



MarinTrust Standard V2

By-product Fishery Assessment

Atlantic wolffish (ICES subareas 1 and 2)

MarinTrust Programme

Unit C, Printworks

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Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Atlantic wolffish <i>Anarhichas lupus</i>
	Geographical area:	FAO 27 Northeast Atlantic
	Country of origin of the product:	Norway
	Stock:	ICES Subareas 1 and 2 (Northeast Arctic)
Date	March 2022	
Report Code	BP031	
Assessor	Conor Donnelly	
Country of origin of the product - PASS	Norway	
Country of origin of the product - FAIL		

Application details and summary of the assessment outcome			
Company Name(s): Norway Seafood Federation, TripleNine, Vedde AS			
Country: Norway			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/ Re-approval
Conor Donnelly	Geraldine Criquet	0.5	Surveillance 2
Assessment Period	To March 2022		

Scope Details	
Main Species	Atlantic wolffish <i>Anarhichas lupus</i>
Stock	ICES Subareas 1 and 2 (Northeast Arctic)
Fishery Location	FAO 27 Northeast Atlantic
Management Authority (Country/ State)	Norwegian Directorate of Fisheries (DoF)
Gear Type(s)	Bottom trawls
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's determination
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 MARINTRUST raw material Atlantic wolffish, <i>Anarhichas lupus</i> do not appear as Endangered or Critically Endangered on IUCN's Red List, nor do they appear in CITES appendices; therefore, Atlantic wolffish, <i>Anarhichas lupus</i> in ICES areas 1 and 2 is eligible for approval for use as MARINTRUST by-product raw material.</p> <p>The species is not subject to a specific management regime and therefore it is categorised as Category D. The lack of scientific information on the stock status in the assessment area results in the use of the risk-assessment approach. The fishery was assessed using the risk-based Productivity, Susceptibility Analysis (PSA) as per Marin Trust Standard v. 2 procedures for Category D species.</p> <p>The species has passed this risk-based assessment (Table D4 Clause D4.1 and D4.2). Atlantic wolffish is APPROVED in the assessment area by the assessors for the production of fishmeal and fish oil under the current MARINTRUST v 2.0 by-products standard.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified Northeast Arctic Atlantic wolffish as category D, reference points are not defined to assess the stock status relative to.</p> <p>A PSA was performed. With an average productivity score of 2.43 and an average susceptibility score of 3.00, which meant the stock required further assessment using Table D4. The fishery passes both Clauses D4.1 and D4.2.</p> <p>Therefore, the peer reviewer agrees with the assessor's determination that the fishery passes Table D4 and Northeast Arctic Atlantic wolffish is thus approved.</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 ¹	CITES Appendix 1 ²
Atlantic wolffish	<i>Anarhichas lupus</i>	ICES Subarea 1 and 2	Norway Directorate of Fisheries	D	DD	No

¹ <https://www.iucnredlist.org/>

² <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.

Species Name				
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.		
	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.		
				Clause outcome:
<p>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.</p> <p>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.</p>				
References				
Links				
MarinTrust Standard clause			1.3.2.2	
FAO CCRF			7.5.3	
GSSI			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.

D1	Species Name	Atlantic wolffish	
	Productivity Attribute	Value	Score
	Average age at maturity (years)	6.5	3
	Average maximum age (years)	22	2
	Fecundity (eggs/spawning)	12,740	1
	Average maximum size (cm)	151	3
	Average size at maturity (cm)	55	2
	Reproductive strategy	Guarders / clutch tenders	3
	Mean trophic level	3.6 ±0.0 se	3
	Average Productivity Score		2.43
	Susceptibility Attribute	Value	Score
	Availability (area overlap)	>50% of stock (Subarea 1 & 2) occurs in area fished	3
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	Species is demersal & gear used is bottom trawl. Therefore, highly likely to encounter gear	3
	Selectivity of gear type	Up to 4m length	3
	Post-capture mortality	Most dead or retained	3
	Average Susceptibility Score		3.00
	PSA Risk Rating (From Table D3)		Go to Table D4
	Compliance rating		
	Further justification for susceptibility scoring (where relevant)		
	<p>In the absence of information on where fishing occurs relative to this stock, a precautionary approach was taken to scoring of the availability attribute.</p> <p>There is evidence of high post-capture survival of Atlantic wolffish captured by bottom trawl (92-100%; Grant & Hiscock, 2014) but the assessor could not find information on whether fish are released so on a precautionary basis it is assumed most are retained.</p>		
References			
<p>Fishbase. https://www.fishbase.se/summary/2501?msclid=a61d3399abaf11eca64d7680dff6109</p> <p>Grant & Hiscock (2014). Post-capture survival of Atlantic wolffish (<i>Anarhichas lupus</i>) captured by bottom otter trawl: Can live release programs contribute to the recovery of species at risk? Fisheries Research, 151, 169-176.</p>			
<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 - 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	Atlantic wolffish	
	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.	Yes
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.	Yes	
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.

Norway has a well-established system for fisheries management, which has evolved over more than a century and is now codified in the 2008 Marine Resources Act and secondary legislation. The Act applies to all marine catches and sets out principles for management including *inter alia*, a precautionary approach and an ecosystem approach. It provides powers to set quotas, imposes a discard ban which requires that all catches of fish must be landed, including bycatches, and that harvesting is carried out in such a way as to minimise impact. It provides for the establishment of MPAs where harvesting may be excluded and prohibits trawling inside the territorial limit around the Norwegian mainland.

Technical measures in force designed to reduce potential impacts of the fishery on this species including measures to improve selectivity such as sorting grids that minimize catches of juveniles and there are also move-on rules that protect juvenile target species (demersal stocks). The management system includes measures to close fishing areas which has evolved from 1984 onwards. Area closures now comprise both permanently closed areas (can be closed year-round or seasonally for all or specific gears and for specific reasons e.g. nursery areas, sensitive habitats) and real-time closures (temporary closures where the number of fish below the minimum legal size or the level of bycatches of protected species exceeds permitted limits) (Gullestad, Blom, Bakke & Bogstad, 2015).

There is clear evidence that 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.

As noted above, fisheries are regulated in Norway, with a range of measures in place to minimise the impact of the fishery on this species including the requirement to land all catches including bycatches and use of closed areas and gear technology to reduce unwanted catches. Catches of this species are relatively low (e.g. they do not appear on the 30+ list of species for which catch data is available on the Fisheries Directorate website. There is no substantial evidence that the fishery has a significant negative impact on the species.

References

Gullestad, Abotnes, Bakke, Skern-Mauritzen, Nedreaas, Sjøvik (2017). Towards ecosystem-based fisheries management in Norway – Practical tools for keeping track of relevant issues and prioritising management efforts. *Marine Policy*, 77, 104-110. <https://www.sciencedirect.com/science/article/pii/S0308597X16305383>

Gullestad, Blom, Bakke & Bogstad (2015). The “Discard Ban Package”: Experiences in efforts to improve the exploitation patterns in Norwegian fisheries. *Marine Policy*, 54, 1-9.

<https://www.sciencedirect.com/science/article/pii/S0308597X14002589>

<https://www.fiskeridir.no/English/Fisheries/Norwegian-Fisheries-Management/Norwegian-efforts-to-improve-fisheries-exploitation-patterns>

<https://www.fiskeridir.no/English/Fisheries/Norwegian-Fisheries-Management/Ecosystem-based-fisheries-management-in-Norway>

[The marine resources act \(fiskeridir.no\)](http://www.fiskeridir.no)

Catch statistics:

<https://www.fiskeridir.no/Yrkesfiske/Tall-og-analyse/Fangst-og-kvoter/Fangst/Fangst-fordelt-paa-art>

Links

MarinTrust Standard clause	1.3.2.2, 4.1.4
FAO CCRF	7.5.1
GSSI	D.5.01