



MarinTrust Standard V2

By-product Fishery Assessment Round sardinella (*Sardinella aurita*) in FAO 34, Atlantic eastern central

MarinTrust Programme

Unit C, Printworks

22 Amelia Street

London

SE17 3BZ

E: standards@marin-trust.com

T: +44 2039 780 819

Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Round sardinella (<i>Sardinella aurita</i>)
	Geographical area:	FAO 34 - Atlantic eastern central
	Country of origin of the product:	Morocco
	Stock:	Atlantic eastern central round sardinella
Date	07 th February 2024	
Report Code	MAR001	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Morocco	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Copelit, Laayoune			
Country: Morocco			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Certification Trust/NSF	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Ana Elisa Almeida Ayres	Léa Lebechnech	0.5	Surveillance 2
Assessment Period	February 2024 – February 2025		

Scope Details	
Main Species	Round sardinella (<i>Sardinella aurita</i>)
Stock	Atlantic eastern central round sardinella
Fishery Location	FAO 34 - Atlantic eastern central
Management Authority (Country/ State)	Fishery Committee for the Eastern Central Atlantic (CECAF)/ Morocco Ministère de l'Agriculture, de la Pêche Maritime, du Développement Durable et des Eaux et Forêts (MAMF)
Gear Type(s)	Purse seine, midwater trawl
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's determination
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
<p>If any species is categorised as Endangered or Critically Endangered on Union for Conservation of Nature's Red List of Threatened Species - IUCN's Red List, or if it appears in the Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES appendices, it cannot be approved for use as MarinTrust raw material. Round sardinella (<i>Sardinella aurita</i>) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, round sardinella (<i>Sardinella aurita</i>) is eligible for approval for use as Marin Trust by-product raw material.</p> <p>The small pelagics fishery in the zone C is managed under a plan which includes a TAC (all small pelagic species combined), bycatch limits, species restrictions, spatial zoning and closed areas. The fishery in zones A+B is also managed via a management plan but using limits on effort rather than a TAC. Therefore, management measures are applied to the small pelagics fishery, but it is not clear the extent to which these are specific measures for round sardinella. In addition, there are no reference points defined for the stock. Therefore, it has been assessed under category D and a PSA was conducted.</p> <p>With an average productivity score of 1.43 and an average susceptibility score of 2.25, it PASSES Table D1. Therefore, round sardinella in FAO 34 (eastern central Atlantic Ocean), is APPROVED for the production of fishmeal and fish-oil under the current Marin Trust v 2.3 by-products.</p> <p>However, the assessor would like to stress that FAO in 2022 underlined that the sardinella stock is still overexploited. FAO highly recommends a fishing effort reduction of at least 60%, along with an implementation of joint management between national governments for the sustainable management of these species</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified round sardinella in FAO 34 (eastern central Atlantic Ocean) as Category D, as the stock is not subject to a specific management regime and reference points are not defined.</p> <p>The assessor correctly applied attribute scores for the PSA and the productivity total of 1.43 and susceptibility total of 2.25 were correctly calculated. The stock passes category D per Table D4.</p> <p>Round sardinella in FAO 34 (eastern central Atlantic Ocean) passes the PSA and therefore should be approved under the MarinTrust Standard v.2.3.</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
Round sardinella	<i>Sardinella aurita</i>	Atlantic eastern central round sardinella	Fishery Committee for the Eastern Central Atlantic (CECAF)/ Morocco Ministère de l'Agriculture, de la Pêche Maritime, du Développement Durable et des Eaux et Forêts (MAMF)	D	LC	No

¹ <https://www.iucnredlist.org/>

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

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.

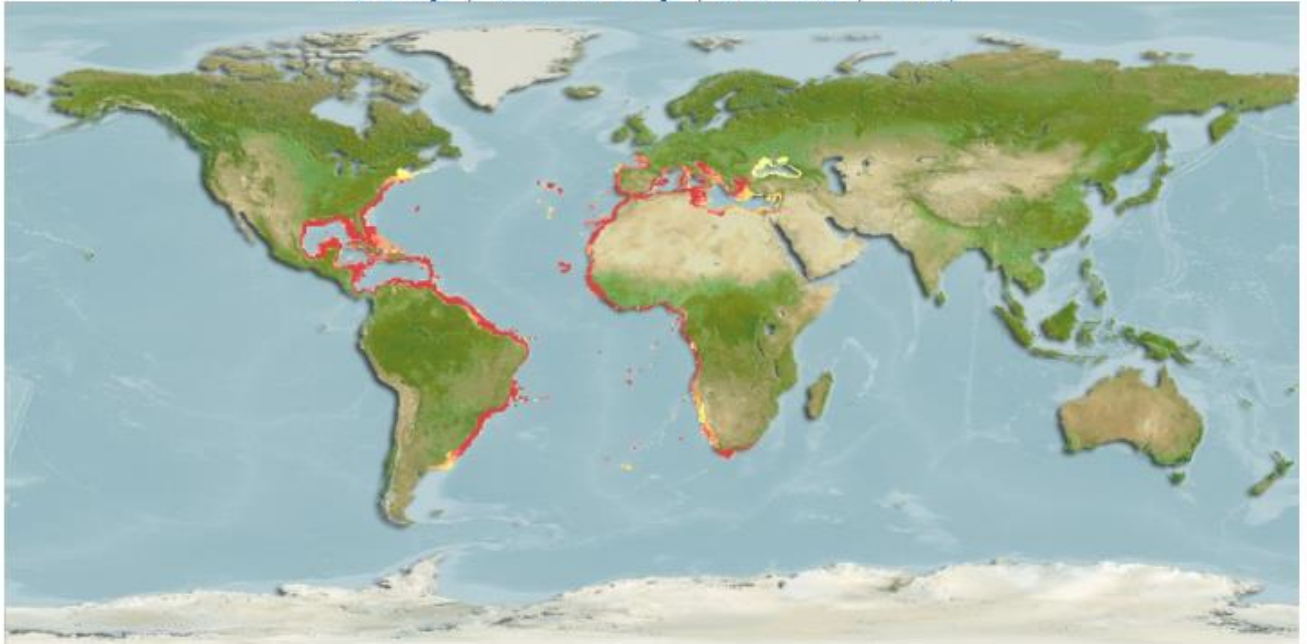
D1	Species Name		Round sardinella (<i>Sardinella aurita</i>)		
	Productivity Attribute		Value	Score	
	Average age at maturity (years)		2.7	1	
	Average maximum age (years)		10.9	2	
	Fecundity (eggs/spawning)		26,555	1	
	Average maximum size (cm)		41	1	
	Average size at maturity (cm)		21.4	1	
	Reproductive strategy		Broadcast spawner	1	
	Mean trophic level		3.4	3	
	Average Productivity Score			1.43	
	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)		0-350m	2	
	Selectivity of gear type		Precautionary	3	
	Post-capture mortality		Retained	3	
	Average Susceptibility Score			2.25	
	PSA Risk Rating (From Table D3)			Pass	
	Compliance rating			Pass	
	<p>Further justification for susceptibility scoring (where relevant) <i>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision</i></p> <p>Round sardinella (<i>Sardinella aurita</i>) is found in Atlantic Ocean: West African coast from Gibraltar southward to Saldanha Bay in South Africa especially in the three West African upwelling areas, from Mauritania to Guinea, from Côte d'Ivoire to Ghana and from Gabon to Angola; also in Mediterranean Sea and Black Sea. In western Atlantic Ocean from Cape Cod in USA to Argentina, including Bahamas, Antilles, Gulf of Mexico and the Caribbean coast. The depth range of the species is 0 - 350 m, considering the gears used for this fishery operate in pelagic waters, the encounterability is medium. As it is a commercial species, most of the fish is retained. A precautionary score was given for selectivity of gear type given the lack of information about it.</p>				



Computer Generated Native Distribution Map for *Sardinella aurita* (Round sardinella), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario

Currently known distribution: Atlantic Ocean: West African coast from Gibraltar southward to Saldanha Bay in South Africa (Ref. 188, 81269, 81631); also in Mediterranean Sea (Ref. 188, 81631) and Black Sea (Ref. 188). In western Atlantic Ocean from Cape Cod in USA to Argentina (Ref. 188), including Bahamas, Antilles, Gulf of Mexico and the Caribbean coast (Ref. 26938).

Native Range | Year 2050 Native Range | Suitable Habitat | Point Map



Note: Distribution range colours indicate degree of suitability of habitat which can be interpreted as probabilities of occurrence.

<p>Relative probabilities of occurrence</p> <ul style="list-style-type: none"> 0.80 - 1.00 0.60 - 0.79 0.40 - 0.59 0.20 - 0.39 0.01 - 0.19 	<p>Explore:</p> <ul style="list-style-type: none"> Native range map Suitable habitat map Point map Show mapping parameters Create your own map 	<p>Download native range data:</p> <ul style="list-style-type: none"> csv format NetCDF (view in Godiva) About AquaMaps 	<p>More species info:</p> <ul style="list-style-type: none"> List of countries List of FAO areas List of ecosystems Comments & Corrections 	<p>Session no. 6</p> <p>-Close window-</p> <p><i>Please use -Close window-link just above to exit instead of the browser's X button.</i></p>
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Figure 1. Distribution of Round sardinella (*Sardinella aurita*) [AquaMaps, 2019].

References

AquaMaps. 2019. Computer generated distribution maps for *Sardinella aurita* (*Round sardinella*), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario. https://www.aquamaps.org/receive.php?type_of_map=regular&map=cached

Froese, R. and D. Pauly. Editors. 2023. FishBase. World Wide Web electronic publication. <https://www.fishbase.de/summary/Sardinella-aurita.html>

Standard clauses 1.3.2.2

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

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