



## MarinTrust Standard V2

# By-product Fishery Assessment *Report Template (Horse Mackerel in FAO 34 Atlantic, Eastern Central Sahara -Mauritanian stock)*

**MarinTrust Programme**

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**Table 1 Application details and summary of the assessment outcome**

Fishery Under Assessment	Species:	Horse Mackerel, Chinchard, <i>Trachurus trachurus</i>
	Geographical area:	FAO Area 34 Atlantic Eastern Central
	Country of origin of the product:	Morocco
	Stock:	Saharo-Mauritanian Horse mackerel stock
Date	10 June 2022	
Report Code	MAR002	
Assessor	Léa Lebechnech	
Country of origin of the product - PASS	Morocco	
Country of origin of the product - FAIL	NA	

Application details and summary of the assessment outcome			
Company Name(s): Copelit S.A.R.L.			
Country: Morocco			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Léa Lebechnech	Conor Donnelly	0,5 days	Re-approval
Assessment Period	To June 2022		

Scope Details	
Main Species	Horse mackerel (Chinchard) <i>Trachurus trachurus</i>
Stock	Saharo–Mauritanian horse mackerel stock
Fishery Location	Horse Mackerel in FAO Area 34 Atlantic Eastern Central
Management Authority (Country/ State)	<p><b>Domestic management system:</b>            Département des Pêches Maritimes du Ministère de l’Agriculture, de la Pêche Maritime, du Développement Durable et des Eaux et Forêt (Maroc) ; Office National des Pêches ; Institut National de la Recherche Halieutique</p> <p><b>Regional management system:</b>            FAO Committee for the Eastern Central Atlantic (CECAF)</p>
Gear Type(s)	Pelagic Trawl and purse seines
Outcome of Assessment	
Peer Review Evaluation	Agree with recommendation
Recommendation	<b>APPROVED</b>

## Table 2. Assessment Determination

Assessment Determination
<p>If any species is categorised as Endangered or Critically Endangered on IUCN's Red List, or if it appears in the CITES appendices, it cannot be approved for use as Marin Trust raw material. Horse mackerel (<i>Trachurus trachurus</i>) is neither listed as Endangered or Critically Endangered on IUCN's Red List ("vulnerable"), nor listed in CITES appendices; therefore, product origination from the horse mackerel fishery is eligible for approval for use as Marin Trust by-product raw material.</p> <p>The horse mackerel in FAO Area 34 Atlantic, Eastern Central Saharo-Mauritanian stock, is assessed by the Scientific Sub-Committee (SSC) of the Fishery Committee for the Eastern Central Atlantic (CECAF). The Saharo-Mauritanian horse mackerel stock is one of four stocks of horse mackerel in the Northwest African Sub-region. For assessment and management purposes, the horse mackerel is included in the stock assessment of all the small pelagic species in the study area FAO 34. In the 2021 assessment from the FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa, held virtually from 21 to 25 June 2021, the stock was assessed together with other species such as Cunene horse mackerel (<i>Trachurus trecae</i>).</p> <p>Consequently, the species is subject to specific management regime and the fishery was assessed using Category C species as per Marin Trust v 2.0 procedures. Fishery removals from the stock are considered in the stock assessment processes such that the stock <b>PASSES</b> Clause C1.1. The most recent stock assessment shows that is above the limit reference point (or proxy). The stock <b>PASSES</b> Clause C1.2.</p> <p>Horse mackerel in FAO Area 34 is <b>APPROVED</b> for the production of fishmeal and fish oil under the current Marin Trust v 2.0 by-product standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified the Saharo-Mauritanian Horse mackerel stock as category C, reference points are defined to assess status of the stocks relative to. Fishery removals are included in the stock assessment process so the stock <b>PASSES</b> Clause C1.1. The Saharo-Mauritanian Horse mackerel stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point. Therefore, it <b>PASSES</b> Clause C1.2. Therefore, the Saharo-Mauritanian Horse mackerel stock is <b>APPROVED</b>.</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 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 <sup>1</sup>	CITES Appendix 1 <sup>2</sup>
Horse mackerel	<i>Trachurus trachurus</i>	<i>Saharo-Mauritanian Horse mackerel stock (FAO 34 Atlantic Eastern Central)</i>	<p><b>Domestic management system:</b> Département des Pêches Maritimes du Ministère de l'Agriculture, de la Pêche Maritime, du Développement Durable et des Eaux et Forêt (Maroc) ; Office National des Pêches ; Institut National de la Recherche Halieutique</p> <p><b>Regional management system:</b> FAO Committee for the Eastern Central Atlantic (CECAF)</p>	C	VU	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		Saharo–Mauritanian horse mackerel stock	
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.	YES
Clause outcome:			Pass

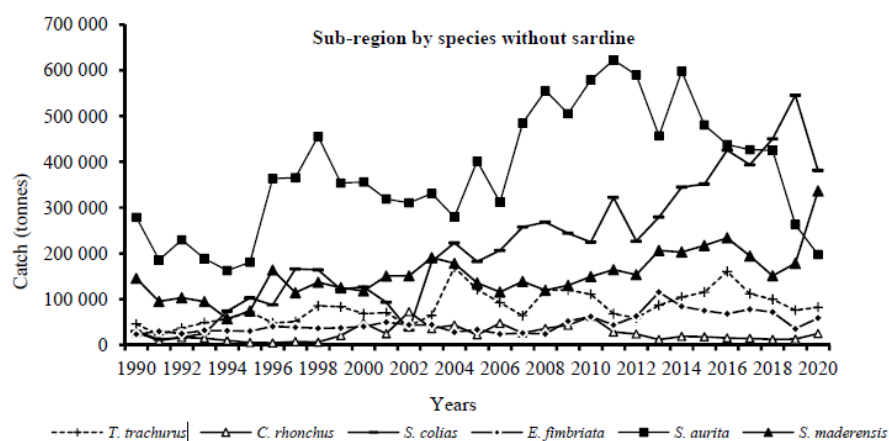
### C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.

The following information comes from preliminary results, not yet validated by the Scientific Sub-Committee (SSC) of the Fishery Committee for the Eastern Central Atlantic (CECAF), of the 20<sup>th</sup> meeting of the FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa held virtually from 21 to 25 June 2021.

In this fishery, horse mackerel is assessed as a part of the small pelagic fisheries in the area. Sardine (*Sardina pilchardus*) remains the dominant species, constituting about 48% of overall catch of the main small pelagic species in 2020. Catches of this species decreased about 14% from 2019 to 2020, from around 1 417 000 tonnes in 2019 to around 1 236 000 tonnes in 2020. Sardine is followed by *Sardinella colias* (15%), *Sardinella maderensis* (13%), *Sardinella aurita* (8%), *Trachurus trachae* (Cunene horse mackerel) (9%) and *Trachurus trachurus* (horse mackerel) (3%).

The catches of horse mackerel increased by 8% from 2019 to 2020; from 76 000 tonnes in 2019 to 82 000 tonnes in 2020.

The figure 1 below shows the evolution of catches since 1990.



**Figure 1:** Total small pelagic species and sardine catches in the subregion by species and year with and without Sardine catches.

The figure below shows how catches by species and years are reported by the FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa.

Species	Catch 2016	Catch 2017	Catch 2018	Catch 2019	Catch 2020	% 2020 related to total catch	Average (2016-2020)	Average (1990-2020)
<i>S. pilchardus</i>	1 068	1 220	1 360	1 417	1 236	48%	1 260	836
<i>S. aurita</i>	438	427	426	263	197	8%	350	377
<i>S. maderensis</i>	234	194	151	178	336	13%	219	152
<i>T. trachurus</i>	160	112	99	76	82	3%	106	82
<i>T. trecae</i>	236	235	205	245	226	9%	229	189
<i>C. rhonchus</i>	15	14	12	13	24	1%	15	24
<i>S. colias</i>	426	394	450	546	381	15%	439	211
<i>E. encrasicolus</i>	29	20	24	20	51	2%	29	78
<i>E. fimbriata</i>	68	78	71	35	58	2%	62	46
<b>Total</b>	<b>2 672</b>	<b>2 693</b>	<b>2 798</b>	<b>2 792</b>	<b>2 592</b>	-	<b>2 710</b>	<b>1 996</b>

Figure 2. Comparative catches between 2016 and 2020 in thousand tonnes, by Species. Source: FAO WG 2021.

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process.  
**The Fishery PASSES clause C1.1.**

**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.**

According to the assessment from the FAO working group 2021, horse mackerel stock is fully exploited, which indicates an improvement in the state of the stock. The fishery operates within the limits of sustainability and current fishing pressure seems sustainable and can be maintained. This improvement is likely due to a decrease in fishing mortality in 2016 and 2017 as well as an observed improvement in the recruitment index for the horse mackerel. Given the multi-specific nature of these fisheries and the results of the projections, the FAO Working Group (WG) recommends not to exceed the estimated 2020 catch level for the species (around 300 000 tonnes) in 2021.

Reference points are defined for the horse mackerel stock as follows:

- Biomass target reference point  $B_{0.1}$ : value of Biomass corresponding to  $F_{0.1}$
- Fishing mortality target reference point  $F_{0.1}$ : fishing mortality rate at which the slope of the yield-per-recruit curve is only 1/10<sup>th</sup> the slope of the curve at its origin, or 90% of FMSY

The current state of the Horse mackerel stock is detailed using 2 ratios:

- $B_{cur}/B_{0.1}$ : ratio between the estimated biomass for the last year of the series and the biomass corresponding to  $F_{0.1}$
- $F_{cur}/F_{0.1}$ : ratio between the fishing mortality coefficient observed for the last year of the series and  $F_{0.1}$

The result of the stock assessment indicates that the current biomass ( $B_{cur}$ ) is above the target biomass reference point, with  $B_{cur}$  being 128% of the target reference point. Furthermore, the current fishing mortality ( $F_{cur}$ ) is below the target fishing mortality reference point, being 61% of it.

Stock	2020 catch in 1 000 tonnes (2016–2020 avg.)	$*B_{cur}/B_{0.1}$	$*F_{cur}/F_{0.1}$	Assessment
Horse mackerel <sup>2</sup>				
<i>T. trachurus</i>	82 (106)	128%	61%	Fully exploited

Figure 3: Summary of the current status of the horse mackerel stock. Source: FAO WG 2021.

The target reference points indicate what the current situation is like in terms of biomass and fishing mortality related to the ideal situation for the stocks whereas the limit indicate that the current situation related to what is wanted to be avoided. The more conservative  $F_{0.1}$  and  $B_{0.1}$  have been selected as target reference points rather than the more traditional  $F_{MSY}$  and  $B_{MSY}$ , due to the inconsistencies of some data sets, and in line with the precautionary approach.

The 2021 FAO WG estimates the status of the stocks and fisheries in relation to these agreed reference points adopted by CECAF. Whenever possible, the Group made projections of future yields and stock status under different scenarios for future management measures. The management advice for the stocks is given in relation to the agreed reference points and on the basis of the projections. As far as possible, advice for each stock is given both in terms of effort and/or catch levels.

Therefore, the species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy). **The fishery PASSES clause C1.2.**

**References**

FAO. 2021. Report of the FAO working group on the assessment of small pelagic fish off Northwest Africa. Held virtually, 21-25 June 2021. <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.fao.org/3/cb9193en/cb9193en.pdf>

Smith-Vaniz, W.F., Sidibe, A., Nunoo, F., Lindeman, K., Williams, A.B., Quartey, R., Camara, K., Carpenter, K.E., Montiero, V., de Morais, L., Djiman, R., Sylla, M. & Sagna, A. 2015. *Trachurus trachurus*. The IUCN Red List of Threatened Species 2015: e.T198647A43157137. <https://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T198647A43157137.en>. Accessed on 09 June 2022.

CITES website: <https://cites.org/eng>

**Links**

<b>MarinTrust Standard clause</b>	1.3.2.2
<b>FAO CCRF</b>	7.5.3
<b>GSSI</b>	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>		
	<b>Productivity Attribute</b>		<b>Value</b>
	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		
	<b>Average Productivity Score</b>		
	<b>Susceptibility Attribute</b>		<b>Value</b>
	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		
	<b>Average Susceptibility Score</b>		
	<b>PSA Risk Rating (From Table D3)</b>		
	<b>Compliance rating</b>		
	<b>Further justification for susceptibility scoring (where relevant)</b> <i>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision.</i>		
	<b>References</b>		
<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	