code:	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body: Global Trust Certification			
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Virginia Polonio	Geraldine Criquet	0.5	Surveillance 2
Assessment Period		January 2021	

Scope Details	
Main Species	European Sardine, <i>Sardina pilchardus</i>
Stock	Zone North, Zone C
Fishery Location	FAO 34 Atlantic, Eastern Central
Management Authority (Country/ State)	Ministre de l'Agriculture et de la Pêche Maritime (Maroc)
Gear Type(s)	Purse seine
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's recommendation
Recommendation	APPROVED

TABLE 2. ASSESSMENT DETERMINATION

Assessment Determination
<p>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 MarinTrust raw material. European sardine does not appear as Endangered or Critically Endangered on the IUCN Red List, nor does it appear in CITES appendices, therefore European sardine is eligible for approval for use as MarinTrust raw material.</p> <p>According to the FAO Working Group on Small Pelagic Fish in Northwest Africa, (FAO 2018) the stock was divided in two: one in zones "A + B" (Central) and another in zone "C" (Southern). The scope of this assessment covers the zone C.</p> <p>Morocco has continued the effort initiated in 2010 for the management of its small pelagic resources as part of the "Halieutis" strategy. In fact, in addition to measures adopted for the management of the small pelagic fishery of the South and North Atlantic of Cape Bojador, a limit on catches per trip for pelagic trawlers in the south of Cape Bojador and a limit on catches per trip for purse seiners in the central zone were implemented in 2016.</p> <p>Therefore, the stock is subject to a species-specific research and management regime and is thus classified as a Category C.</p> <p>The species has passed the category C clauses. Therefore, European Sardine <i>Sardina pilchardus</i> in zone C is approved by the assessor for the production of fishmeal and fish oil under the MarinTrust v 2.0 by-products standard.</p>
Peer Review Comments
<p>The assessor correctly classified Zone C sardine stock as category C, the stock is managed and reference points are defined to assess the stock status against.</p> <p>Fishery removals from the stock are considered in the stock assessment process. The most recent stock assessment shows that the stock is considered to have a biomass above the limit reference point.</p> <p>The Zone C sardine passes both C1.1 and C1.2 and is therefore approved.</p>
Notes for On-site Auditor
Empty space for notes

SPECIES CATEGORISATION

NB: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in CITES Appendix 1, it **cannot** be approved for use as an MARINTRUST raw material.

IUCN Redlist Category

Byproduct material from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for the following categories shall immediately fail the assessment;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

Byproduct material may be used from the following categories provided that all clauses in the MarinTrust standard are passed.

- VULNERABLE (VU) facing a high risk of extinction in the wild.
- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.
- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

TABLE 3 SPECIES CATEGORISATION TABLE

Common name	Latin name	Stock	Management	Category	IUCN Red List Category ¹	CITES Appendix 1 ²
European Sardine	<i>Sardina pilchardus</i>	Zones C	Ministre de l'Agriculture et de la Pêche maritime (Maroc)	C	LC	No

¹ <https://www.iucnredlist.org/>

² <https://cites.org/eng/app/appendices.php>

CATEGORY C SPECIES

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. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below the limit reference point.

Species Name		European 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>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.</p> <p>For the application of the LCA model, the Working Group used the length structures of sardine catches Zone C. Averages of length structures of total catches for the period 2007-2016 were used for the stock. The final average distributions are made up of individuals of lengths from 9 to 29.5 cm for stock C.</p> <p>The growth parameters estimated by INRH scientists for sardine of stock C are used in the LCA model. The natural mortality of 0.35 is obtained from sensitivity analyses done by the Working Group in 2015. For the production model, the Working Group used the total sardine catches in Zone C for the years 1995 to 2016.</p> <p>The Nansen series was used as abundance index to fit the model for the two zones. However, the abundance indices for sardine derived from the surveys carried out by the Moroccan research vessel Al-Amir Moulay Abdellah were used to update the Nansen series for 2016. For the global model fit and owing to the fact that the biomass index is only available for the northern fraction of the stock (Cape Bojador and Cape Blanc), the Group decided to test two series of Nansen abundance indices: one series with the 2016 index and the other without the 2016 index.</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</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.</p> <p>The results of the LCA model for assessing stock C were not conclusive and were not retained by the Working Group. The results of the dynamic production model using the two series of indices were satisfactory for the stock C. The reference points derived from the application of the model for this stock shows that the current biomass level is far above the target biomass B0.1 and the current fishing mortality is far less than the mortality F0.1. (Table 1).</p> <p>The conclusion reached for this stock was that for stock C, the biomass level in 2016 was still higher than the biomass B0.1 and the fishing mortality level F_{cur} below F0.1 although the acoustic biomass decreased in 2016. This low level of fishing mortality shows the stock is not fully exploited. However, given that this stock has experienced large fluctuations in biomass indices since 1995 (FAO Reports), which are not due to the fishery but possibly linked to environmental changes, it is recommended to monitor the state of this stock by methods independent of the fishery in the zone.</p> <p>Therefore, the species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy) and it PASSES clause C1.2</p>			

Table 1. Summary of results of fitting the Schaefer dynamic production model for Stock C of sardine, *Sardina pilchardus*.

Stock/abundance indices	B_{cur}/B_{MSY}	$B_{cur}/B_{0.1}$	F_{cur}/F_{Sycur}	F_{cur}/F_{MSY}	$F_{cur}/F_{0.1}$
Sardine, Zone C/ Nansen (1995-2015)	152%	138%	110%	53%	58%
Sardine, Zone C/ Nansen (1995-2016)	144%	131%	111%	62%	69%

B_{cur}/B_{MSY} : Ratio between the estimated biomass for the last year of the series and the biomass corresponding to $F_{0.1}$.

$B_{cur}/B_{0.1}$: Ratio between the estimated biomass for the last year of the series and the biomass corresponding to $F_{0.1}$.

F_{cur}/F_{Sycur} : Ratio between the observed fishing mortality coefficient for the last year of the series and that which would give a sustainable catch for the current biomass.

F_{cur}/F_{MSY} : Ratio between the observed fishing mortality coefficient for the last year of the series and that which would give a maximum sustainable yield over the long-term.

$F_{cur}/F_{0.1}$: Ratio between the fishing mortality coefficient observed for the last year of the series and $F_{0.1}$.

References

FAO Working Group on the assessment of small pelagic fish off northwest Africa. Noua dhibou , Maritania , 22 --2 7 May 2017.
[FishSource - European pilchard - NW Africa southern](#)

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. *Sardina pilchardus*. The IUCN Red List of Threatened Species 2015: e.T198580A15542481. <https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T198580A15542481.en>.

Working Group on Stock Assessment of Small Pelagic Species (WGSASP). 2019

Links

MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

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 B: From MARINTRUST Standard V2.0 Annex 2: Fish By-product Assessment Methodology

Definition of a Fish By-product

A by-product is a useful and marketable product that is not the primary product being produced. A marketable by-product is from a process that can technically not be avoided. This includes materials that may be traditionally defined as waste such as industrial scrap that is subsequently used as a raw material in a different manufacturing process.

"Fish By-products" refers to commodities that are manufactured from fish, including shellfish, and crustaceans in a form that is different than conventional foods and which are intended for human consumption (either directly or as a food ingredient). Fish By-products include, but are not limited to:

- By-products derived from fish, including fish cartilage, fish oils, and fish proteins; and
- By-products derived from the carapaces of crustaceans; but do not include marine plants or marine plant products.

(Canadian Food Inspection Agency Definition)

In addition, a whole fish which is rejected on an intrinsic quality ground e.g. does not meet the specification for human consumption due to physical damage or the quality is substandard. These whole fish shall in these cases be classified as a by-product from the human consumption fishery, and can be used for marine ingredients production.

A whole catch of fish that is rejected by a fish processing factory on economic grounds is not considered to be a fish by-product. This fish can only be used for marine ingredients production if the fishery has been assessed and approved under the requirements of the IFFO Responsible Sourcing Standard.

Why utilise Fish By-products?

FAO Code of Conduct for Responsible Fisheries

General Principles Article 6

6.7 The harvesting, handling, processing and distribution of fish and fishery products should be carried out in a manner which will maintain the nutritional value, quality and safety of the products, reduce waste and minimize negative impacts on the environment.

Responsible fish utilisation Article 11.1

11.1.8 States should encourage those involved in fish processing, distribution and marketing to reduce post-harvest losses and waste.

Benefits of Including Fish By-Products in the MARINTRUST Standard:

1. Improved fish resource utilisation
2. Reduction in waste for nutritional value
3. 35% of fish by-products are currently used to make quality fishmeal and oil
4. Excellent Economic return
5. Better compliance with FAO Code of Conduct for Responsible Fisheries

What Fish By-products cannot be used?

1. IUCN

Fishery By-products shall Not be taken from a species listed by IUCN (the International Union for Conservation of Nature) under the Red List for certain categories;

- EXTINCT (E) AND EXTINCT IN THE WILD (EW)
- CRITICALLY ENDANGERED (CR) facing an extremely high risk of extinction in the wild.
- ENDANGERED (EN) facing a very high risk of extinction in the wild.

Fish By-product material may be used from the vulnerable category, but it shall incur a fishery surveillance conducted by the certification body prior to it being included in the scope of this standard.

- VULNERABLE (VU) facing a high risk of extinction in the wild.

The Fish By-product material from these species will be acceptable for use in the scope of this standard;

- NEAR THREATENED (NT) does not qualify for above now, but is close or is likely to qualify for, a threatened category in the near future.
- LEAST CONCERN (LC) Widespread and abundant.

Fish By-product material may be used from the following category, but it shall incur a fishery surveillance prior to it being included in the scope of this standard;

- DATA DEFICIENT (DD) and NOT EVALUATED (NE)

The fishery surveillance conducted by the certification body will review the following areas:

Stock Assessment

- From a recognised Institution
- Fisheries are recognised as legal
- Fisheries do not contradict scientific opinion

2. FAO Code of Conduct for Responsible Fisheries

In addition the Fish By-products shall not come from fisheries that do not comply with the following criteria;

1. Fisheries should prohibit dynamiting, poisoning and other comparable destructive fishing practices.
2. Fishery material shall not be from IUU fishing activity nor sourced from vessels officially listed as engaging in illegal, unreported and unregulated (IUU) fishing activity.

Sources of Information

1. Food Standards Agency
2. Canadian Food Inspection Agency
3. DEFRA
4. GAA Feed mill BAP standard
5. EU Commission
6. IUCN