MarinTrust Standard V2

By-product Fishery Assessment

Sardine in the Eastern-Central Atlantic, Zones A&B

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	European sardine (*Sardina pilchardus*)
	Geographical area:	FAO Area 34 – Eastern Central Atlantic
	Country of origin of the product:	Morocco
	Stock:	Zones A & B

Date	September 2022
Report Code	MAR003
Assessor	Sam Peacock
Country of origin of the product - PASS	Morocco
Country of origin of the product - FAIL	None

Application details and summary of the assessment outcome			
Company Name(s): CIBEL: CIBEL I, II; Copelit S.A.R.L.; KB Fish; Laayoune Proteine; Nouvelle Ougala; Sovapec; Protein and Oil Industry; Mayalan			
Country: Morocco			
Email address: hamzachraibi.lps@gmail.com		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	Re-approval
Assessment Period	September 2022 – September 2023		

Scope Details	
Main Species	European sardine (*Sardina pilchardus*)
Stock	Zones A & B
Fishery Location	FAO Area 34 – Eastern Central Atlantic
Management Authority (Country/ State)	Fishery committee for the Eastern Central Atlantic (CECAF); Morocco
Gear Type(s)	Purse seine & 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 as Least Concern and does not appear in the CITES appendices. Although sardine in Zones A & B is usually managed relative to reference points, the most recent stock assessment determined that the current stock status could not be estimated due to the lack of an appropriate abundance indicator. For this reason it was decided to assess the stock under Category D (see Species Categorisation section for details).   European sardine was awarded a productivity score of 1.14 and a susceptibility score of 2.0, leading to the stock achieving a Pass rating on Table D3. Sardine from Zones A & B should be 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 Moroccan vessels in FAO 34, zones A and B. Sardine is managed by the Fishery committee for the Eastern Central Atlantic (CECAF) and the Moroccan government. For this Marin Trust assessment, European Sardine is scored as a category D species.   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*	Zones A & B	No*	D	Least Concern[3]	No

* Note on Management: This sardine stock is usually managed relative to defined target and limit reference points, and would therefore be assessed under Category C. However, the most recent stock assessment report[4] states that "the Working Group was unable to assess the status of the stock for 2020 due to the absence of an appropriate abundance index". Therefore, the stock could either be subjected to an MT byproduct assessment under Category C using the 2019 stock assessment outcomes (and therefore identical to the previous byproduct assessment report, with approval maintained by default); or under Category D on the assumption that the stock status is currently unknown. Given the potential for the size of sardine populations to change rapidly year-on-year, the second of these two options was chosen for this byproduct assessment and the stock assessed under Category D.

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[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php
[3] https://www.iucnredlist.org/species/198580/15542481
[4] CECAF Working Group on the Assessment of Small Pelagic Fish off Northwest Africa, Summary Report, 2021.
https://www.fao.org/3/cb9193en/cb9193en.pdf

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.
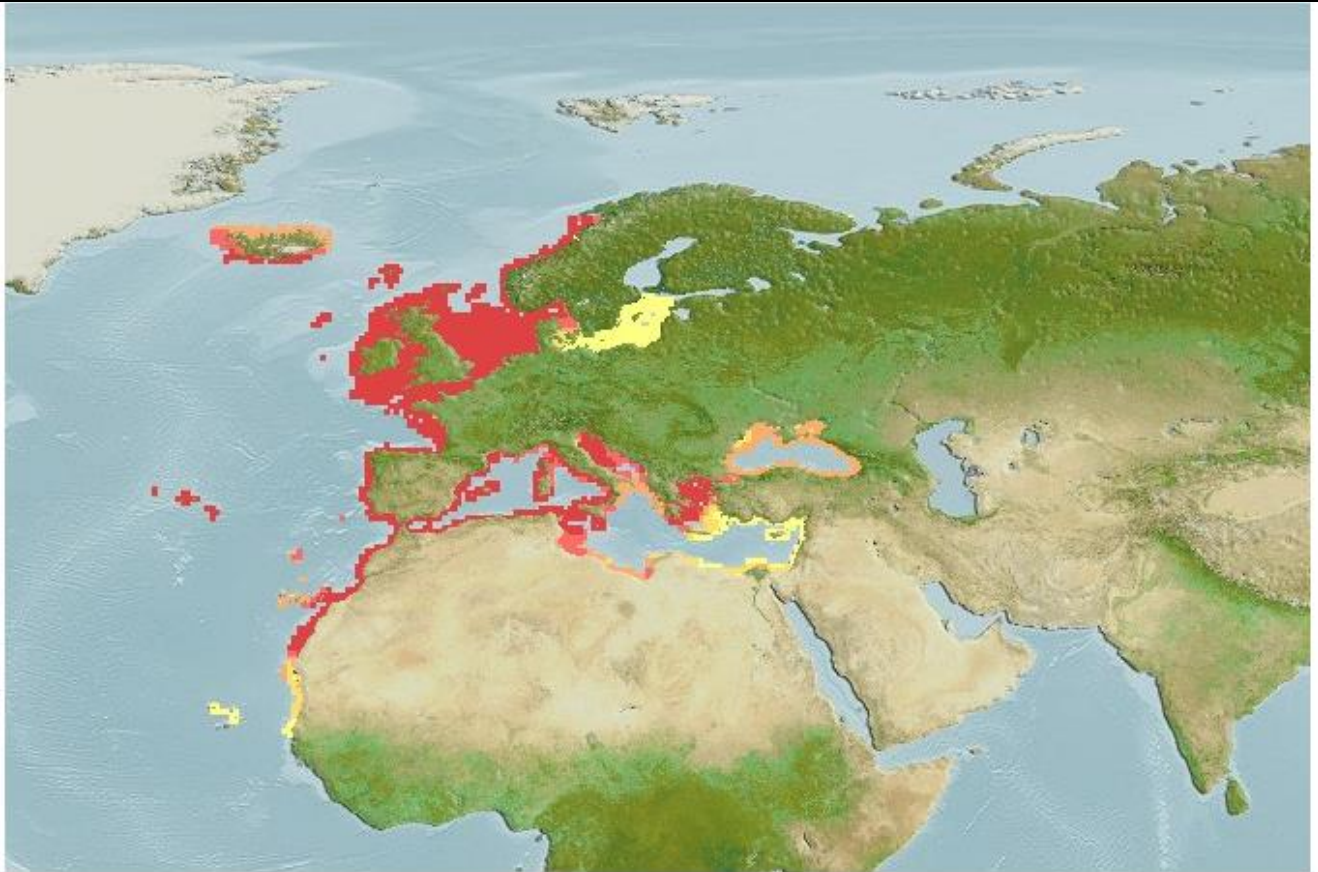
Clause C1 should be completed for each Category C species. If there are no Category C species in the fishery under assessment, this section can be deleted. Where a species fails this Clause, it should be assessed as a Category D species instead.

Species Name	n/a		
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.	
	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.	
		Clause outcome:	

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.

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.

References	
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	3
	Selectivity of gear type	Undersized 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) *For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision*		

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Computer-generated distribution map for European sardine (Fishbase, https://www.fishbase.se/summary/sardina-pilchardus.html).

References

Fishbase, European pichard. 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 — Score 3	Medium productivity/ Medium risk — Score 2	High productivity/ Low risk — 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 — Score 3	Medium susceptibility/ Medium risk — Score 2	Low susceptibility/ Low risk — 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.

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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

Links	
MarinTrust Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01