MarinTrust Standard V2

By-product Fishery Assessment

Horse mackerel *(Trachurus trachurus)* in FAO 27, ICES 2.a, 4.a, 5.b, 6.a, 7.a-c, e-k, 8

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Horse mackerel (*Trachurus trachurus*)
	Geographical area:	FAO Area 27 northeast Atlantic
	Country of origin of the product:	Norway
	Stock:	Horse mackerel *(Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k
Date	08th February 2024	
Report Code	NOR03	
Assessor	Ana Elisa Almeida Ayres	
Country of origin of the product - PASS	Norway	
Country of origin of the product - FAIL	N/A	

Application details and summary of the assessment outcome			
Company Name(s): Pelagia Egersund Sildoljefabrikk, Prima Protein AS, Pelagia Karmsund Protein AS, Pelagia Bodø Sildoljefabrikk, Pelagia Karmsund Fiskemel, Pelagia Målöy Sildoljefabrikk			
Country: Norway			
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	Lea Lebechnech	0.5	Surveillance 2
Assessment Period	February 2024 – February 2025		

Scope Details	
Main Species	Horse mackerel (*Trachurus trachurus*)
Stock	Horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k
Fishery Location	FAO Area 27 northeast Atlantic
Management Authority (Country/ State)	Norwegian Directorate of Fisheries
Gear Type(s)	Pelagic trawl, purse seine, otter trawl, others
Outcome of Assessment	
Peer Review Evaluation	Agree with the assessor's determination
Recommendation	APPROVED

Table 2. Assessment Determination

Assessment Determination
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. Horse mackerel (*Trachurus trachurus*) is not categorised as Endangered or Critically Endangered on IUCN's Red List and does not appear in CITES appendices; therefore, horse mackerel (*Trachurus trachurus*) is eligible for approval for use as Marin Trust by-product raw material. Fishery removals of the species in the fishery under assessment are included in the stock assessment process, thus it passed C.1.1. ICES provides zero-catch advice for this stock in 2024, because the SSB remains below Blim by 2025 under all catch scenarios. Thus, the species did not pass C.1.2 and it was assessed under Category D. With an average productivity score of 1.57 and an average susceptibility score of 3.00, it PASSES Table D1. Therefore, horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products standard.
Fishery Assessment Peer Review Comments
The assessor correctly classified horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k under Category C, as the stock is subject to a specific management regime and reference points are defined. Fishery removals are considered in the stock assessment process but the most recent stock assessment shows that the stock is below Blim. Therefore, Clause C1.1 is met but not Clause C1.2. Consequently the species had to be assessed under Category D, and passed the PSA analysis (Table D3) with an average productivity score of 1.57 and an average susceptibility score of 2.75. In conclusion, horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k should be approved under the MarinTrust Standard v2.3.
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]
Horse mackerel	*Trachurus trachurus*	Horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k	Norwegian Directorate of Fisheries	D (Failed C)	VU (Global) LC (Europe)	No

[1] https://www.iucnredlist.org/
[2] 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		**Horse mackerel (*Trachurus trachurus*)**	
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

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.

ICES advises that when the MSY approach and precautionary considerations are applied, there should be zero catch in 2024, he same as provided in 2023.

The stock is assessed under length- and age-based analytical assessment (Stock Synthesis 3; NOAA Toolbox). The input data comprises. Commercial catches: international catches, length and age data from catch sampling. Three survey indices: triennial egg survey index (I4189, 1992–2022); a combined recruitment index (2003–2022) derived from EVHOE (G9527), IGFS (G7212), SCOWCGFS (G4748 and G4815), and SWC-IBTS (G1179 and G4299); PELACUS acoustic biomass index ([A2548], 1992–2019, 2021-2022). Length frequency distribution from the PELACUS survey. Time variant maturity-at-age. Natural mortality constant at 0.15 for all ages and years. Partial (prior to 2014) and full (since 2014) discards are included in the assessment.
Catches are presented in the figure 1.

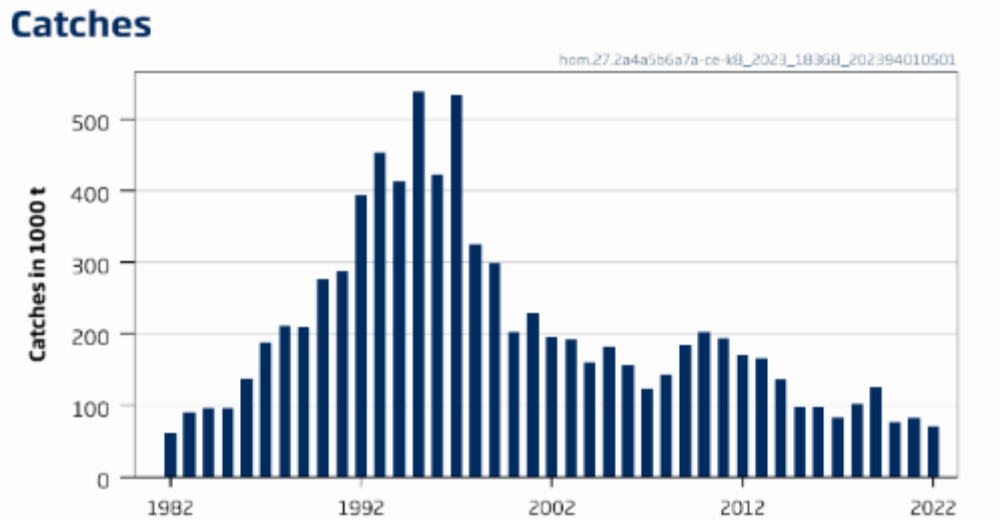

Figure 1. Catches of horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (ICES, 2023).

Fishery removals of the species in the fishery under assessment are included in the stock assessment process. C.1.1 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.

Fishing pressure on the stock is above FMSY but below Fpa and Flim; spawning-stock size is below MSY Btrigger, Bpa, and Blim. ICES provides zero-catch advice for this stock in 2024, because the SSB remains below Blim by 2025 under all catch scenarios (ICES, 2023). The Pelagic Advisory Council has elaborated a rebuilding plan for the stock in 2020. ICES advises that the evaluated rebuilding plan shows potential to reach the specified target (three consecutive years > Bpa) within the time frame specified in the plan (< ten years) and is considered to be precautionary in the long term. The time frame to rebuild the stock is estimated to be two years longer following the rebuilding plan (by 2028) compared to zero catch (by 2026) given current starting conditions. Once rebuilding is achieved, ICES advises that alternative harvest control rules (HCRs) should be examined for long-term management of the fishery to satisfy maximum sustainable yield (MSY) objectives (ICES, 2021).

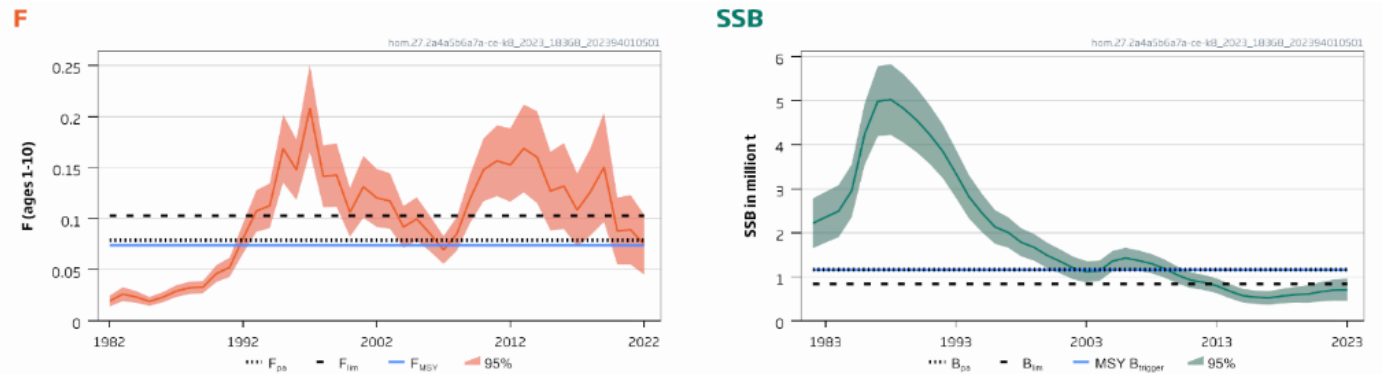

Figure 2. Summary of the stock assessment of horse mackerel in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k.

The species is considered, in its most recent stock assessment, to have a biomass below the limit reference point (or proxy). C1.2 is not met. In this case, according to MarinTrust's By-product Fishery Assessment Interpretation and Guidance Document (Doc ID4 - Issued January 2022 – Version 2.2), the stock is assessed under category D.

References

ICES. 2023. Horse mackerel (*Trachurus trachurus*) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (the Northeast Atlantic). In Report of the ICES Advisory Committee, 2022. ICES Advice 2023, hom.27.2a4a5b6a7a-ce-k8, https://doi.org/10.17895/ices.advice.21856521

ICES. 2021. EU request to ICES on the assessment of a new rebuilding plan for western horse mackerel (*Trachurus trachurus*) in ICES Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, sr.2021.04. https://doi.org/10.17895/ices.advice.8039

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	Horse mackerel (*Trachurus trachurus*)	
	Productivity Attribute	**Value**	**Score**
	Average age at maturity (years)	4.5	1
	Average maximum age (years)	19.0	2
	Fecundity (eggs/spawning)	96,943	1
	Average maximum size (cm)	47.9	2
	Average size at maturity (cm)	27.0	1
	Reproductive strategy	Broadcast spawn	1
	Mean trophic level	3.7	3
		Average Productivity Score	**1.57**
	Susceptibility Attribute	**Value**	**Score**
	Availability (area overlap)	10-30%	2
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	High	3
	Selectivity of gear type	Precautionary	3
	Post-capture mortality	Retained (commercial species)	3
		Average Susceptibility Score	**2.75**
		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

The species is found in Eastern Atlantic: from Madeira, the Straits of Gibraltar and Canary and Cape Verde Islands to South Africa; northward extending into the Mediterranean Sea and along the Atlantic coasts of Europe to Norway. According to ICES (2023), the primary gears utilized to fish this stock are pelagic trawl, purse seine, and unspecified gears. Purse seine gear high highly targeted and would receive a score of 3 due to the nature of capturing schooling fish. Pelagic trawl gear is operated in high overlap with the typical depth range of the species (0 -1050 meters) and would also receive a score of 3. Without information provided by the plant regarding gear types used harvest horse mackerel, selectivity received a 3 out of precaution. This species is retained as it is a commercial species, thus it receives a score of 3.

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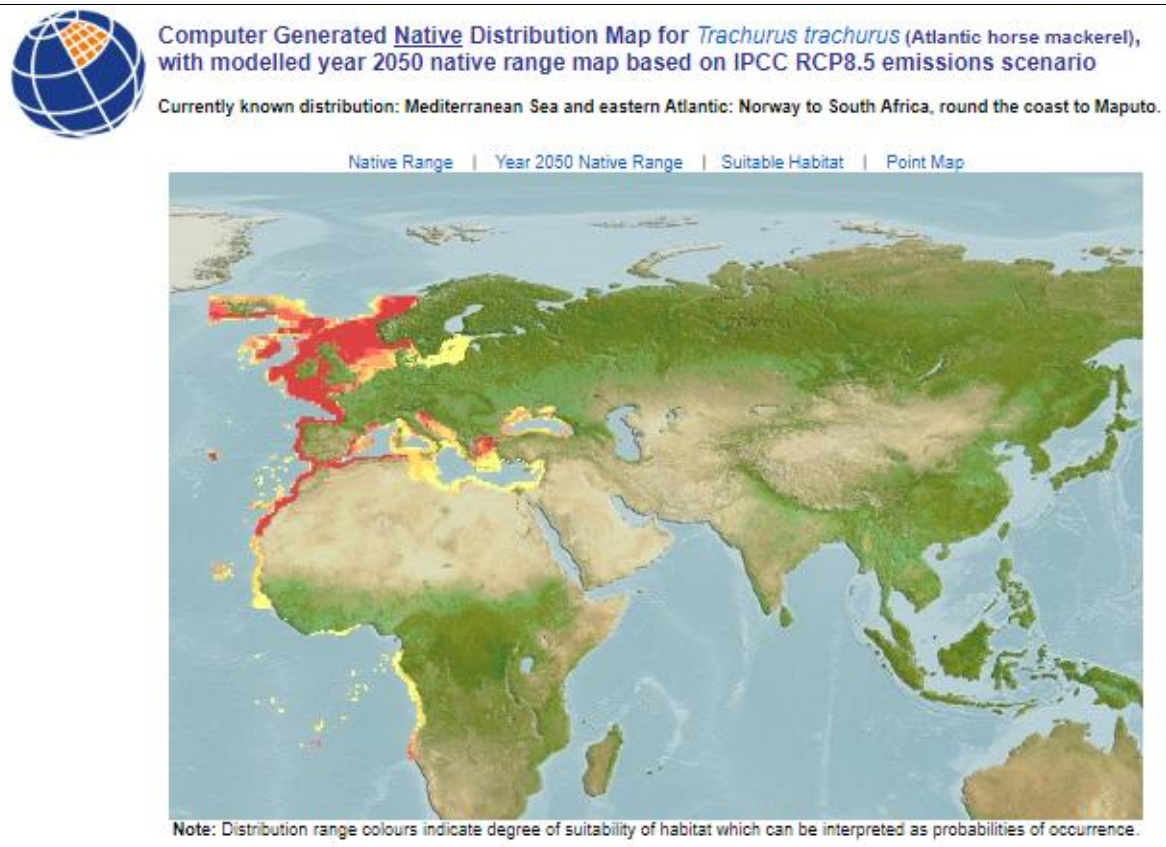

Figure 3. Distribution of horse mackerel (*Trachurus trachurus*) [AquaMaps, 2019].

References

AquaMaps. 2019. Computer generated distribution maps for *Trachurus trachurus* (Atlantic horse mackerel), 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.se/summary/Trachurus-trachurus.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