MarinTrust Standard V2

By-product Fishery Assessment

European Pilchard (*Sardina pilchardus*), FAO 37, GFCM GSA 7 (Gulf of Lion)

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	European pilchard (*Sardina pilchardus*)
	Geographical area:	FAO 37 – Mediterranean and Black Sea
	Country of origin of the product:	Spain, Portugal
	Stock:	GFCM GSA 7 (Gulf of Lion)
Date	May 2024	
Report Code	ESP08	
Assessor	Blanca Gonzalez	
Country of origin of the product - PASS	Spain, Portugal	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Arteixo			
Country: Spain			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		LRQA	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Blanca Gonzalez	Sam Peacock	0.5	Surveillance 2
Assessment Period	May 2024 – May 2025		

Scope Details	
Main Species	European pilchard (*Sardina pilchardus*)
Stock	GFCM GSA 7 (Gulf of Lion)
Fishery Location	FAO 37 – Mediterranean and Black Sea
Management Authority (Country/ State)	General Fisheries Commission for the Mediterranean (GFCM)
Gear Type(s)	Pelagic trawl and purse seine
Outcome of Assessment	
Peer Review Evaluation	Agree with assessment outcome
Recommendation	PASS

Table 2. Assessment Determination

Assessment Determination
European pilchard (*Sardina pilchardus)* in the Gulf of Lion (GFCM GSA 7) was assessed as a category C species considering that it is a Near Threatened species by the IUCN, it is not in included in any CITES Appendixes, the stock is subject to annual stock assessment by the GFCM Working Group on Stock Assessment of Small Pelagic Species (WGSASP) and is managed relative to established reference points. The last assessment was published in December 2023, using catches data in the model. The stock was considered as sustainably exploited with a very low harvest rate and a biomass above the limit reference point (SBB/SBB_{pa}= 2.96), with a total biomass and abundance slight increase. The stock is no longer consider as ecologically unbalanced as it has been in this state for 14 years. Therefore, both clauses in the assessment were met. The European pilchard by-product meets the Marin Trust requirements and should remain approved for use as a raw material.
Fishery Assessment Peer Review Comments
The peer reviewer agrees that this species is eligible for assessment under the MarinTrust byproduct assessment methodology, and that the stock falls into Category C. The most recent stock assessment was adequate to meet the requirements of C1.1, and biomass was estimated to be above the target reference point level, meeting the requirements of C1.2. Overall, the peer reviewer agrees that this stock should be approved as a source of byproduct raw material for MarinTrust certified facilities.
Notes for On-site Auditor
None

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 pilchard	*Sardina pilchardus*	GFCM GSA 7 (Gulf of Lion)	Yes	C	Near Threatened[3]	No

[1] https://www.iucnredlist.org/
[2] https://cites.org/eng/app/appendices.php
3 https://www.iucnredlist.org/species/198580/45075369

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 pilchard (*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.	PASS
		Clause outcome:	PASS

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.

The clause is met considering that:

The European pilchard in the Gulf of Lion (GFCM GSA 7) most recent assessment was published in December 2023 by the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization of the United Nations (FAO). The assessment was carried out by the Working Group on Stock Assessment of Small Pelagic Species (WGSASP) using a 2-stage biomass model, which requires a series of catch as well as 2 independent tuning series (an index of recruitment and an index of adult biomass). Thus, removals of the species are included in the stock assessment process (GFCM 2023).

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 Clause is met considering that:

The 2023 European pilchard assessment indicates that the stock was considered as sustainably exploited with a $HR/HR_{pa} = 0.003$ and $SBB/SBB_{pa} = 2.96$ (figure 1); further, 2022 total biomass and abundance estimate showed a slight increase. The low fishing effort is mostly linked to the low commercial value of small and lean fish, which makes this species no longer of commercial interest and no longer targeted. The WG has decided to no longer consider the stock as ecologically unbalanced as it has been in this state for 14 years already, possibly reaching a new equilibrium state. (GFCM 2023).

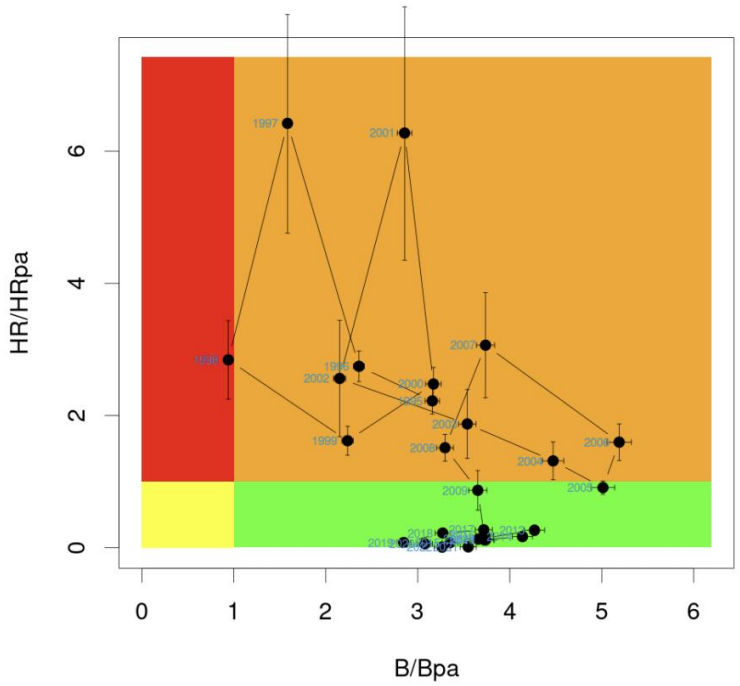

Figure 1. Kobe plot showing European sardine stock status in GSA7 (Gulf of Lion). (GFCM 2023).

References

GFCM (2023). General Fisheries Commission for the Mediterranean. Report of the Working Group on Stock Assessment of Small Pelagic Species (WGSASP). December 2023. https://www.fao.org/gfcm/technical-meetings/detail/en/c/1680535/

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	NA	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)		
	Average maximum age (years)		
	Fecundity (eggs/spawning)		
	Average maximum size (cm)		
	Average size at maturity (cm)		
	Reproductive strategy		
	Mean trophic level		
		Average Productivity Score	
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)		
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)		
	Selectivity of gear type		
	Post-capture mortality		
		Average Susceptibility Score	
		PSA Risk Rating (From Table D3)	
		Compliance rating	
	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*		
References			
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

D4	Species Name		
	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