



## MarinTrust Standard V2

# By-product Fishery Assessment *European sardine (ICES Divisions 8.a–b and 8.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:	FAO 27 Northeast Atlantic
	Country of origin of the product:	France and Spain
	Stock:	ICES Divisions 8.a–b and 8.d (Bay of Biscay)
Date	March 2022	
Report Code	BP033	
Assessor	Conor Donnelly	
Country of origin of the product - PASS	France and Spain	
Country of origin of the product - FAIL		

Application details and summary of the assessment outcome			
Company Name(s): Marine Ingredients Denmark; FFSkagen, TripleNine			
Country: Denmark			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Conor Donnelly	Geraldine Criquet	0.5	Surveillance 1
Assessment Period	To March 2022		

Scope Details	
Main Species	European sardine ( <i>Sardina pilchardus</i> )
Stock	ICES Divisions 8 a,b,d (Bay of Biscay)
Fishery Location	FAO 27 Northeast Atlantic
Management Authority (Country/ State)	EU (CFP)
Gear Type(s)	Purse seine and pelagic trawl
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's determination
Recommendation	<b>APPROVE</b>

## Table 2. Assessment Determination

Assessment Determination
<p><b>Note on country of origin of product:</b> Only France and Spain fish this stock so these are identified as the countries of origin of the product.</p> <p>If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin Trust raw material. Sardine (<i>Sardina pilchardus</i>) does not appear as Endangered or Critically Endangered on the IUCN Red List, nor does it appear in the CITES appendices; therefore, Sardine (<i>Sardina pilchardus</i>) ICES Divisions 8.a–b and 8.d (Bay of Biscay) is eligible for approval for use as Marin Trust raw material.</p> <p>There is a species-specific management regime in place for this stock including a stock assessment with reference points defined and a TAC set and therefore, the stock was assessed under Category C.</p> <p>In the last stock assessment, removals are considered, and the stock is below its limit reference point <math>B_{lim}</math>, therefore the stock FAILS clause C1.2. That being the case, the stock is considered further using the risk-assessment approach (Productivity, Susceptibility Analysis, PSA) under Category D.</p> <p>The stock passed this risk-based assessment and consequently sardine (<i>Sardina pilchardus</i>) in ICES Divisions 8.a–b and 8.d (Bay of Biscay) is APPROVED for the production of fishmeal and fish oil under the Marin Trust Standard v.2.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified sardine (<i>Sardina pilchardus</i>) in ICES Divisions 8.a–b and 8.d (Bay of Biscay) as a category D stock after it failed Clause C1.2 owing to its biomass being below its limit reference point.</p> <p>A PSA was performed. With an average productivity score of 1.29 and an average susceptibility score of 3, the stock passes the PSA (Table 3). Sardine (<i>Sardina pilchardus</i>) in ICES Divisions 8.a–b and 8.d (Bay of Biscay) is therefore approved under the Marin Trust Standard v.2.</p>
Notes for On-site Auditor
<p>None.</p>

## 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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
Sardine	<i>Sardina pilchardus</i>	ICES in divisions 8.a–b and 8.d (Bay of Biscay)	EU (CFP)	C	NT (Europe)	No

<sup>1</sup> <https://www.iucnredlist.org/>

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

## 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		Sardine ( <i>Sardina pilchardus</i> ) in ICES Divisions 8.a–b and 8.d (Bay of Biscay)	
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.	Yes
	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.	No
			Clause outcome: FAIL
<p><b>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.</b></p> <p>The stock is assessed through an analytical assessment (Stock Synthesis Model 3; SS3) that uses catches in the model and in the Forecast (ICES, 2021). Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and the species <b>PASSES</b> clause C1.1.</p>			
<p><b>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.</b></p> <p>Biomass reference points are defined for this stock and in its most recent assessment the stock is below its limit reference point, <math>B_{lim}</math> (see figure below). Therefore, the stock does not have a biomass above the limit reference point and <b>FAILS</b> clause C1.2 and is considered further in category D.</p>			



FIGURE 1. SARDINE IN DIVISIONS 8.A–B AND 8.D. SUMMARY OF THE STOCK ASSESSMENT. RECRUITMENT AND SSB ARE ESTIMATED AT THE BEGINNING OF THE YEAR. THE LIGHTER BLUE 2021 BAR IN THE RECRUITMENT GRAPH REPRESENTS THE GEOMETRIC MEAN (2002–2020) (SOURCE: 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.

<b>D1</b>	<b>Species Name</b>	Sardine ( <i>Sardina pilchardus</i> ) in ICES Divisions 8.a–b and 8.d (Bay of Biscay)	
	<b>Productivity Attribute</b>	<b>Value</b>	<b>Score</b>
	Average age at maturity (years)	1.74	1
	Average maximum age (years)	10.66	2
	Fecundity (eggs/spawning)	76,000 – 490,000	1
	Average maximum size (cm)	21.10	1
	Average size at maturity (cm)	14.32	1
	Reproductive strategy	open water/substratum egg scatterers	1
	Mean trophic level	3.1 ±0.1 se	2
	<b>Average Productivity Score</b>		<b>1.29</b>
	<b>Susceptibility Attribute</b>	<b>Value</b>	<b>Score</b>
	Availability (area overlap)	>50% of stock likely to occur in area fished	3
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	Habitat preference makes it highly likely to encounter trawl gear used in fishery	3
	Selectivity of gear type	Species up to 4m	3
	Post-capture mortality	Most dead or retained	3
	<b>Average Susceptibility Score</b>		<b>3</b>
	<b>PSA Risk Rating (From Table D3)</b>		<b>PASS</b>
	<b>Compliance rating</b>		
	<b>Further justification for susceptibility scoring (where relevant)</b>		
	<b>References</b>		
Fishbase. <a href="https://www.fishbase.se/summary/Sardina-pilchardus.html">https://www.fishbase.se/summary/Sardina-pilchardus.html</a>			
<i>Standard clauses 1.3.2.2</i>			



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			
<b>Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements</b>			
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.		
<b>Outcome:</b>			
<b>Evidence</b>			
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.			
<b>References</b>			
<b>Links</b>			
MarinTrust Standard clause		1.3.2.2, 4.1.4	
FAO CCRF		7.5.1	
GSSI		D.5.01	