MarinTrust Standard V2

By-product Fishery Assessment

European sardine in ICES Divisions 8a,b,d

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	European sardine (*Sardina pilchardus*)
	Geographical area:	Bay of Biscay
	Country of origin of the product:	France
	Stock:	ICES Divisions 8a-b and 8d
Date	September 2022	
Report Code	FRA28	
Assessor	Sam Peacock	
Country of origin of the product - PASS	France	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): BIOCEVAL SAS: Concarneau			
Country: France			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Sam Peacock	Kate Morris	0.25	Surveillance
Assessment Period	September 2022 – September 2023		

Scope Details	
Main Species	European sardine (*Sardina pilchardus*)
Stock	ICES Divisions 8a-b and 8d
Fishery Location	Bay of Biscay
Management Authority (Country/ State)	EU
Gear Type(s)	Purse seine and pelagic trawl
Outcome of Assessment	
Peer Review Evaluation	Pass
Recommendation	Approve byproduct

Table 2. Assessment Determination

Assessment Determination
European sardine has been categorised by 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 initially assessed under Category C. An annual stock assessment is conducted by ICES and makes use of all commercial landings data. The most recent assessment indicated that the stock biomass is below the limit reference point. The by-product, therefore, does not meet the requirements of Category C, and as per the MT by-product, assessment guidance was further assessed under Category D. Under Category D, the by-product achieved a productivity score of 1.14 and a susceptibility score of 2.0, resulting in a Pass rating in Table D3. European sardine in the Bay of Biscay should therefore remain approved for use as an MT raw material.
Fishery Assessment Peer Review Comments
The by-product fishery under assessment here is the European sardine (*Sardina pilchardus*) fishery which is pursued by French vessels in ICES 27 Subareas 8a-b and 8d. Sardine is managed by the EU Common Fisheries Policy in EU waters. For this Marin Trust assessment, European Sardine is scored as a category C species. European sardine did not meet the MT requirements for Category C and was therefore scored as a Category D species and passed. All species scoring tables have been completed by the auditor with sufficient evidence presented to support their final determination. The peer review supports the auditor's recommendation to Pass this fishery under the Marin Trust IFFO RS v2.0 by-fishery standard for the production of fishmeal and fish oil.
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*	ICES 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 (*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

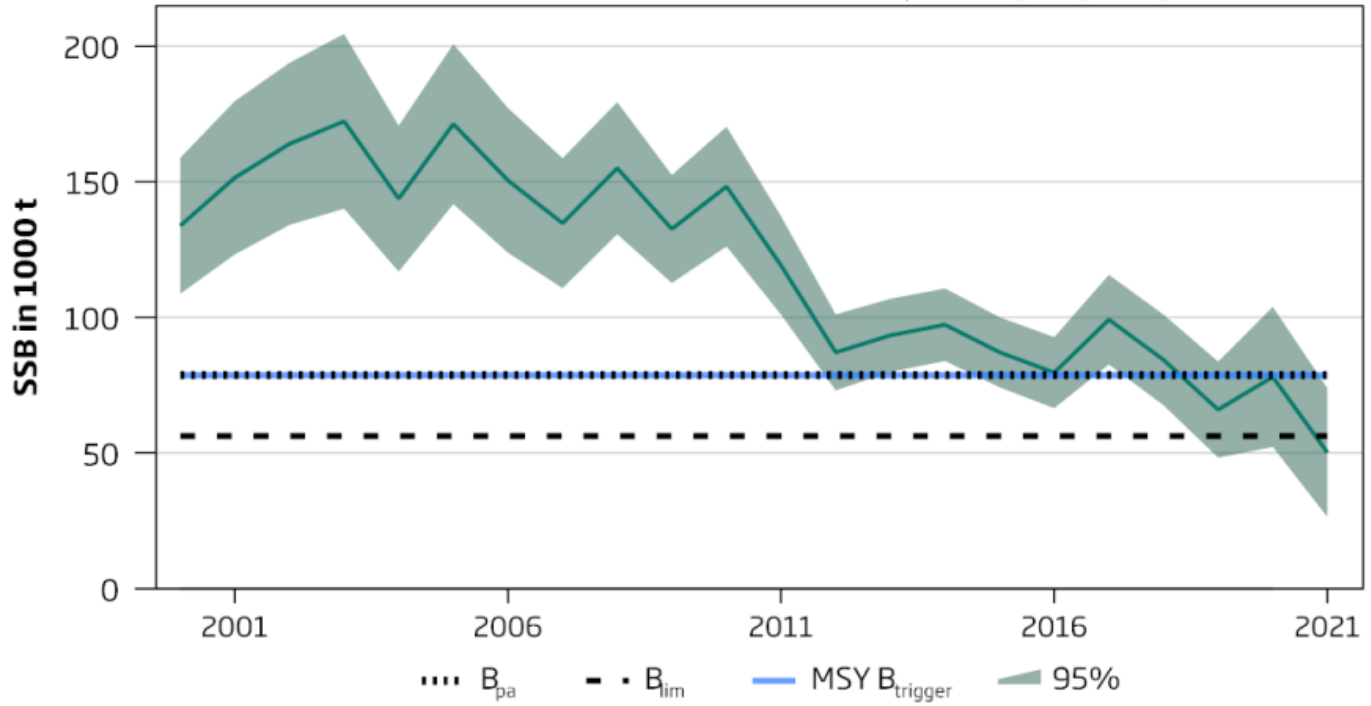
This sardine stock failed to meet the requirements of Category C, and as per the MT by-product assessment guidance was subsequently assessed under Category D.

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.

A stock assessment is conducted annually by the ICES Working Group on Southern Horse Mackerel, Anchovy and Sardine (WGHANSA). The most recent assessment was an analytical stock synthesis assessment, which used international landings and age and length frequency data, along with survey indices and age composition data (ICES 2022). The annual ICES advice includes a section on "issues relevant to the advice", where any concerns over the robustness of data are raised; in the most recent advice (published in December 2021), this section notes some complexity regarding allocating sardine catch to particular stocks; however, this does not impact the ability of the fishery to pass this clause. All fishery removals are included in the assessment and 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.

The December 2021 ICES advice notes that "spawning-stock size is below MSY $B_{trigger}$, B_{pa}, and B_{lim}" (ICES 2021). As the biomass is considered in the most recent assessment to be below the limit reference point, the stock fails C1.2.



Sardine in the Bay of Biscay, SSB relative to current reference points (ICES 2021)

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

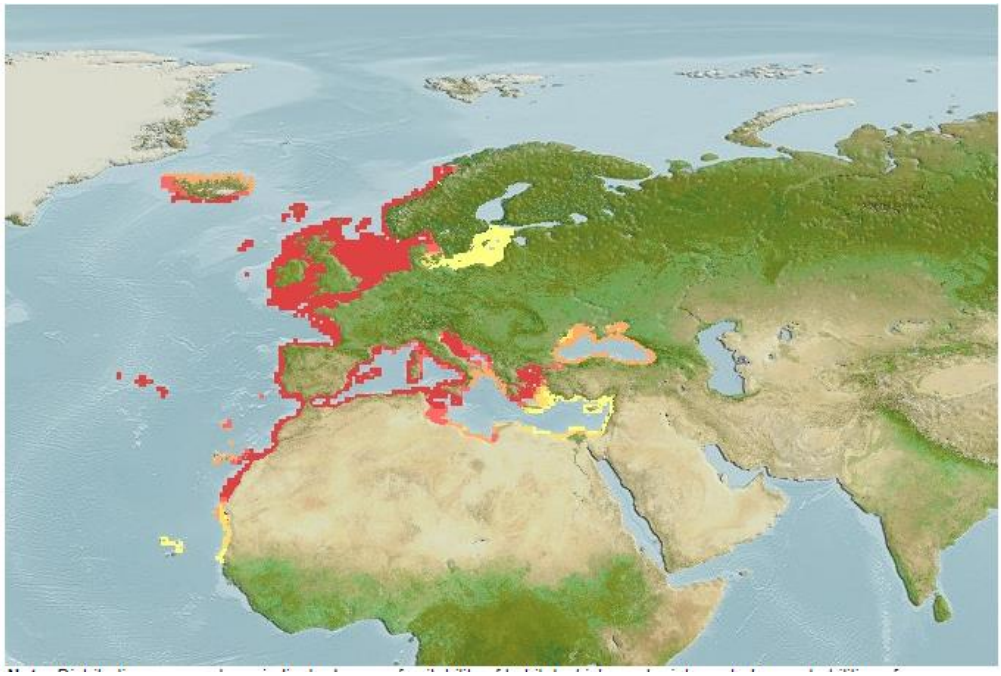
Links	
MarinTrust Standard clause	1.3.2.2
FAO CCRF	7.5.3
GSSI	D.3.04, D5.01

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 (*Sardina pilchardus*)	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	2 years	1
	Average maximum age (years)	7 years	1
	Fecundity (eggs/spawning)	156,525	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% overlap	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	Small individuals 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 distribution map for European sardine (from Fishbase, https://www.fishbase.se/summary/sardina-pilchardus.html)

References
Fishbase, European pilchard. 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 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