



## MarinTrust Standard V2

### By-product Fishery Assessment

Mackerel (*Scomber scombrus*) in subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters)

**MarinTrust Programme**

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

|   |   |   |
|---|---|---|
| Fishery Under Assessment                | Species:  | Mackerel ( <i>Scomber scombrus</i> )  |
|   | Geographical area:  | FAO 27 Northeast Atlantic   |
|   | Country of origin of the product:   | EU Member States, Faroe Islands, Greenland, Iceland, Norway, UK, Russia (Flag States)                                     |
|   | Stock:  | Mackerel ( <i>Scomber scombrus</i> ) in subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters) |
| Date                                    | May 2022  |   |
| Report Code                             | DNK25   |   |
| Assessor                                | Vito Romito   |   |
| Country of origin of the product - PASS | EU Member States, Faroe Islands, Greenland, Iceland, Norway, UK, Russia (Flag States) |   |
| 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 |
| Vito Romito   | Geraldine Criquet | 0.5 days                   | Surveillance 1                    |
| Assessment Period   | To May 2022       |                            |                                   |

| Scope Details                         |   |
|---------------------------------------|---|
| Main Species                          | Mackerel  |
| Stock                                 | Mackerel ( <i>Scomber scombrus</i> ) in subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters) |
| Fishery Location                      | FAO 27 Northeast Atlantic   |
| Management Authority (Country/ State) | EU FCP and management from Faroe Islands, Greenland, Iceland, Norway, UK, and Russia                                      |
| Gear Type(s)                          | Pelagic trawl and purse seine   |
| Outcome of Assessment                 |   |
| Peer Review Evaluation                | Agree with assessor's determination of approval   |
| Recommendation                        | Approve   |

## 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. Atlantic mackerel is neither listed as Endangered or Critically Endangered on IUCN's Red List, nor listed in CITES appendices; therefore, it is eligible for approval for use as Marin Trust by-product raw material.</p> <p>There is no long-term management strategy for Northeast Atlantic (NEA) mackerel agreed by all parties involved in the mackerel fishery. In 2019 Coastal State delegations from Norway, the EU, and the Faroes requested ICES to review new harvest control rule (HCR) options for a management strategy. ICES delivered the advice from this evaluation in August 2020. As per 2021 advice, ICES advised that when the MSY approach is applied, catches in 2022 should be no more than 794 920 tonnes.</p> <p>The stock is a Category C stock. It is assessed through an age-based analytical model (SAM) that uses catches in the model and in the forecast. Fishing pressure on the stock is below FMSY, Fpa, and Flim and spawning-stock size is above MSY Btrigger, Bpa, and Blim. According to the above, the stock passes Clause C1.1 and C1.2.</p> <p>Hence, this stock is APPROVED for the production of fishmeal and fish oil under the current Marin Trust v 2.0 Standard for by-products.</p> |
| Fishery Assessment Peer Review Comments  |
| <p>The assessor correctly classified Northeast Atlantic and Adjacent Waters mackerel stock as Category C, the stock is subject to a specific management regime and reference points are defined.</p> <p>Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that the stock is above MSY Btrigger, Bpa, and Blim. Therefore, the stock is considered to have a biomass above the limit reference point.</p> <p>Northeast Atlantic and Adjacent Waters mackerel passes both Clauses C1.1 and C1.2 and therefore should be 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> |
|-------------|-------------------------|---|--|----------|-------------------------------------|-------------------------------|
| Mackerel    | <i>Scomber scombrus</i> | Mackerel ( <i>Scomber scombrus</i> ) in subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters) | EU FCP and management from Faroe Islands, Greenland, Iceland, Norway, UK, and Russia | C        | LC                                  | NO                            |

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

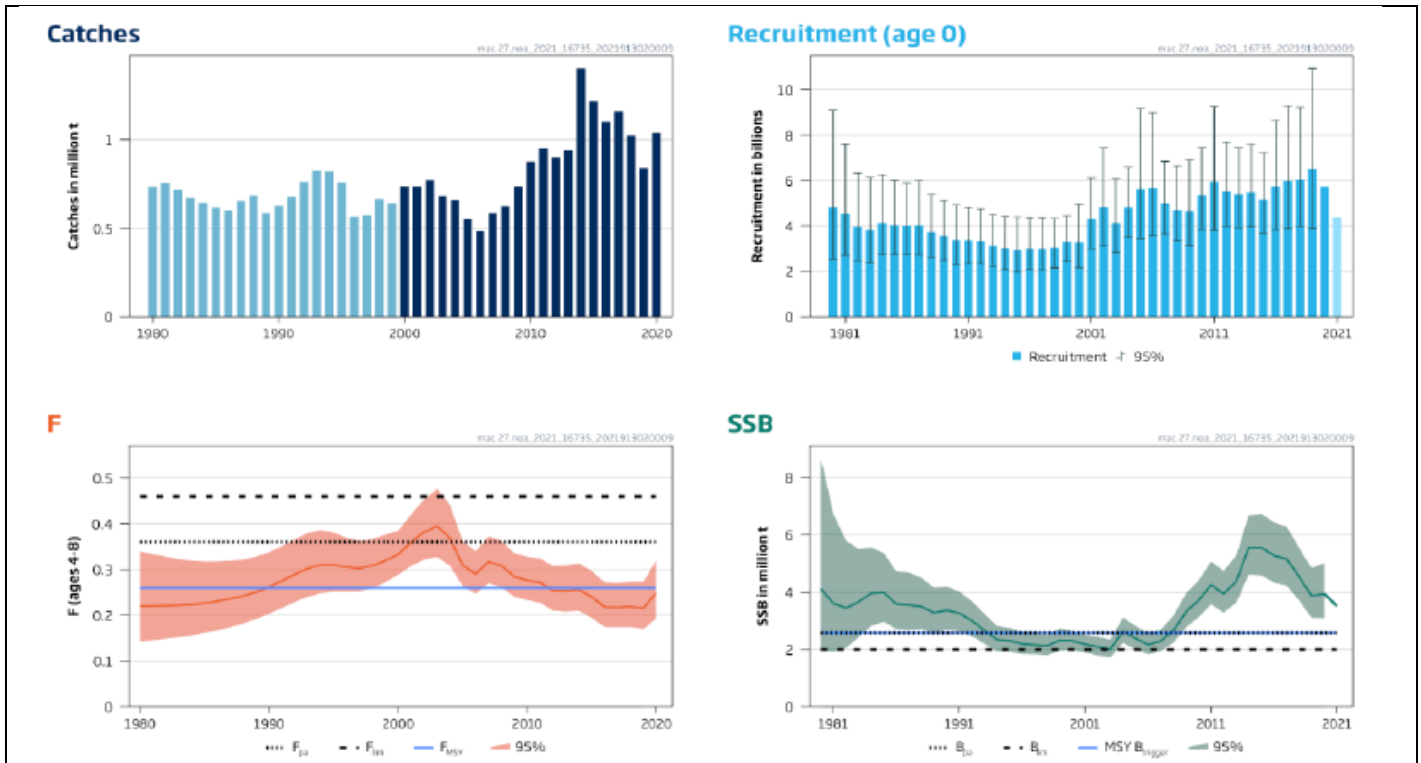
<sup>2</sup> <https://cites.org/eng/app/appendices.php>

## 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.

|  |   |  |                             |
|--|---|--|-----------------------------|
| <b>Species Name</b>  |   | <b>Mackerel (<i>Scomber scombrus</i>) in subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters)</b>   |                             |
| <b>C1</b>  | <b>Category C Stock Status - Minimum Requirements</b> |  |                             |
|  | <b>C1.1</b>   | 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                        |
|  | <b>C1.2</b>   | 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                        |
|  |   |  | <b>Clause outcome:</b> Pass |
| <p><b>C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process.</b></p> <p>The stock is assessed through an age-based analytical model (SAM) that uses catches in the model and in the forecast (ICES, 2021). Model inputs include the following: Catch data, steel tagging data [L3182] (1980–2006) and RFID tagging data [L5543] (2014–2020), and three survey indices: SSB index from the triennial egg survey ([I4189] 1992–2019), abundance indices from the IBTS survey [G1022, G1179, G3239, G4299, G4493, G4748, G4815, G7212 and G9527] (combined Q1 and Q4; age 0, 1998–2020), and from the IESSNS survey ([A7806] ages 3–11, 2010, 2012–2021). Catches prior to 2000 are given a very low weight in the assessment. Natural mortality (= 0.15 for all ages and years) is based on tagging studies from the early 1980s. Discarding is known to take place (0.9% of the total catch in weight in 2020), but is only quantified for part of the fisheries; the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding in recent years is assumed negligible.</p> <p>The stock passes 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.</b></p> <p>Fishing pressure on the stock is below FMSY, Fpa, and Flim and spawning-stock size is above MSY Btrigger, Bpa, and Blim, as shown in the figure below.</p> |   |  |                             |



**Figure 1.** Mackerel in subareas 1–8 and 14, and in Division 9.a. Summary of the stock assessment. The paler shaded catches prior to 2000 have been down-weighted in the assessment because of the considerable underreporting suspected to have taken place in this period. The recruitment value for 2020 is estimated using the recruitment survey (IBTS) and a model (RCT3), and the recruitment value for 2021 (shaded in a paler colour) is the geometric mean of the recruitments from 1990 to 2019 (ICES, 2021). The stock passes C1.2.

**References**

CITES. 2022. Cites Appendix 1. <https://cites.org/eng/app/appendices.php>

Collette, B., Fernandes, P. & Heessen, H. 2015. Scomber scombrus. The IUCN Red List of Threatened Species 2015: e.T170354A18207463. Accessed on 18 May 2022.

ICES. 2021. Mackerel (*Scomber scombrus*) in subareas 1-8 and 14 and division 9.a (the Northeast Atlantic and adjacent waters). In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, mac.27.nea. <https://doi.org/10.17895/ices.advice.7789>.

**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> | <b>Score</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> | <b>Score</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>        |   |              |              |
| Standard clauses 1.3.2.2 |   |              |              |



Table D2 - Productivity / Susceptibility attributes and scores.

| Productivity attributes         | Low productivity/<br>High risk                                | Medium productivity/<br>Medium risk | High productivity/<br>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/<br>High risk   | Medium susceptibility/<br>Medium risk   | Low susceptibility/<br>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<br>Trawl tow >3 hours   | Alive after net hauled<br>Trawl tow 0.5 to 3 hours  | Released alive<br>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         |  |