



## MarinTrust Standard V2

# By-product Fishery Assessment Report Template

**MarinTrust Programme**

Unit C, Printworks

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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 Eastern Central Atlantic
	Country of origin of the product:	Morocco
	Stock:	Sardine stock in South Zone (Zone C)
Date	18/06/2021	
Report Code	BP 122	
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: Pioneer fishing			
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	To September 2021		

Scope Details	
Main Species	European Sardine, <i>Sardina pilchardus</i>
Stock	Sardine stock in South Zone (Zone C)
Fishery Location	FAO 34 Area Eastern Central Atlantic
Management Authority (Country/ State)	Fishery committee for the Eastern Central Atlantic (CECAF) Morocco
Gear Type(s)	Purse seine and pelagic trawler
Outcome of Assessment	
Peer Review Evaluation	Agreed with the assessor's determination
Recommendation	<b>APPROVED</b>

## 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 CITES Appendix 1, it cannot be approved for use as an MARINTRUST raw material. European sardine (<i>Sardina pilchardus</i>) in the Mediterranean is not is categorised as Endangered or Critically Endangered on the IUCN Red list nor is listed in Appendix 1 of CITES and therefore is eligible for Marin Trust approval.</p> <p>The stock is considered not fully exploited. However, important catches have been recorded in recent years (with an increase of 29 percent compared to 2017) due to the stability of biomasses in this area. This stock is highly influenced by environmental factors and shows biomass fluctuations independent of the fishery. For this purpose, the total catch to be taken must adjust to the natural changes. There are reference points defined for this stock. Therefore, the stock was assessed under category C.</p> <p>In the last stock assessment (FAO 2020), removals are included in the stock assessment, it <b>PASSES</b> C1.1. Further, the stock is considered not fully exploited, the stock is above biomass reference points and it <b>PASSES</b> C1.2.</p> <p>Therefore, sardine stock in FAO 34 Area South Zone (Zone C) is <b>APPROVED</b> for the production of fishmeal and fish oil under the Marin Trust v 2.0 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified the sardine stock in FAO 34 Area South Zone (Zone C) as category C, reference points are defined to assess status of the stock relative to.</p> <p>Fishery removals are included in the stock assessment process so the stock PASSES Clause C1.1. The sardine stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point. Therefore, it PASSES Clause C1.2. Therefore, the sardine stock in FAO 34 Area South Zone (Zone C) is approved.</p>
Notes for On-site Auditor

## 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

By-product 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.

By-product 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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
European pilchard/Sardine	<i>Sardina pilchardus</i>	South Zone (Zone C) stock	Fishery committee for the Eastern Central Atlantic (CECAF) Morocco	C	LC	No

<sup>1</sup> <https://www.iucnredlist.org/>

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

## 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.

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 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.	Yes																																																																																										
	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.	Yes																																																																																										
			Clause outcome: <b>PASS</b>																																																																																										
Evidence:																																																																																													
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<p>For the application of the LCA model, the Working Group used the sardine length composition, caught at Zone C. The average length composition of the total catch for the period 2007- 2018 were used for both stocks with individuals ranging in length of 6.25 to 29.75 cm for Zone C. Growth parameters estimated by INRH scientists for sardine in Zone C are used in the LCA model. The value of the natural mortality of 0.35 year<sup>-1</sup> is obtained from the sensitivity analyzes carried out by the Working Group in 2015. For the production model, the Working Group used the total catches of sardine in Zone C available from 1995 to 2018. The Nansen series was used as the index of abundance for model fit for both areas. The indices of sardine abundance from the survey carried out by R/V Al-Amir Moulay Abdellah are used to update the Nansen series to 2018. For Zone C, it should be mentioned that the index of abundance only affects the northern fraction of the stock (northern Cap Blanc). (Figure 1).</p>																																																																																													
<table border="1"> <caption>Estimated data for Figure 1: Catches in the sub-region with sardine and year (weight in tonnes)</caption> <thead> <tr> <th>Year</th> <th><i>S. pilchardus</i> (tonnes)</th> <th>Total Sub-region (tonnes)</th> </tr> </thead> <tbody> <tr><td>1990</td><td>1,100,000</td><td>1,800,000</td></tr> <tr><td>1991</td><td>1,000,000</td><td>1,500,000</td></tr> <tr><td>1992</td><td>700,000</td><td>1,300,000</td></tr> <tr><td>1993</td><td>600,000</td><td>1,100,000</td></tr> <tr><td>1994</td><td>600,000</td><td>1,100,000</td></tr> <tr><td>1995</td><td>600,000</td><td>1,200,000</td></tr> <tr><td>1996</td><td>600,000</td><td>1,400,000</td></tr> <tr><td>1997</td><td>600,000</td><td>1,500,000</td></tr> <tr><td>1998</td><td>600,000</td><td>1,800,000</td></tr> <tr><td>1999</td><td>500,000</td><td>1,400,000</td></tr> <tr><td>2000</td><td>600,000</td><td>1,600,000</td></tr> <tr><td>2001</td><td>800,000</td><td>1,800,000</td></tr> <tr><td>2002</td><td>700,000</td><td>1,600,000</td></tr> <tr><td>2003</td><td>700,000</td><td>1,800,000</td></tr> <tr><td>2004</td><td>700,000</td><td>1,900,000</td></tr> <tr><td>2005</td><td>800,000</td><td>1,900,000</td></tr> <tr><td>2006</td><td>700,000</td><td>1,800,000</td></tr> <tr><td>2007</td><td>700,000</td><td>2,000,000</td></tr> <tr><td>2008</td><td>800,000</td><td>2,400,000</td></tr> <tr><td>2009</td><td>900,000</td><td>2,400,000</td></tr> <tr><td>2010</td><td>900,000</td><td>2,600,000</td></tr> <tr><td>2011</td><td>800,000</td><td>2,400,000</td></tr> <tr><td>2012</td><td>700,000</td><td>2,000,000</td></tr> <tr><td>2013</td><td>700,000</td><td>1,900,000</td></tr> <tr><td>2014</td><td>900,000</td><td>2,400,000</td></tr> <tr><td>2015</td><td>900,000</td><td>2,200,000</td></tr> <tr><td>2016</td><td>1,000,000</td><td>2,600,000</td></tr> <tr><td>2017</td><td>1,200,000</td><td>2,700,000</td></tr> <tr><td>2018</td><td>1,300,000</td><td>2,500,000</td></tr> </tbody> </table>				Year	<i>S. pilchardus</i> (tonnes)	Total Sub-region (tonnes)	1990	1,100,000	1,800,000	1991	1,000,000	1,500,000	1992	700,000	1,300,000	1993	600,000	1,100,000	1994	600,000	1,100,000	1995	600,000	1,200,000	1996	600,000	1,400,000	1997	600,000	1,500,000	1998	600,000	1,800,000	1999	500,000	1,400,000	2000	600,000	1,600,000	2001	800,000	1,800,000	2002	700,000	1,600,000	2003	700,000	1,800,000	2004	700,000	1,900,000	2005	800,000	1,900,000	2006	700,000	1,800,000	2007	700,000	2,000,000	2008	800,000	2,400,000	2009	900,000	2,400,000	2010	900,000	2,600,000	2011	800,000	2,400,000	2012	700,000	2,000,000	2013	700,000	1,900,000	2014	900,000	2,400,000	2015	900,000	2,200,000	2016	1,000,000	2,600,000	2017	1,200,000	2,700,000	2018	1,300,000	2,500,000
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<p>Figure 1. Catches in the sub-region with sardine and year (weight in tonnes) / Captures totales dans la sous-région par espèce et par année (poids en tonnes). *2018 catches do not include Senegal. FAO 2020.</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.

**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.**

Adjustments in the production model by the Nansen index series were satisfactory for stock C. The reference points from the application of the model for this stock show that the current biomass is significantly higher than both the limit ( $B_{MSY}$ ) and the target ( $B_{0.1}$ ) reference points; and that the current fishing mortality is lower than that of the mortality  $F_{0.1}$  (Table 1). The results of the LCA model, used for the Stock C assessment, were inconclusive and were not retained by the Working Group.

**Table 1.** Summary of the Schaefer Dynamic Production Model Adjustment Results for Sardine in Zone C (*Sardina pilchardus*).  
FAO 2020

Stock/abundance indices	$B_{cur}/B_{MSY}$	$B_{cur}/B_{0.1}$	$F_{cur}/F_{S_{cur}}$	$F_{cur}/F_{MSY}$	$F_{cur}/F_{0.1}$
<b>Sardine, Zone C/ Nansen (1995-2018)</b>	151%	137%	116%	57%	64%

The assessor concludes that the fishery is above reference points. Therefore, the fishery **PASSES** C1.2.

**References**

Di Natale, A., Molinari, A., Oral, M., Kada, O. & Golani, D. 2011. *Sardina pilchardus*. The IUCN Red List of Threatened Species 2011: e.T198580A9039349. Downloaded on 12 May 2021.

FAO. 2020. Report of the Working Group on the Assessment of Small Pelagic Fish of Northwest Africa Casablanca, Morocco, 8–13 July 2019 Rapport de groupe de travail sur l'évaluation des petits pélagiques au large de l'Afrique Nord-Occidentale Casablanca, Maroc, 8-13 juillet 2019. Fishery Committee for the Eastern Central Atlantic (CECAF)/Comité des pêches pour l'Atlantique Centre-Est (COPACE). FAO Fisheries and Aquaculture Report No. 1309/FAO, Rapport sur les pêches et l'aquaculture no 1309. Rome. <https://doi.org/10.4060/ca9562b>

**Links**

<b>MARINTRUST Standard clause</b>	1.3.2.2
<b>FAO CCRF</b>	7.5.3
<b>GSSI</b>	D.3.04, D5.01