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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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Fishery Under Assessment	Ling <i>Molva molva</i> Northeast Atlantic and Arctic Ocean
Date	June 2020
Report Code	2020-86
Assessor	Conor Donnelly
Stock Pass	Ling in subareas 6-9, 12, and 14, and in divisions 3.a and 4.a
Stock Fail	

Application details and summary of the assessment outcome				
Name:				
Address:				
Country: UK & Ireland		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	Surv 2	By-product
Assessment Period	2020			

Scope Details	
Management Authority (Country/State)	EU/Common Fisheries Policy
Main Species	Ling
Stock:	Ling in subareas 6-9, 12, and 14, and in divisions 3.a and 4.a
Fishery Location	Northeast Atlantic and Arctic Ocean
Gear Type(s)	Longline, trawl, gillnet
Outcome of Assessment	

Peer Review Evaluation	APPROVE
Recommendations	APPROVE

Assessment Determination
<p>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 IFFO RS raw material. Ling does not appear as Endangered or Critically Endangered on the IUCN Red List, nor does it appear in the CITES appendices; therefore, ling is eligible for approval for use as IFFO- RS raw material.</p> <p>The species is not subject to a species-specific research and management regime sufficient to pass a Category C assessment.</p> <p>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 D4).</p> <p>Ling in in subareas 6-9, 12, and 14, and in divisions 3.a and 4.a is APPROVED by SAI Global assessors for the production of fishmeal and fish oil under the IFFO-RS v 2.0 by-products standard.</p>
Peer Review Comments
PR agrees with the conclusions raised by the assessor and no further comments are needed.
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
Ling	<i>Molva molva</i>	Subareas 6-9, 12, and 14, and in divisions 3.a and 4.a (Northeast Atlantic and Arctic Ocean)	NA	NEAFC & EU	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:	Ling <i>Molva molva</i>	
	Productivity Attribute	Value	Score
	Average age at maturity (years)	5-6	3
	Average maximum age (years)	25	2
	Fecundity (eggs/spawning)	20 – 60 million	1
	Average maximum size (cm)	106	2
	Average size at maturity (cm)	90	2
	Reproductive strategy	Broadcast spawner	1
	Mean trophic level	4.4	3
	Average Productivity Score		2
	Susceptibility Attribute	Value	Score
	Overlap of adult species range with fishery	>50%	3
	Distribution	Not scored if overlap scored	-
	Habitat	Demersal, rocky bottoms	2
	Depth range	100-400m	1

	Selectivity	Up to 4m length	3
	Post-capture mortality	Retained	3
	Average Susceptibility Score		2.75
	PSA Risk Rating (From Table D3)		Table D4
References			
Fishbase. https://www.fishbase.de/Summary/SpeciesSummary.php?ID=33&AT=ling			
<i>Standard clauses 1.3.2.2</i>			

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

D4	Species Name	Ling <i>Molva molva</i>		
Impacts On Species Categorised as Vulnerable by D1-D3 - Minimum Requirements				
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.			PASS
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.			PASS
Outcome:				PASS
Evidence:				
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				
ICES provide scientific advice on the status of the stock (e.g. ICES, 2019).				
The stock is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks which implies that fisheries are primarily restricted to Coastal State exclusive economic zones (EEZs) and therefore management measures are not taken by NEAFC unless complementary to coastal state conservation and management measures (ICES, 2019).				
Within the EU, the stock is managed within the framework of the EU CFP including through measures set out in relevant multiannual plans (e.g. as a bycatch species in the Western Waters MAP Regulation (EU) 2019/472) and technical regulations (EU) 2019/1241.				
Consequently, the potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts. This ling stock PASSES clause D4.1.				
D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.				
ICES produce advice for the stock and in their latest advice (ICES, 2019), note that landings since 2000 have been at a lower level than they have previously been. Landings have been slightly increasing since 2011, with higher discards in the last three years. A standardized catch per unit effort (CPUE) index based on data from the Norwegian longline fleet shows an increasing trend since 2004, with a decline in 2018 (Figure 1). Fishing mortality is below proxy reference points for F_{MSY} , F_{pa} and F_{lim} .				

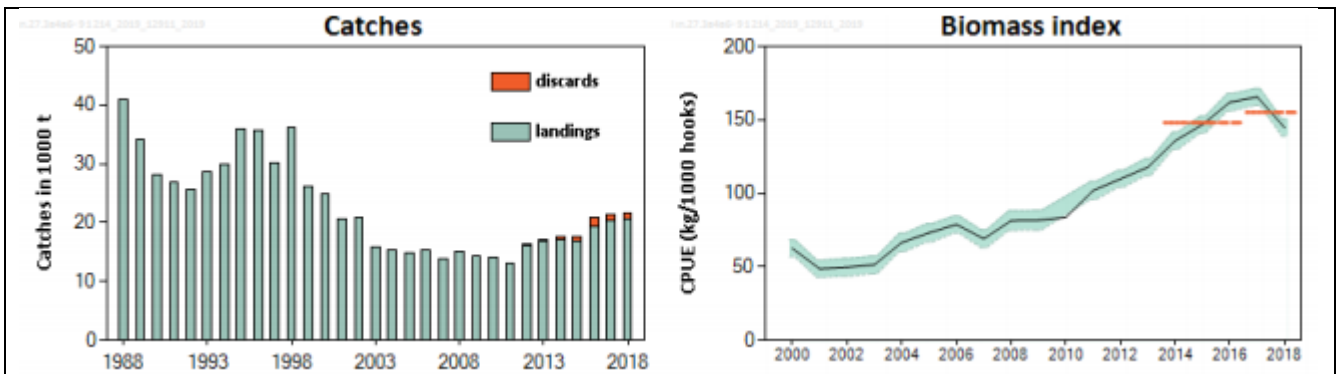


Figure 1. Ling in subareas 6-9, 12, and 14, and in divisions 3.a and 4.a. Catches (left) and standardized biomass index from the Norwegian longline fleet targeting ling for all areas combined (kg per 1000 hooks; right). The dashed red lines indicate the average of the biomass index for 2014 to 2016 and for 2017 to 2018. The shaded areas on the biomass index plot represent 95% confidence intervals (source: ICES, 2019).

Consequently, there is no substantial evidence that the fishery has a significant negative impact on the species. The ling stock **PASSES** clause D4.2.

References

ICES. 2019. Ling (*Molva molva*) in Subareas 6-9, 12, and 14, and Divisions 3.a and 4.a (Northeast Atlantic and Arctic Ocean). In Report of the ICES Advisory Committee, 2019. ICES Advice 2019, lin.27.3a4a6-91214, <https://doi.org/10.17895/ices.advice.4815>

Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks, amending Regulations (EU) 2016/1139 and (EU) 2018/973, and repealing Council Regulations (EC) No 811/2004, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007 and (EC) No 1300/2008.

<https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32019R0472>

Regulation (EU) 2019/1241 of the European Parliament and of the Council of 20 June 2019 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures, amending Council Regulations (EC) No 1967/2006, (EC) No 1224/2009 and Regulations (EU) No 1380/2013, (EU) 2016/1139, (EU) 2018/973, (EU) 2019/472 and (EU) 2019/1022 of the European Parliament and of the Council, and repealing Council Regulations (EC) No 894/97, (EC) No 850/98, (EC) No 2549/2000, (EC) No 254/2002, (EC) No 812/2004 and (EC) No 2187/2005

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1241>

Standard clause 1.3.2.2