



MarinTrust Standard V2

By-product Fishery Assessment *European sardine in ICES Divisions 8a,b,d*

MarinTrust Programme

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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:	ICES Divisions 8a,b,d (Bay of Biscay)
	Country of origin of the product:	Spain
	Stock:	ICES Divisions 8a,b,d
Date	August 2022	
Report Code	ESP11	
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 (<i>Sardina pilchardus</i>)
Stock	ICES Divisions 8a,b,d
Fishery Location	ICES Divisions 8a,b,d (Bay of Biscay)
Management Authority (Country/ State)	EU
Gear Type(s)	Purse seine and pelagic trawl
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's determination
Recommendation	Approved

Table 2. Assessment Determination

Assessment Determination
<p>European sardine is categorised on the IUCN Red List as Least Concern and does not appear in the CITES appendices. Sardine in the Bay of Biscay is managed relative to established reference points and was therefore assessed under Category C. Landings are included in the stock assessment process, however stock biomass was estimated to be below the limit reference point in the most recent stock assessment. As per the MT fishery assessment guidance, after failing Category C the stock was assessed under Category D. The productivity score of 1.14 and susceptibility score of 2 mean that the stock passed via Table D3. As sardine in ICES Divisions 8a,b,d meets the MT byproduct requirements, it should be approved for use as a raw material.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified the Bay of Biscay sardine stock as category C, this stock is managed and reference points are defined.</p> <p>A stock assessment is conducted annually by the ICES Working Group on Southern Horse Mackerel, Anchovy and Sardine (WGHANSA). Fishery removals are considered in the stock assessment process. Although SSB for 2022 was projected to be above the limit reference point, at the time of the assessment (2021), the SSB was below the limit reference point. Therefore, the stock fails clause C.1.2 and it needs to be assessed under category D.</p> <p>The stock passes the Productivity Susceptibility Analysis under category D. Therefore, the Bay of Biscay sardine may be approved under the Marine Trust v 2.0 by-products standard.</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 a 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	<i>Sardina pilchardus</i>	ICES Divisions 8a,b,d	Yes	C	Least Concern ³	No

¹ <https://www.iucnredlist.org/>

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

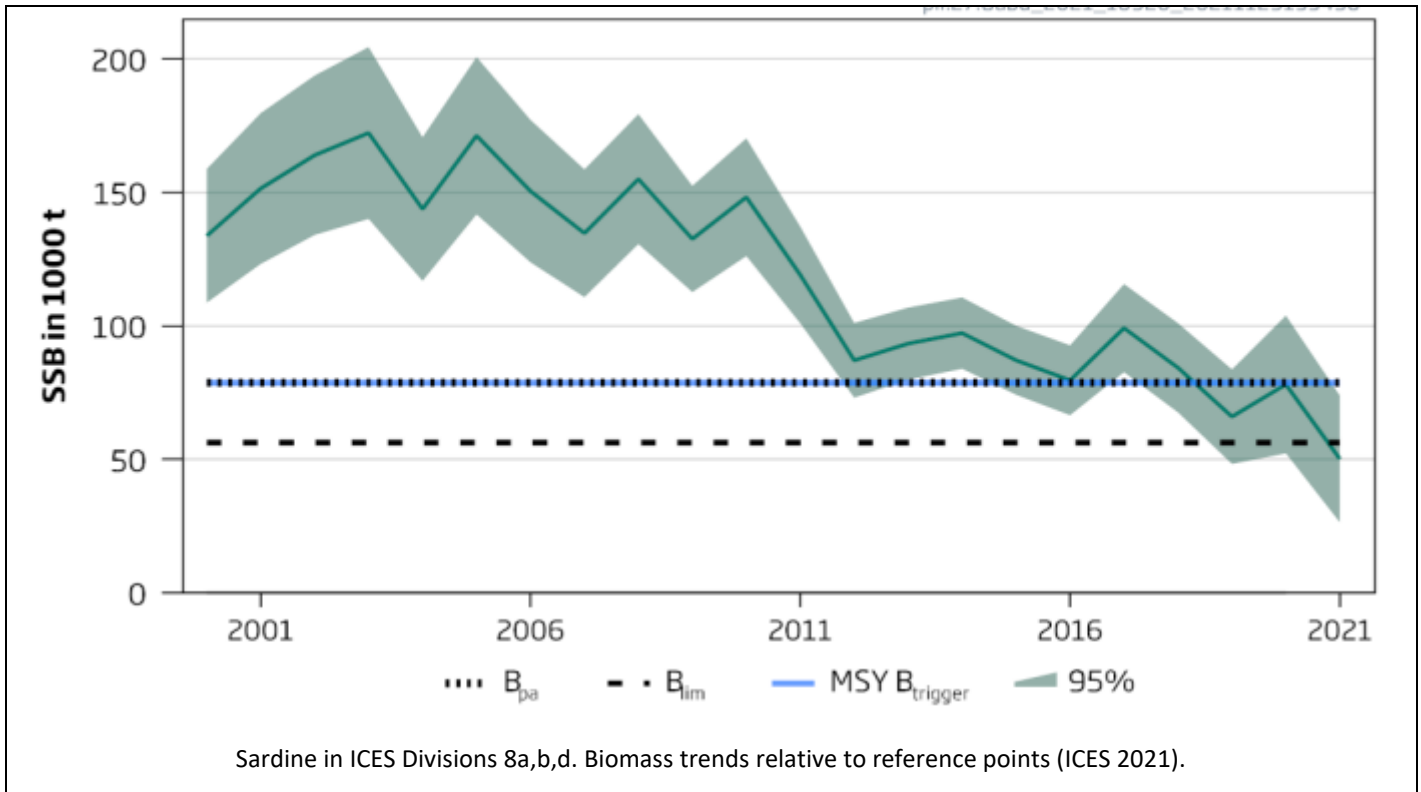
³ <https://www.iucnredlist.org/species/198580/15542481>

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 (<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.	FAIL
			Clause outcome: FAIL
<p>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.</p> <p>A stock assessment is conducted annually by the ICES Working Group on Southern Horse Mackerel, Anchovy and Sardine (WGHANSA). The most recent assessment was conducted in 2021 using commercial catches including international landings and ages and length frequencies from catch sampling. Discarding and bycatch are both considered negligible (ICES 2021). The annual ICES advice includes a section on “issues relevant for the advice” where any concerns over the robustness of data are raised; in the most recent advice this section does not include any concerns regarding the catch data (although reference is made to French catches this does not affect the robustness of the data sources). All fishery removals are included in the assessment and C1.1 is met.</p>			
<p>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.</p> <p>Target and limit reference points have been established for the stock. Target reference points $MSY_{B_{trigger}}$ and B_{pa} are set at 78,700t. Limit reference point B_{lim} is set at 56,300t. The most recent catch advice projected the SSB in 2022 to be 94,560t, above both the target and limit reference point. However, the advice also states that at the time of the stock assessment, “spawning-stock size is below $MSY_{B_{trigger}}$, B_{pa}, and B_{lim}. This means that while it is expected to recover in the short term, the most recent stock assessment estimated SSB to be below the limit reference point and C1.2 is not met. As per the MT assessment guidance, the stock should be assessed under Category D.</p>			



References

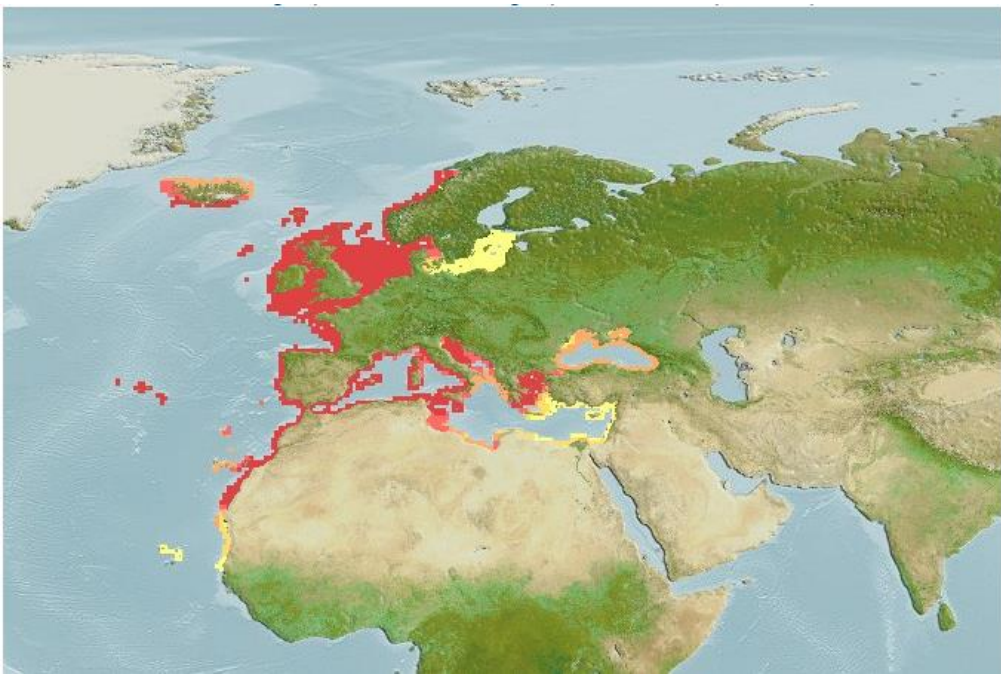
ICES (2021). Sardine (*Sardina pilchardus*) in divisions 8.a-b and 8.d (Bay of Biscay). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, pil.27.8abd, <https://doi.org/10.17895/ices.advice.7815>

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	European sardine (<i>Sardina pilchardus</i>)		
	Productivity Attribute	Value	Score	
	Average age at maturity (years)	2 years	1	
	Average maximum age (years)	7 years	1	
	Fecundity (eggs/spawning)	50,000 – 490,000	1	
	Average maximum size (cm)	27.5cm	1	
	Average size at maturity (cm)	11.8cm	1	
	Reproductive strategy	Broadcast spawner	1	
	Mean trophic level	3.1	2	
	Average Productivity Score		1.14	
	Susceptibility Attribute	Value	Score	
	Availability (area overlap)	<10%	1	
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	Targeted – high overlap	3	
	Selectivity of gear type	Juveniles rarely caught	1	
	Post-capture mortality	Retained	3	
	Average Susceptibility Score		2	
	PSA Risk Rating (From Table D3)		PASS	
	Compliance rating		PASS	
	Further justification for susceptibility scoring (where relevant)			
				

Computer-generated map of European sardine distribution, from Fishbase

<https://www.fishbase.se/summary/sardina-pilchardus.html>

References

Fishbase, European sardine. <https://www.fishbase.se/summary/sardina-pilchardus.html>

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	n/a	
Impacts On Species Categorized 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	