



MarinTrust Standard V2

By-product Fishery Assessment Report Template

MarinTrust Programme

Unit C, Printworks

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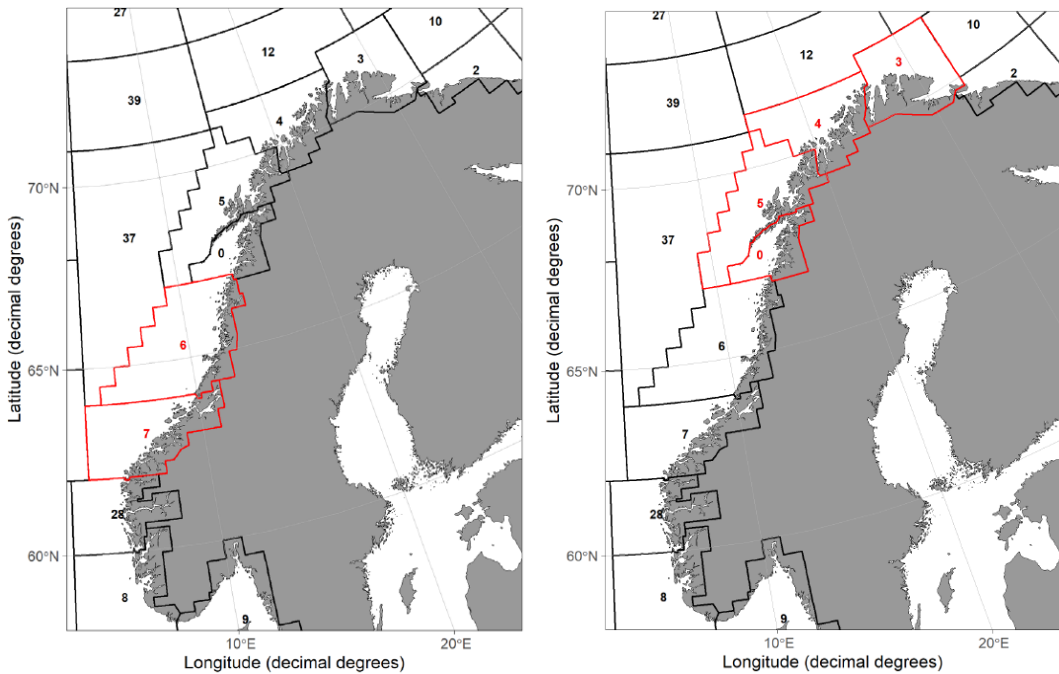
Table 1 Application details and summary of the assessment outcome

Fishery Under Assessment	Species:	Cod (<i>Gadus morhua</i>)
	Geographical area:	FAO Area 27 North East Atlantic
	Country of origin of the product:	Norway
	Stock:	<ol style="list-style-type: none"> Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod
Date	11 October 2021	
Report Code	BP 213	
Assessor	Geraldine Criquet	
Country of origin of the product - PASS	NA	
Country of origin of the product - FAIL	Norway (both stocks)	

Application details and summary of the assessment outcome			
Name: Scanbio Ingredients AS			
Address:			
Country: Norway		Zip:	
Tel. No.:		Fax. No.:	
Email address:		Applicant Code:	
Key Contact:		Title:	
Certification Body Details			
Name of Certification Body:		Global Trust Certification	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval
Geraldine Criquet	Virginia Polonio	0.5	Re-approval
Assessment Period	To October 2021		

Scope Details	
Main Species	Cod (<i>Gadus morhua</i>)
Stock	<ol style="list-style-type: none"> Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod
Fishery Location	FAO Area 27 Northeast Atlantic Ocean
Management Authority (Country/ State)	Fisheries authorities of Norway
Gear Type(s)	Gillnet, bottom trawl and other gears including Danish seine and longline/handline.
Peer Review Evaluation	Agrees with assessor's determination
Recommendation	NOT APPROVED

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 Marin Trust raw material. Cod (<i>Gadus morhua</i>) is neither listed as Endangered or Critically Endangered on IUCN's Red List, nor listed in CITES appendices; therefore, cod is eligible for approval for use as Marin Trust by-product raw material.</p> <p>After the 2021 benchmark, the Norwegian coastal cod stock was split into two units (Figure 1):</p> <ol style="list-style-type: none"> Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod

<p>Figure 1. Cod in Subarea 2 between 62°N and 67°N, southern Norwegian coastal cod (left panel) and cod in Subareas 1 and 2 north of 67°N, northern Norwegian coastal cod (right panel) are included in the new stock definition (marked in red). Source: ICES 2021 a & b.</p>

Therefore, this assessment covers both stocks.

Fishery removals are included in the stock assessment process, both stocks PASSES Clause C1.1. Both the southern and northern Norwegian coastal cod stocks are considered, in their most recent stock assessment, to have a biomass below the limit reference point. Moreover, the removals by the fishery under assessment are not considered by scientific authorities to be negligible. Consequently, both cod stocks FAIL Clause C1.2.

Both stocks were further assessed under category D in accordance with Marin Trust Guidance “Where a species fails Clause C1, it should be assessed as a Category D.”

With an average productivity score of 2.17 and an average susceptibility score of 2.75, both stocks do not pass the PSA and were further assessed under Table D4.

Both ICES advices states that “Without the option of setting a direct TAC, the coastal cod stocks are managed by technical regulatory measures”, and recommends the development of new rebuilding plans to ensure that stocks are rebuilt above B_{lim} .

Therefore, it cannot be concluded that reasonable measures are taken to minimise the potential impacts of the fishery on both the southern and the northern Norwegian coastal cod stocks, it FAILS D4.1.

Fishing pressure is above F_{MSY} for the southern Norwegian coastal cod stock. Although no reference points for fishing pressure have been defined for the northern Norwegian coastal cod stock, F has increased in the last 5 years. 2020 commercial catches represented approximately 52% and 87% of total catches of the southern and northern Norwegian coastal cod stocks, respectively.

Therefore, it cannot be concluded that there is no substantial evidence that the fishery has a significant negative impact on both stocks, it FAILS D.4.2.

Therefore, southern and northern Norwegian coastal cod stocks are **NOT APPROVED** for the production of fishmeal and fish oil under the current Marin Trust v 2.0 by-products.

Fishery Assessment Peer Review Comments

The peer review agrees with the assessor’s determination. The stock has been correctly classified under category C. However, as the stock fails category C has been also assessed under category D. Due to the poor stats of both stocks and the increase of the fishing mortality , the stocks cannot pass table D4 and they fail the category D too.

Consequently, southern and northern Norwegian coastal cod stocks are **NOT APPROVED** for the production of fishmeal and fish oil under the current Marin Trust v 2.0 by-products

Notes for On-site Auditor

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 an MARINTRUST raw material.

IUCN Redlist 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
Cod	<i>Gadus morhua</i>	1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod 2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod	Fisheries authorities of Norway	C	LC	No

¹ <https://www.iucnredlist.org/>

² <https://cites.org/eng/app/appendices.php>

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.

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		Cod (<i>Gadus morhua</i>)	
		1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod 2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod	
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.	Yes
	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.	No
Clause outcome:			FAIL
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.			
<u>1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod</u>			
<p>The stock assessment is a trend-based assessment based on standardised CPUE index from the reference fleet. Catch data used are CPUE (2007-2020) from the coastal reference fleet, commercial catches and catches reported from tourist businesses. Catches are presented in Figure 2.</p> <p>Therefore, fishery removals of the stock, including from the fishery under assessment, are included in the stock assessment process, it PASSES Clause C1.1</p>			
<p style="text-align: right; font-size: small;">cod.27.2.coast15_2021_14575_2021531151632</p>			
<p>Figure 2. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod. Commercial and recreational catches. Recreational catches are fixed from 2009–2019 at 4800 tonnes.</p>			
<u>2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod</u>			
<p>The stock assessment is an age-based analytical assessment that uses catches in the model and the forecast. Catch data used are commercial and recreational catches. Catches are presented in Figure 3.</p>			

Therefore, fishery removals of the stock, including from the fishery under assessment, are included in the stock assessment process, it **PASSES Clause C1.1**

Catches

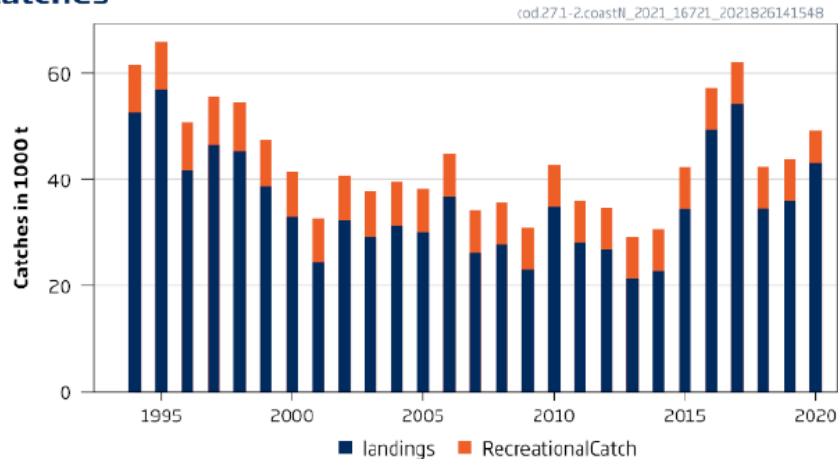


Figure 3. Cod in subareas 1 and 2 north of 67°N, northern Norwegian coastal cod. Commercial and recreational catches.

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.

1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod

The stock size indicator has fluctuated without a trend over time. The stock size is below possible reference points (Figure 4). Therefore, the stock is considered, in its most recent stock assessment, to have a biomass below the limit reference point. The removals by the fishery under assessment are not considered by scientific authorities to be negligible, 2020 commercial catches representing approximately 52% of total catches.

Therefore, **C1.2 is not met.**

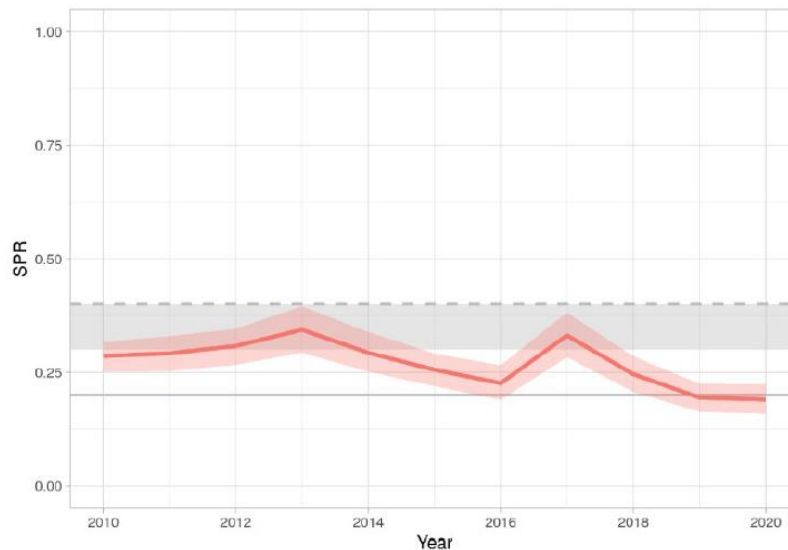


Figure 4. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod. Length-based spawning potential ratio (LBSPR). Estimated spawning potential ratio (SPR) per year. Mean (solid red line) and confidence intervals (shaded red area, 95% interquartile range [IQR]), based on the stochastic LBSPR. The grey shaded area delimits the SPR30%-40% zone (common targets) and the solid grey horizontal line the SPR20% limit reference point.

2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod

The spawning-stock size is below B_{pa} and B_{lim} in the last decade (Figure 5).

Therefore, the stock is considered, in its most recent stock assessment, to have a biomass below the limit reference point. The removals by the fishery under assessment are not considered by scientific authorities to be negligible, 2020 commercial catches representing approximately 87% of total catches. Therefore, **C1.2 is not met.**

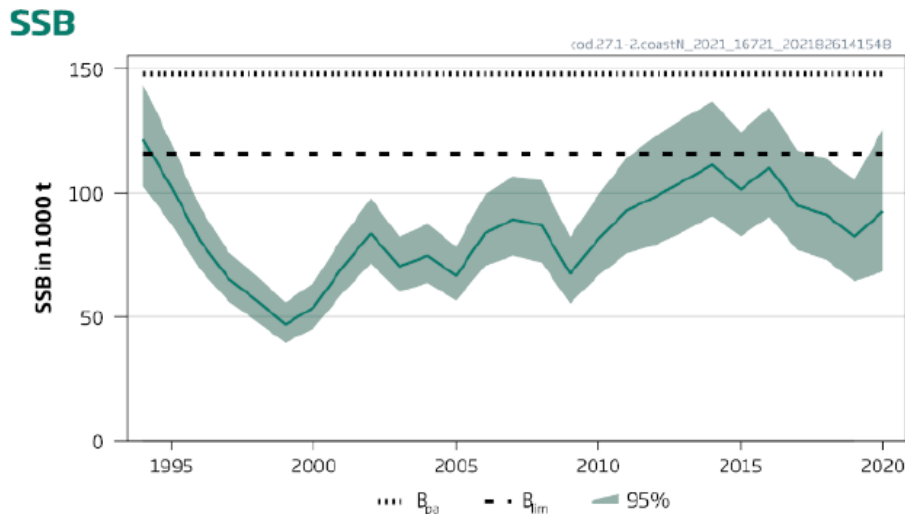


Figure 5. Cod in subareas 1 and 2 north of 67°N, northern Norwegian coastal cod. SSB trend.

Both stocks were further assessed under category D in accordance with Marin Trust Guidance “Where a species fails Clause C1, it should be assessed as a Category D.”

References

ICES. 2021a. Cod (*Gadus morhua*) in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.2.coastS, <https://doi.org/10.17895/ices.advice.8197>.

ICES. 2021b. Cod (*Gadus morhua*) in subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.1-2coastN, <https://doi.org/10.17895/ices.advice.7986>.

Cook, R., Fernandes, P., Florin, A., Lorange, P. & Nedreaas, K. 2015. *Gadus morhua*. The IUCN Red List of Threatened Species 2015: e.T8784A45097319. Downloaded on 12 October 2021

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 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. 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	Cod (<i>Gadus morhua</i>)		
		1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod 2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod		
	Productivity Attribute		Value	Score
	Average age at maturity (years)		3.6	2
	Average maximum age (years)		16.9	2
	Fecundity (eggs/spawning)		1,610,435 (estimated geometric mean)	1
	Average maximum size (cm)		200 cm	3
	Average size at maturity (cm)		55 cm	2
	Reproductive strategy		external open water non-guarders	1
	Mean trophic level		4.1	3
	Average Productivity Score			2.17
	Susceptibility Attribute		Value	Score
	Overlap of adult species range with fishery		>50% of the stock occurs in the area fished	3
	Distribution		Not scored	NA
	Habitat		Benthopelagic	2
	Depth range		Usually 150-200 m	1
	Selectivity		Species > 2 times the mesh size or up to 4 m	3
	Post-capture mortality		Mostly dead	3
	Average Susceptibility Score			2.75
	PSA Risk Rating (From Table D3)			Table D4
	Compliance rating			Table D4
References				
<p>ICES. 2021a. Cod (<i>Gadus morhua</i>) in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.2.coastS, https://doi.org/10.17895/ices.advice.8197.</p> <p>ICES. 2021b. Cod (<i>Gadus morhua</i>) in subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod. In Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.1-2coastN, https://doi.org/10.17895/ices.advice.7986.</p> <p>Fishbase – Atlantic cod (<i>Gadus morhua</i>) https://www.fishbase.se/summary/Gadus-morhua.html</p>				
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 - 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	Cod (<i>Gadus moruha</i>)	
		1. Cod in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod 2. Cod in Subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod	
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.		No
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.		No
Outcome:			FAIL
Evidence			
<p>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.</p> <p>The Norwegian coastal cod stock was split into two units after the 2021 benchmark, the southern and the northern Norwegian coastal cod stocks, and two separate ICES advices (ICES 2021 a& b) have been issued in October 2021. Both stocks are below limit reference points. Both ICES advices states that “Without the option of setting a direct TAC, the coastal cod stocks are managed by technical regulatory measures”, and recommends the development of new rebuilding plans to ensure that stocks are rebuilt above B_{lim}. Therefore, it cannot be concluded that reasonable measures are taken to minimise the potential impacts of the fishery on both the southern and the northern Norwegian coastal cod stocks, it FAILS D4.1.</p>			
<p>D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.</p> <p>Fishing pressure is above F_{MSY} for the southern Norwegian coastal cod stock. Although no reference points for fishing pressure have been defined for the northern Norwegian coastal cod stock, F has increased in the last 5 years. 2020 commercial catches represented approximately 52% and 87% of total catches of the southern and northern Norwegian coastal cod stocks, respectively.</p>			

Therefore, it cannot be concluded that there is no substantial evidence that the fishery has a significant negative impact on both stocks, it FAILS D.4.2.

References

ICES. 2021a. Cod (*Gadus morhua*) in Subarea 2 between 62°N and 67°N (Norwegian Sea), southern Norwegian coastal cod. *In* Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.2.coastS, <https://doi.org/10.17895/ices.advice.8197>.

ICES. 2021b. Cod (*Gadus morhua*) in subareas 1 and 2 north of 67°N (Norwegian Sea and Barents Sea), northern Norwegian coastal cod. *In* Report of the ICES Advisory Committee, 2021. ICES Advice 2021, cod.27.1-2coastN, <https://doi.org/10.17895/ices.advice.7986>.

Links

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