



MarinTrust Standard V2

By-product Fishery Assessment Report Template

MarinTrust Programme

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: standards@marin-trust.com

T: +44 2039 780 819

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 Central Zone (Zone A+B)
Date	23/09/2021	
Report Code	BP 181	
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 Central Zone (Zone A+B)
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	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 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>This assessment covers the Central Zone (Zone A + B) sardine fishery. To test the quality of the data available for stock assessment by analytical models, the Group conducted a statistical exploration of the age composition data for Zone A+B and reference points are defined for this stock. Therefore, the stock was categorised as category C.</p> <p>In the last stock assessment (FAO 2020), removals are included in the stock assessment, it PASSES C1.1. Further, it is above biomass reference points and it PASSES C1.2.</p> <p>Therefore, sardine in the area FAO 34 stock zones A+B is APPROVED 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 Central Zone (Zone A+B) 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 Central Zone (Zone A+B) 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 ¹	CITES Appendix 1 ²
European pilchard/Sardine	<i>Sardina pilchardus</i>	Central Zone (Zone A+B) stock	Fishery committee for the Eastern Central Atlantic (CECAF) Morocco	C	LC	No

¹ <https://www.iucnredlist.org/>

² <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: PASS

Evidence:

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.

For the application of the LCA model, the Working Group used the sardine length composition, caught at Zone A+B. The average length composition of the total catch for the period 2007- 2018 were used for both stocks with individuals ranging in length from 6.3 cm to 28.3 cm for Zone A+B. Growth parameters estimated by INRH scientists for sardine in Zone A+B. The value of the natural mortality of 0.35 year⁻¹ 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 A+B 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. Catches reported by tonnes in the total region (zones A+B, C) are presented in the figure below. (Figure 1)

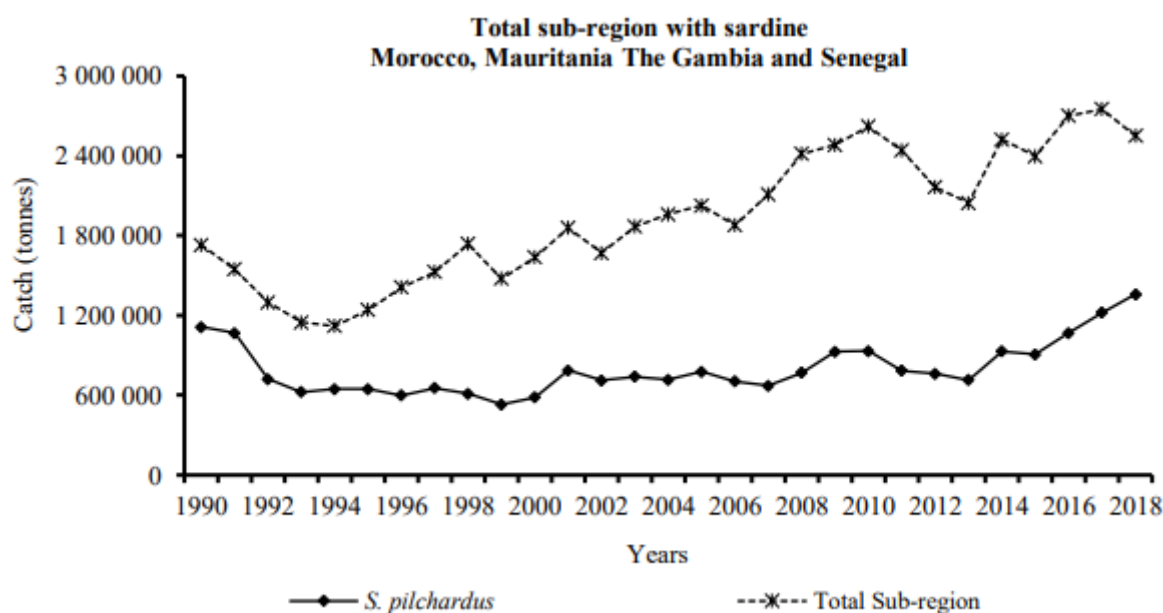


Figure 1. Catches in the sub-region with sardine and year (weight in tonnes) / Captures totales dans la sous-région par espèce et par année (poids en tonnes). *2018 catches do not include Senegal. FAO 2020.

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.

The Schaefer dynamic production model, implemented on an Excel spreadsheet (FAO, 2012), was run to assess the exploitation level of the sardine stock in Zone A+B (Cape Cantin–Cape Bojador). The indices B_{cur}/B_{MSY} and F_{cur}/F_{MSY} have been used as limit reference points, whereas the indices $B_{cur}/B_{0.1}$ and $F_{cur}/F_{0.1}$ have been chosen as target reference points for management recommendations. Assessment tests using the length distribution analysis were conducted for stocks in Zone A+B. The adjustment of the production model by the Nansen index series was satisfactory for the Stock A+B. The results indicate that the current biomass is significantly higher than both the limit (B_{MSY}) and the target ($B_{0.1}$) reference points, and the current fishing mortality is below $F_{0.1}$ (Table 1). The results of the LCA model, used for the evaluation of stock A+B, were inconclusive and were not accepted by the Working Group.

Table 1. Summary of the results of the Schaefer dynamic production model adjustment for sardine stocks in Zone A+B (*Sardina pilchardus*).

Stock/abundance index	B_{cur}/B_{MSY}	$B_{cur}/B_{0.1}$	F_{cur}/F_{Scur}	F_{cur}/F_{MSY}	$F_{cur}/F_{0.1}$
Sardine, Zone A+B/ Nansen (1995-2018)	159%	145%	110%	45%	50%

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

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