MarinTrust Standard V2

By-product Fishery Assessment

European sardine, FAO Area 37, GFCM GSA 17 & 18

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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 Area 37, General Fisheries Commission for the Mediterranean (GFCM) Geographical Sub-Area (GSA) 17 & 18
	Country of origin of the product:	Spain
	Stock:	GFCM GSA 17 & 18
Date	August 2022	
Report Code	ESP09	
Assessor	Sam Peacock	
Country of origin of the product - PASS	Spain	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Sarval Bio-Industries			
Country: Spain			
Email address: maria.mato@sarval.es		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Sam Peacock	Jose Peiro Crespo	0.25	Surveillance
Assessment Period	August 2022		

Scope Details	
Main Species	European sardine (*Sardina pilchardus*)
Stock	GFCM GSA 17 & 18
Fishery Location	FAO Area 37 GFCM GSA 17 & 18
Management Authority (Country/ State)	EU & GFCM
Gear Type(s)	Purse seine & pelagic trawl
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's determination
Recommendation	Approved

Table 2. Assessment Determination

Assessment Determination
European sardine is categorised on the IUCN Red List as Least Concern and does not appear in the CITES appendices. Sardine in General Fisheries Commission for the Mediterranean (GFCM) Geographical Sub-Area (GSA) 17 & 18 is managed relative to established target and limit reference points and so the stock was assessed under Category C. Stock assessments conducted on the stock utilise catch data and consider all fishery removals, and the most recent stock assessments indicate that SSB is currently above the limit reference point. As the byproduct meets the MarinTrust requirements, it should be approved for use as a raw material.
Fishery Assessment Peer Review Comments
The assessor correctly classified the Sardine in General Fisheries Commission for the Mediterranean (GFCM) Geographical Sub-Area (GSA) 17 & 18 as category C, as biomass-based target and limit reference points have been established for the stock. The most complete stock assessment was conducted in 2019. Fishery removals were included in the stock assessment process. In 2019, the SSB for the stock was estimated to be below the target reference point but well above the limit reference point. In the most recent stock assessment, conducted in 2021, SSB was also estimated to be above the limit reference point (SSB/SSBlim = 1.11). The stock passes the clause C1.1. and C.1.2 and is therefore approved under the Marin Trust v 2.0 by-products standard.
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 Red list 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 sardine	*Sardina pilchardus*	GFCM GSA 17 & 18	Yes	C	Least Concern[3]	No

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php
[3] https://www.iucnredlist.org/species/198580/15542481

CATEGORY C SPECIES

In a by-product assessment, Category C species are those which are subject to a species-specific management regime and are usually targeted species in fisheries for human consumption.

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 should be assessed as a Category D species instead.

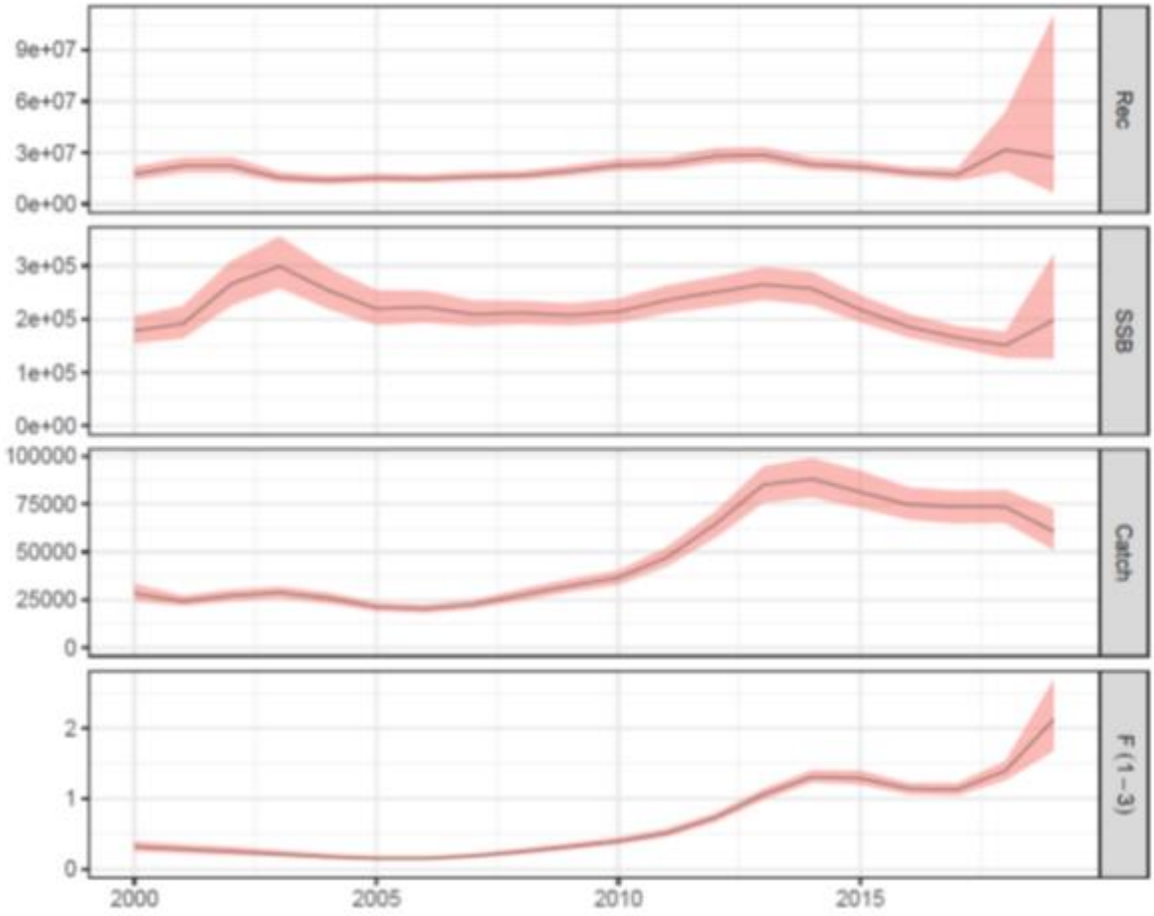
Species Name	**European sardine (*Sardina pilchardus*)**	
C1	**Category C Stock Status - Minimum Requirements**	
	C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	PASS
	C1.2 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.	PASS
	Clause outcome:	PASS

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.

The most recent stock assessment for which full details are available was conducted in 2019 and utilised catch data including catch-at-age, length-at-age and weight-at-age data per country participating in the fishery (GFCM 2019). The stock assessment report also indicates that bycatch and discards are incorporated into the modelling. There is no indication in the stock assessment documentation that the catch information is incomplete and therefore C1.1 is met.

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.

Biomass-based reference points are established for the stock. The target reference point B_{pa} is 250,636t. The limit reference point B_{lim} is 125,318t. In the most recently available stock assessment, published in 2019, SSB was estimated to be 198,600t, which is below the target reference point but above the limit reference point (GFCM 2019). Although the original stock assessment does not appear to be available, a reference to a more recent assessment also indicates that in 2021 SSB/SSB_{lim} = 1.11, and SSB/SSB_{pa} = 0.67 (GFCM 2021). This further confirms that the stock biomass is currently considered to be above the limit reference point, and C1.2 is met.



Sardine in GSA 17 & 18, outputs from the 2019 stock assessment. Time series of recruitment, SSB, catch and fishing mortality (GFCM 2019).

References

GFCM (2019). Stock assessment, Sardine in GSA 17 & 18, 2019. https://gfcmsitestorage.blob.core.windows.net/website/5.Data/SAFs/SmallPelagics/2019/PIL_GSA_17-18_2019_ALB_HRV_ITA_MNE_SVN.pdf

GFCM (2021). Report of the twenty-second session of the Scientific Advisory Committee on Fisheries, online, 22–25 June 2021. https://www.fao.org/3/cb7622en/cb7622en.pdf

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 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		
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)		
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)		
	Selectivity of gear type		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
	Further justification for susceptibility scoring (where relevant) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		
References			
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