



RESPONSIBLE  
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IFFO RS  
Global Standard for Responsible Supply  
of Marine Ingredients

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# Global Standard for Responsible Supply of Marine Ingredients Fishery Assessment Methodology and Template Report V2.0



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<b>Fishery Under Assessment</b>	<b>Sardine (European pilchard) <i>Sardina pilchardus</i> FAO 27 Excl Subarea 7</b>
<b>Date</b>	<b>March 2019</b>
<b>Assessor</b>	<b>Conor Donnelly</b>

<b>Application details and summary of the assessment outcome</b>				
<b>Name: FF Skagen</b>				
<b>Address:</b>				
<b>Country: Denmark</b>		<b>Zip:</b>		
<b>Tel. No.:</b>		<b>Fax. No.:</b>		
<b>Email address:</b>		<b>Applicant Code</b>		
<b>Key Contact:</b>		<b>Title:</b>		
<b>Certification Body Details</b>				
<b>Name of Certification Body:</b>		<b>SAI Global Ltd</b>		
<b>Assessor Name</b>	<b>Peer Reviewer</b>	<b>Assessment Days</b>	<b>Initial/Surveillance/Re-approval</b>	<b>Whole fish/ By-product</b>
Conor Donnelly	Jim Daly	1	Re-approval	By-product
<b>Assessment Period</b>	2018			

Scope Details	
Management Authority (Country/State)	EU
Main Species	Sardine (European pilchard) <i>Sardina pilchardus</i>
Fishery Location	FAO 27 excluding Subarea 7
Gear Type(s)	Pelagic trawl and purse seine
Outcome of Assessment	
Overall Outcome	Pass Bay of Biscay; Fail Cantabrian Sea stock.
Clauses Failed	<b>C1.2 Cantabrian Sea stock</b>
Peer Review Evaluation	Agree
Recommendation	Approve Bay of Biscay stocks only

Assessment Determination
<p>Two stocks of sardine (also known as European pilchard) have been assessed: sardine in the Bay of Biscay (ICES Divisions 8.a-b and 8.d) and Cantabrian Sea and Atlantic Iberian waters (ICES divisions 8.c and 9.a). Both stocks have a species-specific management regime in place under the EU's Common Fisheries Policy so have been assessed under Clause C of the by-product assessment.</p> <p>Sardine in the Bay of Biscay (8.a-b, 8.d): Fishery removals are included in the stock assessment process and the stock is considered, in its most recent assessment, to have a biomass above the limit reference point. Consequently, <b>it passes Clauses C1.1 and C1.2.</b></p> <p>Sardine in the Cantabrian Sea and Atlantic Iberian waters (8.c, 9.a): This stock, in its most recent stock assessment, does not have a biomass above limit reference point (or proxy); removals by the fishery under assessment are not considered by scientific authorities to be negligible. <b>This stock fails Clause C1.2.</b></p> <p>Sardine (NE Atlantic) is listed as near threatened on the IUCN Red list of Threatened Species (accessed March 2019) and is not currently listed by CITES (<a href="https://www.iucnredlist.org/species/198580/45075369">https://www.iucnredlist.org/species/198580/45075369</a>).</p> <p>This fishery by-product (Bay of Biscay stock only) is recommended for approval under the IFFO RS Standard (by-products).</p>
Peer Review Comments
Agree
Notes for On-site Auditor
Material from fisheries in the Cantabrian Sea, Atlantic Iberian waters is not approved under the IFFO-RS standard and must be stored and processed separately from other IFFO-RS approved material.

Note: This table should be completed for whole fish assessments only.

## Species-Specific Results

Category	Species	% landings	Outcome (Pass/Fail)	
Category A			A1	
			A2	
			A3	
			A4	
Category B				
Category C	<i>Sardina pilchardus</i>	N/A	Pass/Fail	
Category D				

[List all Category A and B species. List approximate total % age of landings which are Category C and D species; these do not need to be individually named here]

## HOW TO COMPLETE THIS ASSESSMENT REPORT

This assessment template uses a modular approach to assessing fisheries against the IFFO RS standard.

### Whole Fish

The process for completing the template for a **whole fish** assessment is as follows:

1. ALL ASSESSMENTS: Complete the Species Characterisation table, to determine which categories of species are present in the fishery.
2. ALL ASSESSMENTS: Complete clauses M1, M2, M3: Management.
3. IF THERE ARE CATEGORY A SPECIES IN THE FISHERY: Complete clauses A1, A2, A3, A4 for **each** Category A species.
4. IF THERE ARE CATEGORY B SPECIES IN THE FISHERY: Complete the Section B risk assessment for **each** Category B species.
5. IF THERE ARE CATEGORY C SPECIES IN THE FISHERY: Complete clause C1 for **each** Category C species.
6. IF THERE ARE CATEGORY D SPECIES IN THE FISHERY: Complete Section D.
7. ALL ASSESSMENTS: Complete clauses F1, F2, F3: Further Impacts.

A fishery must score a pass in **all applicable clauses** before approval may be recommended. To achieve a pass in a clause, the fishery/species must meet **all** of the minimum requirements.

### 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.

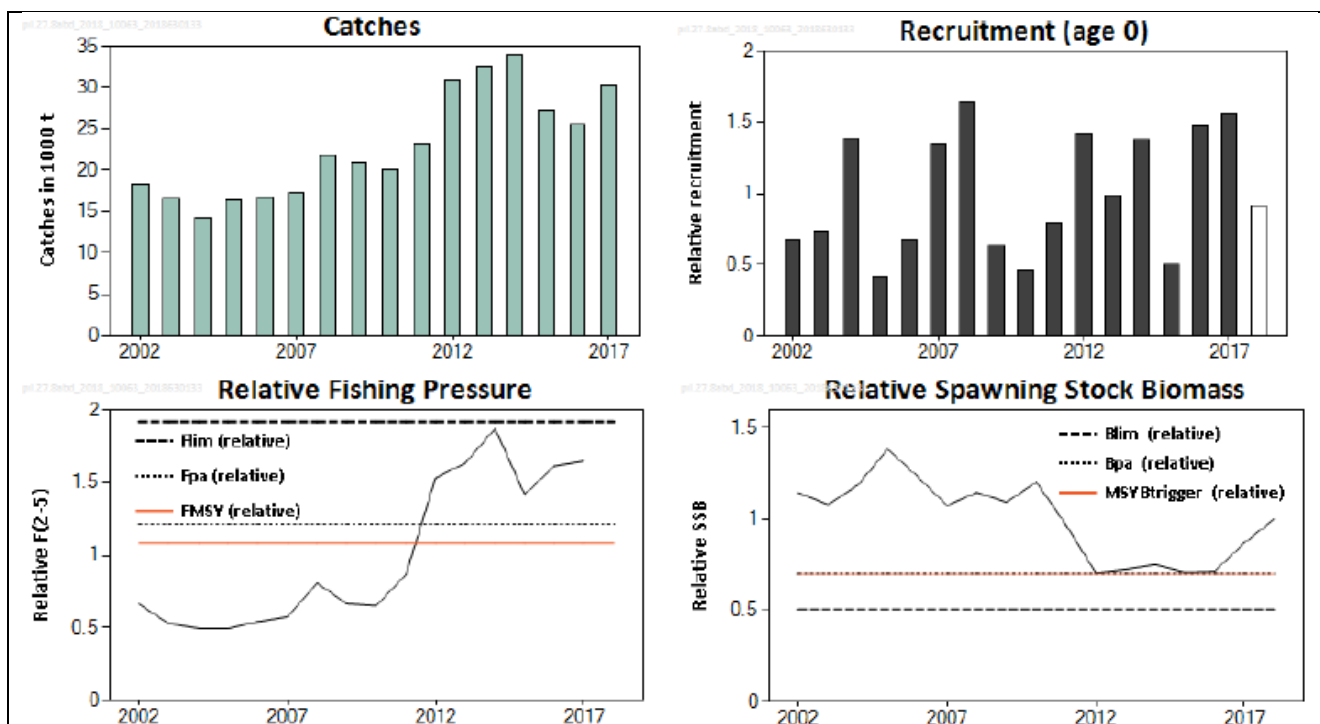
Common name	Latin name	Stock	% of landings	Management	Category
Sardine / Pilchard	<i>Sardina pilchardus</i>	FAO 27 Excl 7a	N/A	EU/Denmark	C

## 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.

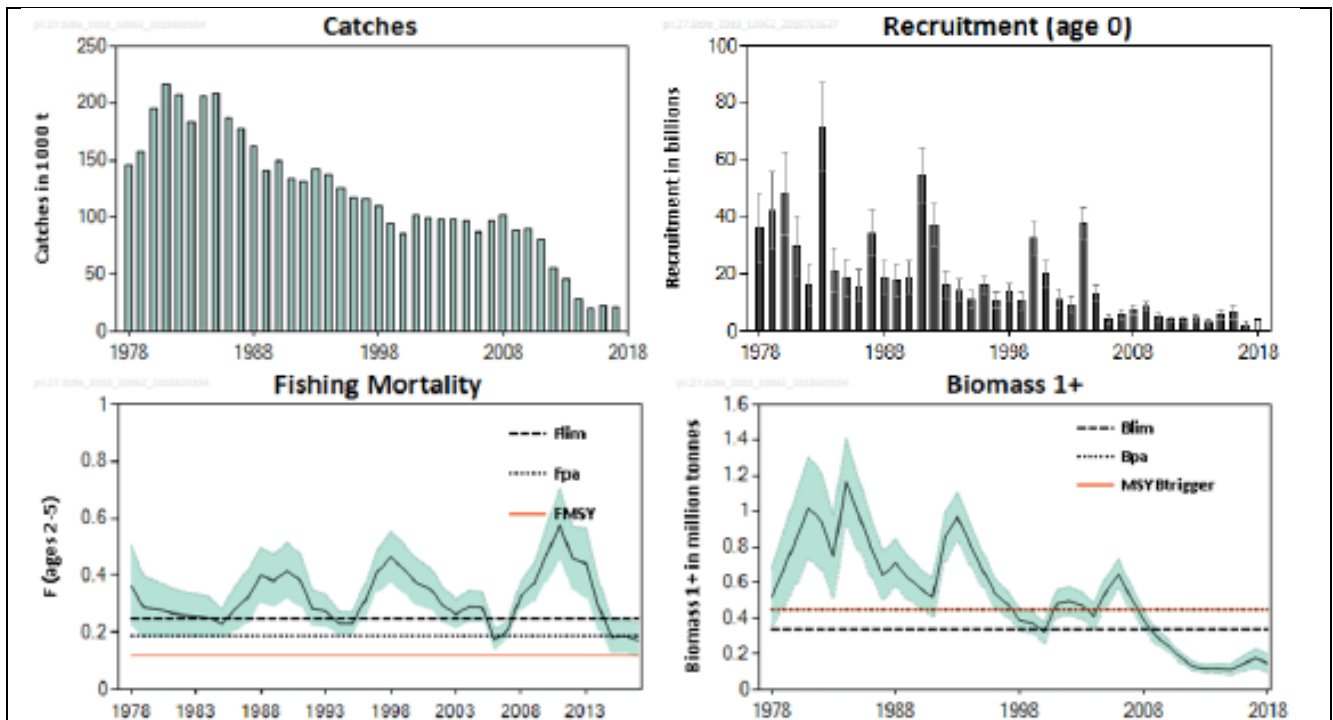
<b>Species Name</b>		Sardine (European pilchard) <i>Sardina pilchardus</i>	
<b>C1</b>	<b>Category C Stock Status - Minimum Requirements</b>		
	C1.1	Fishery removals of the species in the fishery under assessment are included in the stock assessment process, OR are considered by scientific authorities to be negligible.	Pass/ <b>Fail</b>
	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/ <b>Fail</b>
<b>Clause outcome:</b>			<b>Pass/ Fail</b>
<b>Evidence</b>			
<p>Member States of the European Union implement the Common Fisheries Policy (CFP) in their waters. With regard to resource management, the CFP regulations comprise:</p> <ul style="list-style-type: none"> <li>• A traditional management tool based on Total Allowable Catches (TACs) and quotas;</li> <li>• Technical measures relating to gear or catch;</li> <li>• Effort-related management, based on vessel engine power and the number of days at sea.</li> <li>• Control measures including the introduction of a ban on discarding at sea for EU flagged vessels.</li> </ul> <p>This by-product assessment considers 2 stocks: Bay of Biscay (ICES Divisions 8.a-b and 8.d) and Cantabrian Sea and Atlantic Iberian waters (ICES divisions 8.c and 9.a).</p> <p><b>Bay of Biscay (8.a-b, 8.d)</b></p> <p>Commercial catch data is used in the ICES stock assessment (international landings, ages and length frequencies from catch sampling); three survey indices (PELGAS (acoustic biomass), BIOMAN (egg counts), Daily Egg Production Method (DEPM, Triennial survey) and age composition in the PELGAS survey. The stock was benchmarked in February 2017 at the Benchmark Workshop of Pelagic Stocks (WKPELA). <b>Fishery removals of the species in the fishery under assessment are included in the stock assessment process. Clause C1.1 is met for this stock.</b></p> <p>The spawning–stock biomass (SSB) is above MSY <math>B_{trigger}</math>. Fishing mortality steeply increased in 2010–2012 and has been above <math>F_{MSY}</math> but below <math>F_{lim}</math> since then. Recruitment has been variable over time. Recruitment in 2016 and 2017 is above the time-series average (Figure 1). <b>The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point. Clause C1.2 is met for this stock.</b></p>			



**Figure 1.** Sardine in divisions 8.a–b and 8.d. Summary of the stock assessment. Recruitment and SSB are estimated at the beginning of the year. The unshaded value for the 2018 recruitment is the geometric mean (2002–2017). R, F, and SSB are expressed relative to the average of the time-series (2002–2018 for SSB, and 2002–2017 for F and recruitment) (Source: ICES, 2018a).

#### Cantabrian Sea and Atlantic Iberian waters (8.c and 9.a):

The biomass of age 1 and older fish has decreased since 2006, has been below  $B_{lim}$  since 2009, and has stabilized to a historical low since 2012. Recruitment has been below the long-term average since 2005 and in 2017, it was estimated as the lowest in the time-series. Fishing mortality has been above  $F_{lim}$  for most of the time-series but has been decreasing from a peak in 2011. In 2017, it is the lowest in the time-series and around  $F_{pa}$  (Figure 2). **This stock, in its most recent stock assessment, does not have a biomass above the limit reference point (or proxy) and removals by the fishery under assessment are not considered by scientific authorities to be negligible. Consequently, it does not meet the minimum requirements of clause C1.2 and fails.**



**Figure 2.** Sardine in divisions 8.c and 9.a. Summary of the stock assessment. Recruitment in 2018 assumed to be equal to the geometric mean of 2013–2017. Recruitment, fishing mortality and biomass have 95% confidence intervals. Reference points are based on the stock–recruitment relationship in the period 1993–2015 (Source: ICES, 2018b).

## References

ICES, 2018a. ICES Advice on fishing opportunities, catch, and effort Bay of Biscay and the Iberian Coast Ecoregion. Sardine (*Sardina pilchardus*) in divisions 8.a-b and 8.d (Bay of Biscay). Published 13 July 2018. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/pil.27.8abd.pdf>

ICES, 2018b. ICES Advice on fishing opportunities, catch, and effort Bay of Biscay and the Iberian Coast Ecoregion. Sardine (*Sardina pilchardus*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). Published 13 July 2018. <http://ices.dk/sites/pub/Publication%20Reports/Advice/2018/2018/pil.27.8c9a.pdf>

ICES 2017. ICES Advice on fishing opportunities, catch, and effort Sardine (*Sardina pilchardus*) in Subarea 7 (Southern Celtic Seas, and the English Channel) <http://www.ices.dk/sites/pub/Publication%20Reports/Advice/2017/2017/pil.27.7.pdf>

IUCN Red List: [www.iucn.org](http://www.iucn.org)

Fishsource: European Pilchard Southern Celtic Sea and English Channel: [https://www.fishsource.org/stock\\_page/777](https://www.fishsource.org/stock_page/777)

Standard clauses 1.3.2.2