MarinTrust Standard V2

By-product Fishery Assessment Report Template

MarinTrust Programme
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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	European Sardine, *Sardina pilchardus*
	Geographical area:	FAO 37 Mediterranean Sea and Black Sea
	Country of origin of the product:	Spain & Portugal
	Stock:	Southern Alboran Sea – GSA3
Date	12/05/2021	
Report Code	BP 78	
Assessor	Virginia Polonio	
Country of origin of the product - PASS	Spain & Portugal	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Name: Sarval Bio-industries Noroeste, S.A.U: Arteixo			
Address:			
Country: Spain & Portugal		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 May 2021		

Scope Details	
Main Species	European Sardine, *Sardina pilchardus*
Stock	Southern Alboran Sea – GSA3
Fishery Location	FAO 37 Mediterranean Sea and Black Sea
Management Authority (Country/ State)	GFCM & national (Spain and Portugal)
Gear Type(s)	Purse seines and pelagic trawlers
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	**APPROVED**

Table 2. Assessment Determination

Assessment Determination
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 (*Sardina pilchardus*) 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. 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). In this report the management area GSA 3 is assessed corresponding to Southern Alboran Sea. Sponsored by Copemed II project there have been several joint assessments between Spain and Morocco for the Alboran Sea. In January 2021 Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held a meeting, in this meeting 20 stocks were analysed among them sardine was assessed; however, the results of these stock assessment are not available yet. Therefore, the assessment team has used the last stock assessment available for the purpose of this surveillance 2. Sardine in the area GSA 3 in the Southern Alboran Sea in the last stock WGSASP report of 2019 has shown the stock is in overexploitation (Ecur/E0.4= 1.25, Fcurr=0.63, SSBcurr= 18511 tonnes). Biomass reference points based on Bloss were not calculated because of the short time series of the data. Removals were not considered negligible as even though landings are showing a decreased trend CPUE are stable over the years. The final advice was to reduce fishing mortality. With that in mind sardine in the area GSA cannot pass the two clauses in category C as biomass is below limits and C1.2 fails. Therefore, as per guidelines the stock has been assessed under category D. With an average of 1.14 in productivity attributes and 2 on susceptibility, the stock achieves a PASS in the PSA. Therefore, Sardine in the area GSA3 Southern Alboran Sea is APPROVED for the production of fishmeal and fish oil under the Marin Trust v 2.0 by-products standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified sardine in GSA3 as category C, reference points are defined to assess the stock status relative to. The most recent published stock assessment determined that the stock is in overexploitation and it cannot be considered to have a biomass above the limit reference point. Consequently, the fishery fails clause C1.2. As per guidelines, the stock was further assessed under category D. A PSA was performed. With an average productivity score of 1.14 and an average susceptibility score of 2, the stock passes Table D3. Therefore, the peer reviewer agrees with the assessor's determination that the fishery passes Table D3 and sardine in GSA3 Southern Alboran Sea is thus approved.
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	*Sardina pilchardus*	FAO 37 Mediterranean Southern Alboran Sea GSA3	Species-specific management regime (EU, GFCM & national)	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, *Sardina pilchardus***	
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.	FAIL
		Clause outcome:	FAIL

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.

Commercial catch data is used in the assessment. Data used in the assessment correspond to Moroccan commercial catches. Landings and CPUE evolutions are given in the stock assessment report. Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and 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.

SPiCT (1983-2018) and A4a (2007- 2018) were applied. The a4a model was found more reliable in terms of uncertainty and model fit. However, revaluation of the survey in GSA 3 might be needed as it provides very high biomass estimates. In the same direction some re-evaluation of the life history parameters might be needed. SPiCT showed high uncertainty and it runs over a longer time period. The WG considered the a4a assessment as validated for quantitative advice, showing the stock is in overexploitation (Ecur/E0.4= 1.25, Fcurr=0.63, SSBcurr= 18,511 tonnes). The conclusion reached by the scientific was that the stock status is uncertain as a judgment for this area GSA03.

For GSA03, catches as well as CPUE decreased since 2000, although the standardized CPUE is stable. Both size and mean weight have also decreased. Finally, as a precautionary approach, the WG recommended to reduce fishing mortality.

Having said that, the assessor cannot conclude that the fishery is above limits and removals of the species in the area are negligible. Therefore, the fishery FAILS C1.2.

As per guidelines, the stock has been assessed under category D.

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.

Working Group on Stock Assessment of Small Pelagic Species (WGSASP). 2019. European Union under grant agreement no SI2.79539	
Links	
MARINTRUST Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

CATEGORY D SPECIES

Category D species are those which make up less than 5% of landings and are not subject to a species-specific management regime. In the case of mixed trawl fisheries, Category D species may make up the majority of landings. The comparative lack of scientific information on the status of the population of the species means that a risk-assessment style approach must be taken.

D1	Species Name	European pilchard/Sardine, *Sardina pilchardus*	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	1.7	1
	Average maximum age (years)	5.9	1
	Fecundity (eggs/spawning)	156,525 [50,000-490,000]	1
	Average maximum size (cm)	27.5	1
	Average size at maturity (cm)	10.5	1
	Reproductive strategy	Non-guarders: open water/substratum egg scatterers	1
	Mean trophic level	3.1	2
		Average Productivity Score	**1.14**
	Susceptibility Attribute	**Value**	**Score**
	Overlap of adult species range with fishery	50% of the stock occurs in the area *	3
	Distribution	through the region	Not scored when Overlap is scored
	Habitat	pelagic-neritic	1
	Depth range	10-100 m	1
	Selectivity	Species 1 or 2 times mesh sizes	2
	Post-capture mortality	Most death	3
		Average Susceptibility Score	**2**
		PSA Risk Rating (From Table D3)	**PASS**
		Compliance rating	**PASS**

References

https://www.fishbase.se/Summary/SpeciesSummary.php?ID=1350&AT=sardine

Life History Data on *Sardina pilchardus* European pilchard

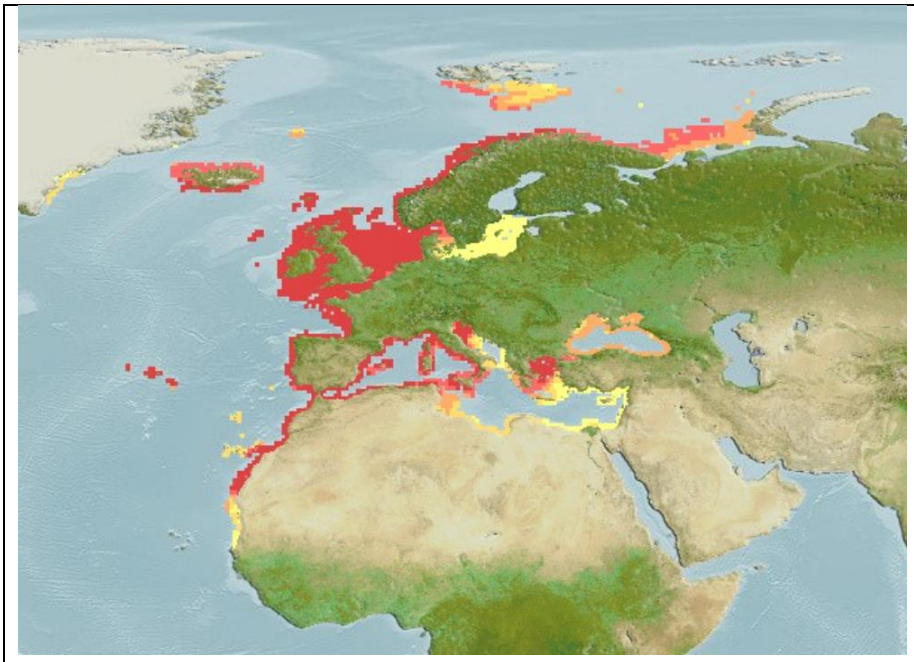

Figure 1. Distribution maps for *Sardina pilchardus* (European pilchard), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario. Retrieved from https://www.aquamaps.org.

Scarponi, P., G. Coro, and P. Pagano. A collection of Aquamaps native layers in NetCDF format. Data in brief 17 (2018): 292-296.

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	Low productivity/ High risk	Medium productivity/ Medium risk	High productivity/ Low risk
	Score 3	Score 2	Score 1
Average age at maturity (years)	>4	2 to 4	<2
Average maximum age (years)	>30	10 to 30	<10
Fecundity (eggs/spawning)	<1 000	1 000 to 10 000	>10 000
Average maximum size (cm)	>150	60 to 150	<60
Average size at maturity (cm)	>150	30 to 150	<30
Reproductive strategy	Live bearer, mouth brooder or significant parental investment	Demersal spawner "berried"	Broadcast spawner
Mean trophic level	>3.25	2.5–3.25	<2.5

Susceptibility attributes		High susceptibility/ High risk	Medium susceptibility/ Medium risk	Low susceptibility/ Low risk
		Score 3	Score 2	Score 1
Availability	1) Overlap of adult species range with fishery	>50% of stock occurs in the area fished	Between 25% and 50% of the stock occurs in the area fished	<25% of stock occurs in the area fished
	2) Distribution	Only in the country/ fishery	Limited range in the region	Throughout region/ global distribution
Encounterability	1) Habitat	Habitat preference of species make it highly likely to encounter trawl gear (e.g. demersal, muddy/sandy bottom)	Habitat preference of species make it moderately likely to encounter trawl gear (e.g. rocky bottom/reefs)	Depth or distribution of species make it unlikely to encounter trawl gear (e.g. epi-pelagic or meso-pelagic)
	2) Depth range	High overlap with trawl fishing gear (20 to 60 m depth)	Medium overlap with trawl fishing gear (10 to 20 m depth)	Low overlap with trawl fishing gear (0 to 10 m, >70 m depth)
Selectivity		Species >2 times mesh size or up to 4 m length	Species 1 to 2 times mesh size or 4 to 5 m length	Species <mesh size or >5 m length
Post capture mortality		Most dead or retained Trawl tow >3 hours	Alive after net hauled Trawl tow 0.5 to 3 hours	Released alive Trawl tow <0.5 hours

Note: Availability 2 is only used when there is no information for Availability 1; the most conservative score between Encounterability 1 and 2 is used.

D3		Average Susceptibility Score		
		1 - 1.75	1.76 - 2.24	2.25 - 3
Average Productivity Score	1 - 1.75	PASS	PASS	PASS
	1.76 - 2.24	PASS	PASS	TABLE D4
	2.25 - 3	PASS	TABLE D4	TABLE D4

D4	Species Name		
	Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements		
	D4.1	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.	
	D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	
		Outcome:	

Evidence

D4.1: The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.

D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Links	
MARINTRUST Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01