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# Global Standard for Responsible Supply of Marine Ingredients

## Fishery Assessment Methodology and Template Report V2.0

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|---|---|
| **Fishery Under Assessment** | **Mackerel *Scomber scombrus* ICES Subareas 1-8 and 14 and Division 9.a** |
| **Date** | June 2020 |
| **Report Code** | 2020-87 |
| **Assessor** | Conor Donnelly |
| **Stock Pass** | Mackerel *Scomber scombrus* ICES Subareas 1-8 and 14 and Division 9.a |
| **Stock Fail** | |

| **Application details and summary of the assessment outcome** | | | | |
|---|---|---|---|---|
| **Name:** | | | | |
| **Address:** | | | | |
| **Country:** Spain & Portugal | | **Zip:** | | |
| **Tel. No.:** | | **Fax. No.:** | | |
| **Email address:** | | **Applicant Code:** | | |
| **Key Contact**: | | **Title:** | | |
| **Certification Body Details** | | | | |
| **Name of Certification Body:** | | **SAI Global Ltd** | | |
| **Assessor** | **Peer Reviewer** | **Assessment Days** | **Initial/Surveillance/ Re-approval** | **Whole fish/ By-product** |
| Conor Donnelly | Virginia Polonio | 0.5 | Surveillance 2 | By-product |
| **Assessment Period** | 2020 | | | |

| **Scope Details** | |
|---|---|
| **Management Authority (Country/State)** | NEAFC & EU (Common Fisheries Policy) |
| **Main Species** | Mackerel |
| **Stock:** | ICES Subareas 1-8 and 14 and Division 9.a |
| **Fishery Location** | Northeast Atlantic and adjacent waters |
| **Gear Type(s)** | Pelagic trawl, purse seine |
| **Outcome of Assessment** | |
| **Peer Review Evaluation** | **APPROVE** |
| **Recommendation** | **APPROVE** |

| **Assessment Determination** |
|---|
| 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 IFFO RS raw material. Mackerel does not appear as Endangered or Critically Endangered on IUCN's Red List, nor does it appear in CITES appendices; therefore, mackerel is eligible for approval for use as IFFO RS by-product raw material.<br><br>One stock forms part of this assessment:<br>1) Mackerel in ICES Subareas 1-8 and 14 and Division 9.a (Northeast Atlantic and adjacent waters)<br><br>Fishery removals of the stock are considered in the various stock assessment processes so the stock **PASSES** Clause C1.1.<br><br>Mackerel is considered, in its most recent stock assessment, to have a biomass above the limit reference point so the stock **PASSES** Clause C1.2.<br><br>In order to be approved, the stock assessed must pass both Clause C1.1 and C1.2; therefore mackerel is **APPROVED** by SAI Global assessors in the assessment area for the production of fishmeal and fish oil under the current IFFO RS v 2.0 by-products standard. |
| ***Peer Review Comments*** |
| Although there isn't a Coastal State agreement in the allocation of the total allowable catch (TAC) the stock status complain with the IFFO RS requirements in category C therefore the fishery is approved under this current standard. |
| **Notes for On-site Auditor** |
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# HOW TO COMPLETE THIS ASSESSMENT REPORT

## By-products

The process for completing the template for **by-product raw material** is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table with the names of the by-product species and stocks under assessment. The '% landings' column can be left empty; all by-products are considered as Category C and D.
2. IF THERE ARE CATEGORY C BYPRODUCTS UNDER ASSESSMENT: Complete clause C1 for **each** Category C by-product.
3. IF THERE ARE CATEGORY D BYPRODUCTS UNDER ASSESSMENT: Complete Section D.
4. ALL OTHER SECTIONS CAN BE DELETED. Clauses M1 - M3, F1 - F3, and Sections A and B do not need to be completed for a by-product assessment.

By-product approval is awarded on a species-by-species basis. Each by-product species scoring a pass under the appropriate section may be approved against the IFFO RS Standard.

## SPECIES CATEGORISATION

The following table should be completed as fully as the available information permits. Any species representing more than 0.1% of the annual catch should be listed, along with an estimate of the proportion of the catch each species represents. The species should then be divided into Type 1 and Type 2 as follows:

- **Type 1 Species** can be considered the 'target' or 'main' species in the fishery. They make up the bulk of annual landings and are subjected to a detailed assessment.
- **Type 2 Species** can be considered the 'bycatch' or 'minor' species in the fishery. They make up a small proportion of the annual landings and are subjected to relatively high-level assessment.

**Type 1 Species must represent 95% of the total annual catch. Type 2 Species may represent a maximum of 5% of the annual catch (see Appendix B)**.

Species which make up less than 0.1% of landings do not need to be listed (NOTE: ETP species are considered separately). The table should be extended if more space is needed. Discarded species should be included when known.

The 'stock' column should be used to differentiate when there are multiple biological or management stocks of one species captured by the fishery. The 'management' column should be used to indicate whether there is an adequate management regime specifically aimed at the individual species/stock. In some cases it will be immediately clear whether there is a species-specific management regime in place (for example, if there is an annual TAC). In less clear circumstances, the rule of thumb should be that if the species meets the minimum requirements of clauses A1-A4, an adequate species-specific management regime is in place.

NOTE: If any species is categorised as Endangered or Critically Endangered on the IUCN Red List, or if it appears in the CITES appendices, it **cannot** be approved for use as an IFFO RS raw material. This applied to whole fish as well as by-products.

**TYPE 1 SPECIES (Representing 95% of the catch or more)**
**Category A:** Species-specific management regime in place.
**Category B:** No species-specific management regime in place.

**TYPE 2 SPECIES (Representing 5% OF THE CATCH OR LESS)**
**Category C:** Species-specific management regime in place.
**Category D:** No species-specific management regime in place.

| Common name | Latin name | Stock | % of landings | Management | Category |
|---|---|---|---|---|---|
| Mackerel | *Scomber scombrus* | ICES Subareas 1-8 and 14 and Division 9.a (Northeast Atlantic and adjacent waters) | NA | NEAFC & EU | C |

## 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. 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. A Category C species does not meet the minimum requirements of clause C1 should be re-assessed as a Category D species.

| **Species Name** | | Mackerel *Scomber scombrus* | |
|---|---|---|---|
| **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.**

**Evidence**

This assessment covers mackerel from the areas outlined in Figure 1 below.

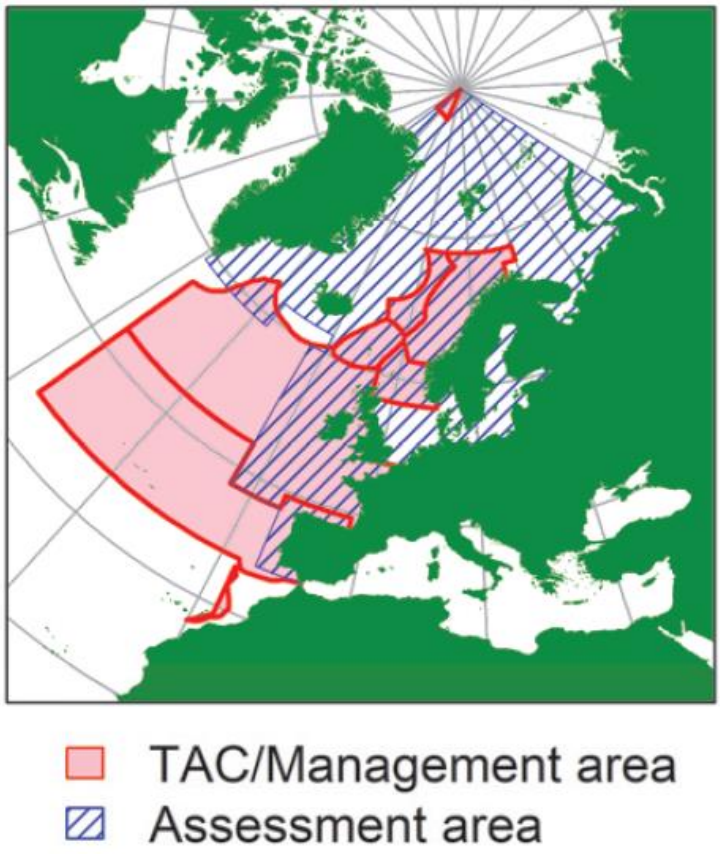


**Figure 1.** Management and assessment area for mackerel in the Northeast Atlantic and adjacent waters (source: Marine Institute, 2019).

ICES assess this mackerel stock using an age-based analytical model (SAM) that uses catches in the model and in the forecast. The input data used are listed as following: Catch data, steel tagging data (1980–2006) and RFID tagging data (2014–2018), and three survey indices: SSB index from the triennial egg survey (1992–2019), abundance indices from the IBTS survey (combined Q1 and Q4; age 0, 1998–2018), and from the IESSNS survey (ages 3–11, 2010, 2012–2019). 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

Consequently, fishery removals of the stock in the fishery under assessment are included in the stock assessment process so mackerel **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.**

**Evidence**

Recent trends in stock status of mackerel in Northeast Atlantic and adjacent waters is shown in Figure 2 below. Reference points are defined for the stock. The spawning-stock biomass (SSB) is estimated to have increased since 2007, reaching a maximum in 2014, and has been declining since then. It has, however, remained above MSY $B_{trigger}$ (and $B_{pa}$ and $B_{lim}$) since 2008. The fishing mortality (F) has declined since 2003 but is estimated to have remained above $F_{MSY}$. There has been a succession of large year classes since 2001, with year classes since 2011 estimated to be above average.

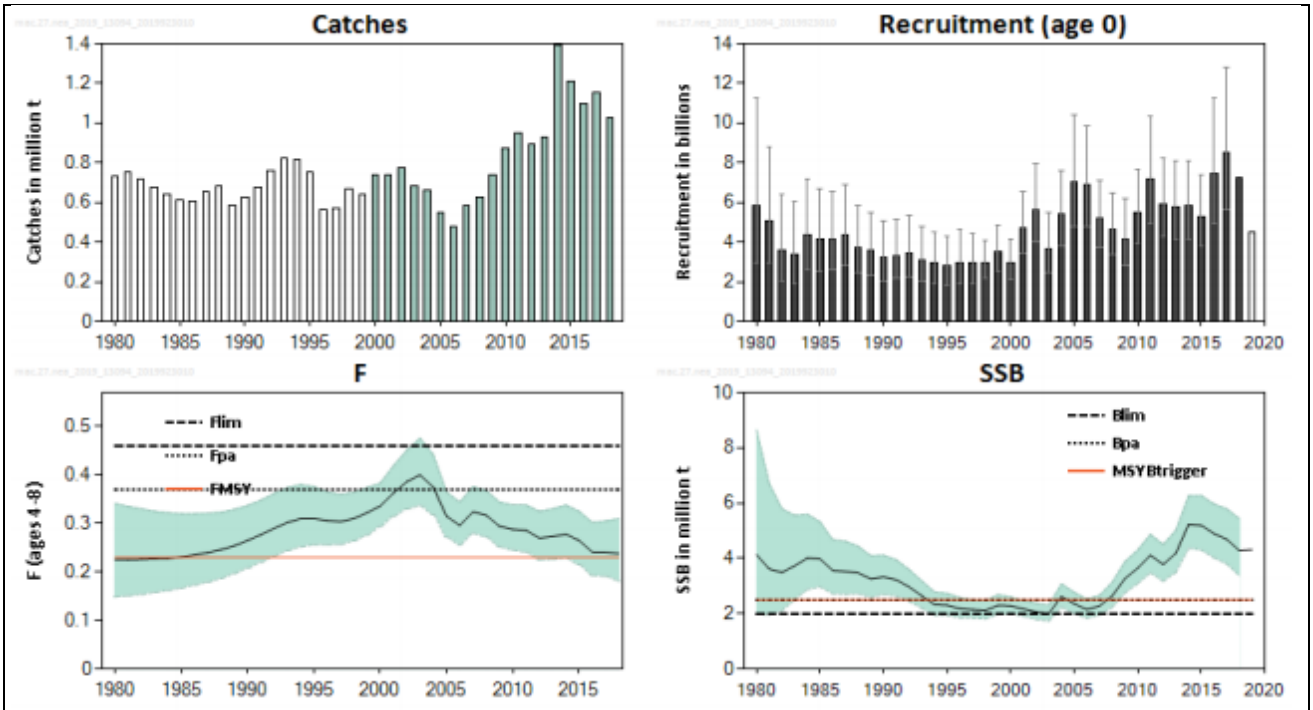


**Figure 2.** Mackerel in subareas 1-8 and 14, and in Division 9.a. Summary of the stock assessment. The unshaded catches prior to 2000 are the ones that have been down-weighted in the assessment because of the considerable underreporting suspected to have taken place in this period. The recruitment value for 2018 is estimated using the recruitment survey (IBTS) and a model (RCT3), and the recruitment value for 2019 is the geometric mean of the recruitments from 1990 to 2017. Confidence intervals (95%) are included in the recruitment, fishing mortality, and spawning-stock biomass plots (source: ICES, 2019).

Therefore, this stock is considered, in its most recent stock assessment, to have a biomass above the limit reference point ($B_{lim}$); consequently, mackerel **PASSES** C1.2.

**References**

ICES. 2019. Mackerel (*Scomber scombrus*) in subareas 1–8 and 14, and in Division 9.a (the Northeast Atlantic and adjacent waters). In Report of the ICES Advisory Committee, 2019. ICES Advice 2019, mac.27.nea, https://doi.org/10.17895/ices.advice.4885.

Marine Institute. 2019. The Stock Book 2019. Annual Review of Fish Stocks in 2019 with Management Advice for 2020. Marine Institute, Fisheries Ecosystems Advisory Services, Rinville, Oranmore, Co. Galway, Ireland.

NEAFC Recommendation 3 : 2020. Recommendation on Conservation and Management Measures for Mackerel in the NEAFC Regulatory Area for 2020.
https://www.neafc.org/system/files/Recommendation-03_Mackerel.pdf

*Standard clauses 1.3.2.2*