



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 37 Mediterranean Sea and Black Sea
	Country of origin of the product:	Spain & Portugal
	Stock:	GFCM GSA 7 Gulf of Lions sardine stock
Date	12/05/2021	
Report Code	BP 80	
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, <i>Sardina pilchardus</i>
Stock	GFCM GSA 7 Gulf of Lions sardine stock
Fishery Location	FAO Area 37 Mediterranean Sea and Black Sea
Management Authority (Country/ State)	GFCM & national (Spain and Portugal)
Gear Type(s)	Purse seine and pelagic trawl
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 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>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 assessment corresponds to the GSA07 (Gulf of Lions) as a whole. However, the Gulf of Lions may not correspond to the biological 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 January 2021, the Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held a meeting during which 20 stocks were analysed including sardine; however, the results of this stock assessment are not available yet. Therefore, the assessor used the previous stock assessment.</p> <p>Sardine in the area GSA 7 Gulf of Lions is in a similar state to that of last years and this does not result from overexploitation. 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. However, as per guidelines, the stock has been assessed under category D as there are no formal reference points defined. Therefore, a PSA was conducted. With an average of 1.14 for productivity and 2 for susceptibility, the stock PASSES in the PSA.</p> <p>Therefore, Sardine in the area GSA7 Gulf of Lions 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 Gulf of Lions sardine as category D, reference points are not defined to assess the stock status relative to.</p> <p>A PSA was performed. With an average productivity score of 1.14 and an average susceptibility score of 2, the stock passes Table D3.</p> <p>Therefore, the peer reviewer agrees with the assessor’s determination that the fishery passes Table D3 and Gulf of Lions (GSA 7) sardine is thus 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>	GFCM GSA 7 Gulf of Lions	Species-specific management regime (EU, GFCM & national)	C	LC	No

¹ <https://www.iucnredlist.org/>

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

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, <i>Sardina pilchardus</i>	
	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 <i>Sardina pilchardus</i> European pilchard			

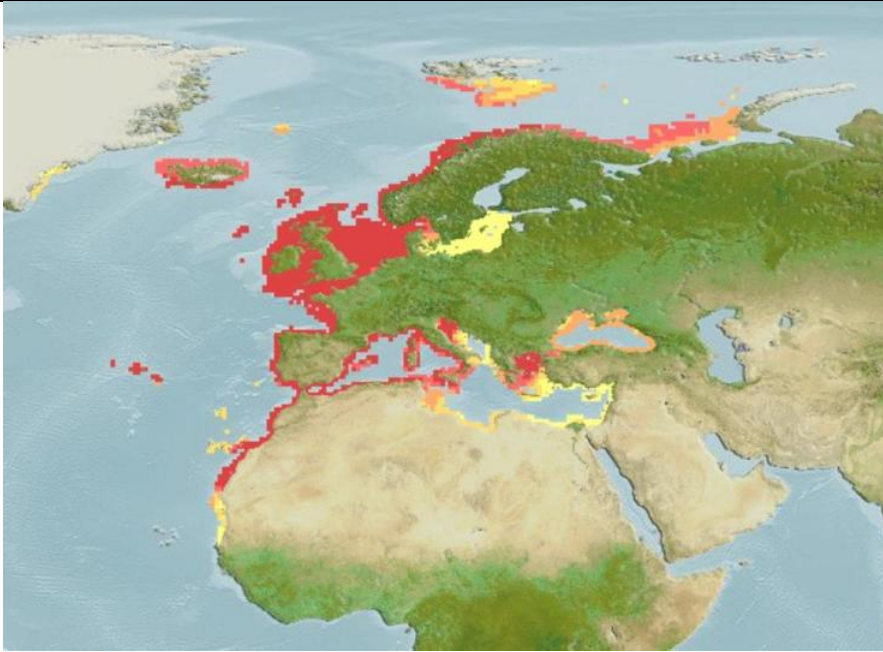


Figure 1. Distribution maps for *Sardina pilchardus* (European pilchard), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario. Retrieved from <https://www.aquamaps.org>.

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	