



## MarinTrust Standard V2

# By-product Fishery Assessment Report Template

**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	15/06/2021	
Report Code	BP104	
Assessor	Virginia Polonio	
Country of origin of the product - PASS	Morocco	
Country of origin of the product - FAIL		

Application details and summary of the assessment outcome			
Name:			
Address:			
Country: Morocco		Zip:	
Tel. No.:		Fax. No.:	
Email address:		Applicant Code:	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Virginia Polonio	Geraldine Criquet	0.5	Surveillance 2
Assessment Period	To June 2021		

Scope Details	
Main Species	Horse Mackerel (Chinchard) <i>Trachurus Trachurus</i>
Stock	Saharo –Mauritanian horse mackerel stock
Fishery Location	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</p>
Gear Type(s)	Pelagic Trawl and purse seines
Peer Review Evaluation	Agreed with the assessor’s determination
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 does not appear as Endangered or Critically Endangered on IUCN’s Red List, nor does it appear in CITES appendices; therefore, product originating from this fishery is eligible for approval for use as Marin Trust by-product raw material.</p> <p>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; therefore, this assessment covers one stock (i.e. Atlantic horse mackerel in the sub-region of Northwest Africa called as Saharo-Mauritanian stock) when fished within FAO fishing areas 34.</p> <p>The Saharo-Mauritanian horse mackerel stock is one of four stocks of horse mackerel in the Northwest African Sub-region. The stock is assessed together with other species such as Cunene horse mackerel (<i>Trachurus trecae</i>), false scad (<i>Caranx rhonchus</i>) and blue jack mackerel (<i>Trachurus picturatus</i>). Consequently, the species is subject to specific management regime in place therefore, the fishery was assessed using Category C species as per Marin Trust v 2.0 procedures.</p> <p>Fishery removals from the stock are considered in the stock assessment processes such that the stock <b>PASSES</b> Clause C1.1.</p> <p>The most recent stock assessment shows that is below the limit reference point and removals are not negligible therefore, the stock <b>FAILS</b> Clause C1.2. As per guidance the stock was further assessed under category D.</p> <p>With an average productivity score of 1.85 and an average susceptibility score of 1.6, the stock <b>PASSES</b> Table D1.</p>

In order to be approved, stocks assessed must pass Table D1; therefore, as this is the case, Horse mackerel in FAO Area 34 is **APPROVED** for the production of fishmeal and fish oil under the current Marin Trust v 2.0 by-product standard.

#### Fishery Assessment Peer Review Comments

The assessor correctly classified the Saharo-Mauritania horse mackerel stock as category C, reference points are defined to assess status of the stock relative to.

Fishery removals are included in the stock assessment process so the stock **PASSES** Clause C1.1. The horse mackerel stock is considered, in its most recent stock assessment, to have a biomass below the limit reference point. Therefore, it **FAILS** Clause C1.2.

The assessor followed the Marin Trust guidance and further assessed the fishery in Clause D.1. With an average productivity score of 1.85 and an average susceptibility score of 1.6, the stock **PASSES** Table D1.

Therefore, the Saharo-Mauritania horse mackerel stock is approved.

#### Notes for On-site Auditor

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## 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 Redlist 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 (Chinchard)	<i>Trachurus Trachurus</i>	Saharo – Mauritanian horse mackerel stock FAO 34 Atlantic Eastern Central	<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	C	LC	NO

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

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

			<p><b>Regional management system :</b>          FAO Committee for the Eastern Central Atlantic</p>			
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## CATEGORY C SPECIES

In a whole fish assessment, Category C species are those which make up less than 5% of landings, but which are subject to a species-specific management regime. In most cases this will be because they are a commercial target in a fishery other than the one under assessment.

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 (Chinchard) , <i>Trachurus Trachurus</i>	
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
<b>Clause outcome:</b>			<b>No</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.**

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 53 percent of overall catch of the main small pelagic species in 2018. Catches of this species increased about 11 percent from 2017 to 2018, from around 1 220 500 tonnes in 2017 to around 1 360 000 tonnes in 2018. Sardine is followed by Sardinella spp. (16 percent, without Senegal), chub mackerel (16 percent), Cunene horse mackerel (7 percent), European horse mackerel (4 percent), Bonga (2 percent, without Senegal), Anchovy (1 percent) and false scad (0.1 percent). The table below shows how catches by species and year are reported by FAO WG.

Table 1. Comparative catches between 2014 and 2018 in thousand tonnes by species. Source: FAO WG 2020

Species	Catch 2014 (thous. tonnes)	Catch 2015 (thous. tonnes)	Catch 2016 (thous. tonnes)	Catch 2017 (thous. tonnes)	Catch 2018 (thous. tonnes)***	% 2018 related to total catch	Average (2014-2018)	Average (1990-2018)
<i>S. pilchardus</i> *	930	908	1 068	1 220	1 360	53%	1 097	803
<i>S. aurita</i>	598	481	502	461	339	13%	476	388
<i>S. maderensis</i>	203	217	224	232	80	3%	191	143
<i>T. trachurus</i>	104	115	160	112	99	4%	118	82
<i>T. trecae</i>	223	207	236	235	178	7%	216	185
<i>C. rhonchus</i>	18	18	15	14	2	0%	13	24
<i>S. colias</i> *	345	352	401	379	420	16%	379	192
<i>E. encrasicolus</i>	19	26	29	20	24	1%	24	81
<i>E. fimbriata</i>	84	75	68	78	48	2%	70	45
<i>Sardinella spp.**</i>	0	0	0	0	0	0%	0	-
<i>Trachurus spp.**</i>	0	1	1	1	0	0%	0	-
<b>Total</b>	<b>2 525</b>	<b>2 399</b>	<b>2 702</b>	<b>2 752</b>	<b>2 550</b>	<b>100%</b>	<b>2 585</b>	<b>1 943</b>

\*with Canary Island catches; \*\* Canary Island catches; \*\*\* Without Senegal

Therefore, removals of the species are considered in the stock assessment and 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.**

The status of horse mackerel (*T. trachurus*) has improved, and the stock is now considered fully exploited. 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 Atlantic horse mackerel (*T. trachurus*). Given the multi-specific nature of the fishery and the results of the projections, the Working Group recommends not to exceed the 2018 catch level (around 300,000 tonnes).

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

- Biomass limit reference point  $B_{MSY}$  and fishing mortality limit reference point  $F_{MSY}$ .
- Biomass target reference point  $B_{0.1}$  and fishing mortality target reference point  $F_{0.1}$ .

The results of the stock assessment indicate that the current biomass ( $B_{cur}$ ) is slightly below both the limit and target biomass reference points with  $B_{cur}$  being 91% and 83% of the limit and the target reference points, respectively (Table below).

Therefore, it cannot be considered that the stock has a current biomass above the limit reference point.

Moreover, the current fishing mortality ( $F_{cur}$ ) is above both the target and limit fishing mortality reference points. Removals from Morocco fleet cannot be considered as negligible. Horse mackerel is mainly fished by Morocco and Mauritania with catches from Morocco accounting for 56% of total catches.

Therefore, the fishery fails C1.2.

**Table 2.** Summary of the current state of the horse mackerel stock. Source: FAO WG 2020

Stock/abundance indices	$B_{cur}/B_{MSY}$	$B_{cur}/B_{0.1}$	$F_{cur}/F_{MSY}$	$F_{cur}/F_{0.1}$
<i>Trachurus trachurus</i> /Russian CPUEs	91%	83%	107%	119%

$B_{cur}/B_{MSY}$ : Ratio between the estimated biomass for the last year of the series and the biomass corresponding to  $F_{MSY}$ .

$B_{cur}/B_{0.1}$ : Ratio between the estimated biomass for the last year of the series and the biomass corresponding to  $F_{0.1}$ .

$F_{cur}/F_{MSY}$ : Ratio between the observed fishing mortality coefficient for the last year of the series and that which would give a maximum sustainable catch over the long term.

$F_{cur}/F_{0.1}$ : Ratio between the fishing mortality coefficient observed for the last year of the series and  $F_{0.1}$ .

As per the Marin Trust guidance, the fishery must be further assessed in Table D.1.

**References**

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>. Downloaded on 30 June 2020.

FAO. 2020. Report of the FAO Working Group on the Assessment of Small Pelagic Fish off Northwest Africa. Casablanca, Morocco, 8–13 July 2019. Rapport du Groupe de travail de la FAO sur l'évaluation des petits pélagiques au large de l'Afrique nord-occidentale. Casablanca, Maroc, 8-13 juillet 2019. FAO Fisheries and Aquaculture Report/FAO Rapport sur les pêches et l'aquaculture. Rome.

Di Natale, A., Bariche, M., Bizsel, C. & Massuti, E. 2011. *Trachurus trachurus*. The IUCN Red List of Threatened Species 2011: e.T198647A9066421

**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 make up less than 5% of landings and 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>	Horse Mackerel, ( <i>Trachurus trachurus</i> )	
	<b>Productivity Attribute</b>	<b>Value</b>	<b>Score</b>
	Average age at maturity (years)	4.8	3
	Average maximum age (years)	23.9	2
	Fecundity (eggs/spawning)	96,943 [ 12,700-740,000 ]	1
	Average maximum size (cm)	70	2
	Average size at maturity (cm)	27.6	1
	Reproductive strategy	Non-guarders: open water/substratum egg scatterers	1
	Mean trophic level	3.7	3
	<b>Average Productivity Score</b>		<b>1.85</b>
	<b>Susceptibility Attribute</b>	<b>Value</b>	<b>Score</b>
	Overlap of adult species range with fishery	Not scored	Not scored
	Distribution	Throughout region/Global distribution	1
	Habitat	Pelagic	1
	Depth range	100-200 m	2
	Selectivity	1 to 2 times mesh size	1
	Post-capture mortality	Mostly death	3
	<b>Average Susceptibility Score</b>		<b>1.6</b>
	<b>PSA Risk Rating (From Table D3)</b>		<b>PASS</b>
	<b>Compliance rating</b>		<b>PASS</b>
	<b>References</b>		
<p><b>Figure 1.</b> Distribution maps for <i>Trachurus trachurus</i> (Atlantic horse mackerel), with modelled year 2050 native range map based on IPCC RCP8.5 emissions scenario.</p> <p>Scarponi, P., G. Coro, and P. Pagano. A collection of Aquamaps native layers in NetCDF format. Data in brief 17 (2018): 292-296.</p> <p><a href="https://www.fishbase.se/Summary/SpeciesSummary.php?ID=1365&amp;AT=horse+mackerel">https://www.fishbase.se/Summary/SpeciesSummary.php?ID=1365&amp;AT=horse+mackerel</a></p>			
Standard clauses 1.3.2.2			

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.

<b>D3</b>		<b>Average Susceptibility Score</b>		
		<b>1 - 1.75</b>	<b>1.76 - 2.24</b>	<b>2.25 - 3</b>
<b>Average Productivity Score</b>	<b>1 - 1.75</b>	PASS	PASS	PASS
	<b>1.76 - 2.24</b>	PASS	PASS	TABLE D4
	<b>2.25 - 3</b>	PASS	TABLE D4	TABLE D4

<b>D4</b>		<b>Species Name</b>	
<b>Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements</b>			
<b>D4.1</b>	The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.		
<b>D4.2</b>	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>			
<b>MARINTRUST Standard clause</b>		1.3.2.2, 4.1.4	
<b>FAO CCRF</b>		7.5.1	
<b>GSSI</b>		D.5.01	