



## 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 37 Mediterranean Sea and Black Sea
	Country of origin of the product:	Spain & Portugal
	Stock:	GFCM GSA 6 Northern Spain sardine stock
Date	12/05/2021	
Report Code	BP 82	
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 6 Northern Spain 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 trawler
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's recommendation
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>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). The assessment of sardine corresponds to the GSA06 (Northern Spain), but it is not known yet if this is a shared Mediterranean French stock (Gulf of Lion- GSA07) or a complete stock unit. Studies of larvae transport from the Golf of Lion to Spanish waters suggest that this is a shared stock, however, in this report it was assessed the area GSA 6.</p> <p>In January 2021, the Working Group on Stock Assessment of Small Pelagic Species (WGSASP) held a meeting during which 20 stocks 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 6 Northern Spain has the biomass reduced by half and there are more empty areas. Fishing mortality has been used as a proxy to define the stock status. FMSY was set up at 2.5 and current F is 1.05. Current landings are the lowest in the historical series from 1945, a very low acoustic biomass is estimated since 2008. Removals have not been considered negligible in the last stock assessment. Therefore, the assessor concludes that the biomass is below limits and C1.2 fails.</p> <p>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.</p> <p>Therefore, Sardine in the area GSA6 Northern Spain 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 sardine in GSA6 Northern Spain as category C, reference points are defined to assess the stock status relative to.</p> <p>The most recent published stock assessment determined that overexploitation occurs and a conclusion regarding the position of the stock against a biomass limit reference point is not available. Moreover, the fishery removals are not considered to be negligible. Therefore, the assessor concludes that the fishery fails clause C1.2.</p> <p>As per guidelines, the stock was further assessed under category D.</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 sardine in GSA6 Northern Spain 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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
European pilchard/Sardine	<i>Sardina pilchardus</i>	GFCM GSA 6 Northern Spain	Species-specific management regime (EU, GFCM & national)	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.

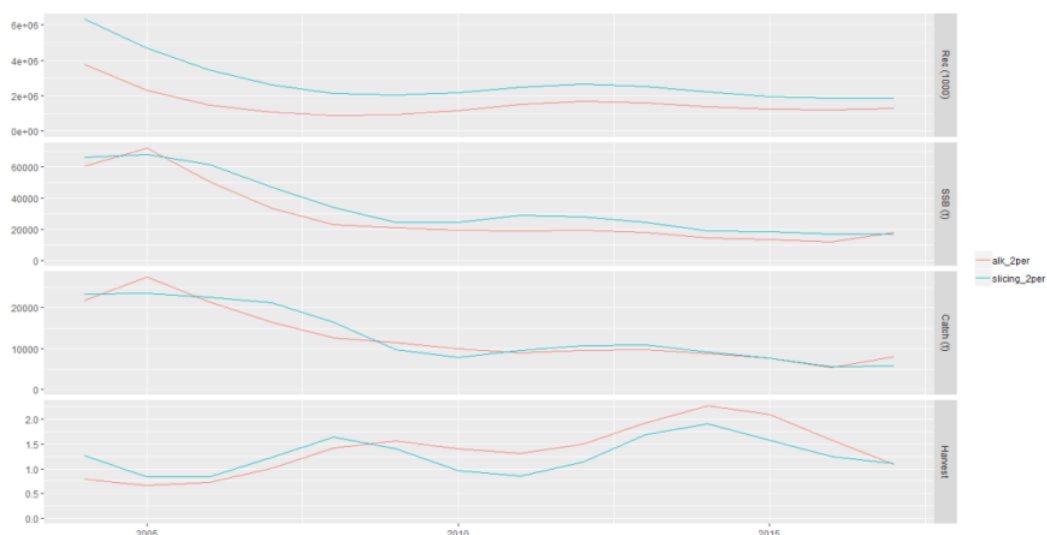
Clause C1 should be completed for **each** Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it may be assessed as a Category D species instead, EXCEPT if there is evidence that it is currently below 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.	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

### 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. Landings series from 2004 to 2017 have been used in the models. Data used in the assessment come from EU DCF (Data Collection Framework). Unit of effort has been successful fishing day for the species. Removals are included in the stock assessment and they are not considered negligible. The figure 1 shows the trend on catches. 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.



**Figure 1.** Final stock assessment of sardine in GSA 06 using ALK (alk\_2per) and slicing (slicing\_2per) to estimate the catch-at-age number in 2004-2010 and 2011-2017. Source: Stock assessment 2017.

**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 main results of the both models used to evaluate the stock have shown the same trends. Fishing mortality has been used as a proxy to define the stock status.  $F_{cur}/F_{msy}=3.50$ . The stock status was classified as overexploited and the SSB has been stable since 2017 however it is at the lower levels known. Therefore, although a conclusion regarding the position of the stock against a biomass limit reference point is not available, the fishery removals are not considered to be negligible.

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

GSA06 Stock Assessment Form Small Pelagic. Reference Year: 2017 Reporting Year: 2018

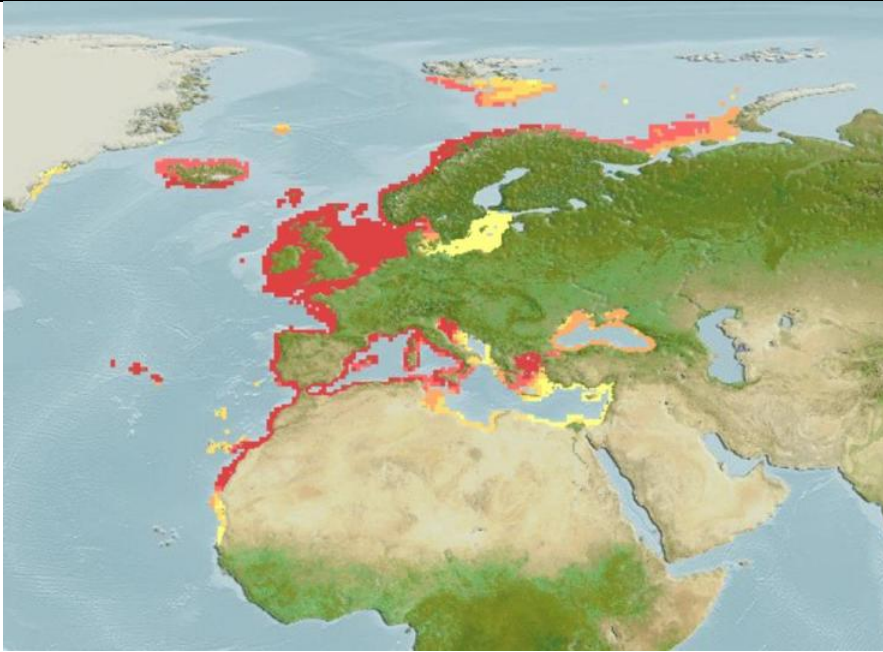
**Links**

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

## 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.

<b>D1</b>	<b>Species Name</b>	European pilchard/Sardine, <i>Sardina pilchardus</i>	
	<b>Productivity Attribute</b>	<b>Value</b>	<b>Score</b>
	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
	<b>Average Productivity Score</b>		<b>1.14</b>
	<b>Susceptibility Attribute</b>	<b>Value</b>	<b>Score</b>
	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
	<b>Average Susceptibility Score</b>		<b>2</b>
	<b>PSA Risk Rating (From Table D3)</b>		<b>PASS</b>
	<b>Compliance rating</b>		<b>PASS</b>
<b>References</b>			
<a href="https://www.fishbase.se/Summary/SpeciesSummary.php?ID=1350&amp;AT=sardine">https://www.fishbase.se/Summary/SpeciesSummary.php?ID=1350&amp;AT=sardine</a> 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			
<b>Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements</b>			
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.		
<b>Outcome:</b>			
<b>Evidence</b>			
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.			
<b>References</b>			
<b>Links</b>			
MARINTRUST Standard clause	1.3.2.2, 4.1.4		
FAO CCRF	7.5.1		
GSSI	D.5.01		