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IFFO RS
Global Standard for Responsible Supply
of Marine Ingredients

IFFO RS Limited

T: +44 (0) 2030 539 195
E: Standards@iffors.com
W: www.iffors.com

Unit C, Printworks | 22 Amelia Street
London, SE17 3BZ | United Kingdom



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



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Fishery Under Assessment	Pouting/Bib (<i>Trisopterus luscus</i>) Northeast Atlantic
Date	March 2020
Assessor	Jim Daly
Stock Pass	FAO 27
Stock Fail	

Application details and summary of the assessment outcome				
Name: Copalis Industrie				
Address:				
Country: France		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
Jim Daly	Vito Romito	0.5	SURV 2	By-product
Assessment Period	2020			

Scope Details	
Management Authority (Country/State)	EU/ Direction des Pêches Maritimes et de l'Aquaculture (DPMA) France
Main Species	Pouting/Bib (<i>Trisopterus luscus</i>)
Stock:	FAO 27
Fishery Location	Northeast Atlantic
Gear Type(s)	All compliant gears
Outcome of Assessment	
Peer Review Evaluation	AGREE
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. Pouting does not appear as Endangered or Critically Endangered on IUCN's Red List, nor does it appear in CITES appendices; therefore, Pouting is eligible for approval for use as IFFO RS by-product raw material.

One stock forms part of this assessment:

- 1) FAO 27 Northeast Atlantic

This species is caught as bycatch in whitefish trawl fisheries and by artisanal coastal fisheries. No reference points are defined for this species. The comparative lack of scientific information on the status of the population in the assessment area means that a risk-assessment style approach must be taken.

The fishery was assessed using the risk-based Productivity, Susceptibility Analysis (PSA) as per IFFO-RS v 2.0 procedures for Category D species. The species has passed this risk-based assessment (**Table D1**).

Pouting 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

The peer reviewer agrees with the findings of the PSA analysis performed for this species given the lack of stock assessment information. The species has passed the PSA and the reviewer agrees that it should be approved for the production of fishmeal and fish oil under the current IFFO RS v 2.0 by-products standard.

Notes for On-site Auditor

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
Pouting/Bib	<i>Trisopterus luscus</i>	Northeast Atlantic FAO 27	N/A	EU/CFP	D

CATEGORY D SPECIES

In a whole fish assessment, 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. In a by-product assessment, Category D species are those which are not subject to a species-specific management regime. In both cases, 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.

The process for assessing Category D species involves the use of a Productivity-Susceptibility Analysis (PSA) to further subdivide the species into 'Critical Risk', 'Major Risk' and 'Minor Risk' groups. If there are no Category D species in the fishery under assessment, this section can be deleted.

Productivity and susceptibility ratings are calculated using a process derived from the APFIC document "Regional Guidelines for the Management of Tropical Trawl Fisheries, which in turn was derived from papers by Patrick *et al* (2009) and Hobday *et al* (2007). Table D1 should be completed for each Category D species as follows:

- Firstly, the best available information should be used to fill in values for each productivity and susceptibility attribute.
- Table D2 should be used to convert each attribute value into a score between 1 and 3.
- The average score for productivity attributes and the average for susceptibility attributes should be calculated.
- Table D3 should be used to determine whether the species is required to meet the requirements of Table D4. A species which does not need to meet the requirements of D4 is automatically awarded a pass.
- Table D4 should be used to assess those species indicated by Table D3 to determine a pass/fail rating.
- Any Category D species which has been categorised by the IUCN Red List as Endangered or Critically Endangered, or which appears in the CITES appendices, automatically results in a fail.

D1	Species Name:	Pouting/Bib <i>Trisopterus luscus</i>	
Productivity Attribute		Value	Score
Average age at maturity (years)*		1.2	1
Average maximum age (years)		4	1
Fecundity (eggs/spawning) *		416,475	1
Average maximum size (cm)		46	1
Average size at maturity (cm)*		23.5	1
Reproductive strategy		Broadcast spawner	1
Mean trophic level		3.7	3
Average Productivity Score			1.29
Susceptibility Attribute		Value	Score
Overlap of adult species range with fishery (Figure 1)		<25% occurs in area fished	1
Distribution		Not used	-
Habitat		Not used	-
Depth range		30-100m	3
Selectivity		>2 times mesh size	3
Post-capture mortality		Most dead retained	3
Average Susceptibility Score			2.5
PSA Risk Rating (From Table D3)			PASS

* Life history tool **Figure 2**.

Evidence:

Pouting from the assessment area (**Figure 1**) was examined in this report:



Figure 1: Pouting distribution (Northeast Atlantic FAO 27) **R1**

Life History Data on *Trisopterus luscus* Pouting

Family:	Gadidae Cods and haddocks									
Max. length (Lmax):	<input type="text" value="46.0"/> cm TL									
L infinity (Linf):	= <input type="text" value="41.0"/> cm <input type="text" value="TL"/> <input type="button" value="v"/>	<input type="button" value="Recalculate"/>								
K:	<input type="text" value="0.59"/> /year $\phi' =$ <input type="text" value="3.00"/> Median ϕ' value with related Linf. and K.	<input type="button" value="Recalculate"/> Growth & mortality data								
to:	<input type="text" value="-0.25"/> years Estimated from Linf and K.									
Natural mortality (M):	<input type="text" value="0.87"/> s.e. <input type="text" value="0.58"/> - <input type="text" value="1.32"/> /year Estimated from Linf., K and annual mean temp. = <input type="text" value="17.5"/> °C	<input type="button" value="Recalculate"/>								
Life span (approx.):	<input type="text" value="4.8"/> years Estimated from Linf., K and to. Max. age & size data									
Generation time:	<input type="text" value="1.6"/> years Estimated from Lopt, Linf., K and to.									
Age at first maturity (tm):	<input type="text" value="1.2"/> years Estimated from Lm, Linf., K and to.									
L maturity (Lm):	<input type="text" value="23.5"/> s.e. <input type="text" value="17.5"/> - <input type="text" value="31.4"/> cm <input type="text" value="TL"/> Estimated from Linf. Maturity data									
L max. yield (Lopt):	<input type="text" value="27.5"/> s.e. <input type="text" value="n.a."/> - <input type="text" value="n.a."/> cm <input type="text" value="TL"/> Estimated from Linf., K and M.									
Length-weight:	<input type="text" value="41.0"/> cm <input type="text" value="TL"/> <input type="button" value="v"/> => <input type="text" value="935.0 g"/> (wet weight) W = <input type="text" value="0.0105"/> * L ^ <input type="text" value="3.06900"/>	<input type="button" value="Recalculate"/> Length-weight data								
Nitrogen & protein:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Weight <input type="text" value="936"/> (g)</td> <td>=> whole-body nitrogen (N) <input type="text" value="25.7"/> (g)</td> </tr> <tr> <td></td> <td>=> whole-body crude protein <input type="text" value="160.6"/> (g)</td> </tr> </table>	Weight <input type="text" value="936"/> (g)	=> whole-body nitrogen (N) <input type="text" value="25.7"/> (g)		=> whole-body crude protein <input type="text" value="160.6"/> (g)	<input type="button" value="Recalculate"/>				
Weight <input type="text" value="936"/> (g)	=> whole-body nitrogen (N) <input type="text" value="25.7"/> (g)									
	=> whole-body crude protein <input type="text" value="160.6"/> (g)									
Reproductive guild:	nonguarders: open water/substratum egg scatterers Reproduction									
Fecundity:	<input type="text" value="416,475"/> [<input type="text" value="207,479-835,997"/>] Estimated as geometric mean. Fecundity									
Relative Yield per Recruit (Y'/R):	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Estimate Y'/R from M/K, Lc/Linf and E.</td> </tr> <tr> <td>Lc= <input type="text" value="16.4"/> cm <input type="text" value="TL"/></td> <td>E= <input type="text" value="0.50"/> /year</td> </tr> <tr> <td>Emsy <input type="text" value="0.60"/> /year</td> <td>Eopt <input type="text" value="0.54"/> /year</td> </tr> <tr> <td>Fmsy <input type="text" value="1.31"/> /year</td> <td>Fopt <input type="text" value="1.02"/> /year</td> </tr> </table>	Estimate Y'/R from M/K, Lc/Linf and E.		Lc= <input type="text" value="16.4"/> cm <input type="text" value="TL"/>	E= <input type="text" value="0.50"/> /year	Emsy <input type="text" value="0.60"/> /year	Eopt <input type="text" value="0.54"/> /year	Fmsy <input type="text" value="1.31"/> /year	Fopt <input type="text" value="1.02"/> /year	<input type="button" value="Recalculate"/>
Estimate Y'/R from M/K, Lc/Linf and E.										
Lc= <input type="text" value="16.4"/> cm <input type="text" value="TL"/>	E= <input type="text" value="0.50"/> /year									
Emsy <input type="text" value="0.60"/> /year	Eopt <input type="text" value="0.54"/> /year									
Fmsy <input type="text" value="1.31"/> /year	Fopt <input type="text" value="1.02"/> /year									

Figure 2: Life History Tool Pouting **R2**

References

R1 Fishsource Pouting/Bib: https://www.fishsource.org/stock_page/2143

R2 Fishbase Pouting/Bib:

<https://www.fishbase.in/Summary/SpeciesSummary.php?ID=1367&AT=pouting>

R3 Cohen, D.M., T. Inada, T. Iwamoto and N. Scialabba, 1990. FAO species catalogue. Vol. 10. Gadiform fishes of the world (Order Gadiformes). An annotated and illustrated catalogue of cods,

hakes, grenadiers and other gadiform fishes known to date. FAO Fish. Synop. 125(10). Rome: FAO. 442 p. (Ref. 1371)

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.

D3		Average Susceptibility Score		
		1.00 – 1.75	1.76 – 2.24	2.25 – 3.00
Average Productivity Score	1.00 – 1.75	PASS	PASS	PASS
	1.76 – 2.24	PASS	PASS	TABLE D4
	2.25 – 3.00	PASS	TABLE D4	TABLE D4