



MarinTrust Standard V2

By-product Fishery Assessment

DNK31

Cod (Gadus morhua)

in ICES Subarea 4, Divisions 6a and 7d,
and Subdivision 20

MarinTrust Programme

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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 27
	Country of origin of the product:	Denmark
	Stock:	Subarea 4, Divisions 6a and 7d, and Subdivision 20
Date	November 2024	
Report Code	DNK31	
Assessor	Sam Peacock	
Country of origin of the product - PASS	Denmark	
Country of origin of the product - FAIL	None	

Application details and summary of the assessment outcome			
Company Name(s): Thyborøn			
Country: Denmark			
Email address:		Applicant Code:	
Certification Body Details			
Name of Certification Body:		NSF / Global Trust Certification Ltd.	
Assessor	Peer Reviewer	Assessment Days	Initial/Surveillance/Re-approval
Sam Peacock	Matthew Jew	0.2	Re-approval
Assessment Period	November 2024 – November 2025		

Scope Details	
Main Species	Cod (<i>Gadus morhua</i>)
Stock	Subarea 4, Divisions 6a and 7d, and Subdivision 20
Fishery Location	FAO 27
Management Authority (Country/ State)	EU, Norway, UK
Gear Type(s)	Trawl gears
Outcome of Assessment	
Peer Review Evaluation	Agree with assessor's recommendation
Recommendation	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>) does not appear as Endangered or Critically Endangered on IUCN’s Red List, and does not appear in CITES appendices; therefore, <i>Gadus morhua</i> is eligible for approval for use as Marin trust by-product raw material.</p> <p>ICES is not aware of any agreed management plan for cod in this area; however, the species is subject to regular stock assessment and is managed relative to established reference points, and was therefore assessed under Category C in the first instance.</p> <p>Cod in Subarea 4, Divisions 6a and 7d, and Subdivision 20 is subject to an annual stock assessment by the ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak, on the basis of the existence of three sub-stocks. The most recent stock assessment was conducted in 2024, using all available catch data and five survey indices, therefore C1.1 is met. SSB was estimated by the stock assessment to be above the target reference point level for two of the sub-stocks, but below the target reference point level for one sub-stock. Therefore, C1.2 is not met, and as per the MT byproduct assessment guidance, the byproduct was further assessed under Category D.</p> <p>In Category D, cod was awarded a Productivity score of 1.71 and a Susceptibility score of 2.5, leading to an outcome of Pass on Table D3.</p> <p>Therefore, cod (<i>Gadus morhua</i>) in Subarea 4, Divisions 6a and 7d, and Subdivision 20 is APPROVED for the production of fishmeal and fish oil under the current MarinTrust v2.3 by-products.</p>
Fishery Assessment Peer Review Comments
<p>The assessor correctly classified cod (<i>Gadus morhua</i>) in Subarea 4, Divisions 6a and 7d, and Subdivision 20 as Category C, the stock is subject to a specific management regime.</p> <p>Fishery removals are considered in the stock assessment process. The most recent stock assessment shows that one of the three substocks are below B_{lim}. Therefore, the stock cannot pass Clause C1.2. The assessor correctly assessed the stock under Category D.</p> <p>The assessor correctly assigned attribute scores under the PSA and correctly calculated the average scores for Productivity and Susceptibility, respectively. The stock passes per Table D3.</p> <p>Cod (<i>Gadus morhua</i>) in Subarea 4, Divisions 6a and 7d, and Subdivision 20 passes both clauses (C1.1 and C1.2) and therefore should be approved under the MarinTrust Standard v.2.3</p>
Notes for On-site Auditor
N/A

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 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
Cod	<i>Gadus morhua</i>	ICES Subarea 4, Divisions 6a and 7d, and Subdivision 20	Yes	C / D	Vulnerable ³	No

¹ <https://www.iucnredlist.org/>

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

³ <https://www.iucnredlist.org/species/8784/12931575>

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		Cod (<i>Gadus morhua</i>)	
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.	PASS
	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.	FAIL
			Clause outcome: FAIL
<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>Cod in Subarea 4, Divisions 6a and 7d, and Subdivision 20 is subject to regular stock assessment by the ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK). Stock assessments and catch advice are provided on the basis of three inter-mixing substocks in the assessment area: Northwestern, Southern, and Viking. The most recent stock assessment was conducted in 2024 using an age-based analytical assessment which used catches and survey indices in the model and forecast. Discards and below minimum size landings are included in the assessment where available.</p> <p>The catch advice states that “Northern shelf cod comprises three substocks (Northwestern, Southern and Viking) which mix and are caught together. ICES advises that when the MSY approach is applied for the Southern substock and precautionary considerations to protect the Southern substock are applied for the Northwestern and Viking substocks, catches in 2025 should be no more than 15 511 tonnes, which corresponds to 9 920 tonnes from the Northwestern substock, 3 343* tonnes from the Viking substock, and 2 248 tonnes from the Southern substock. These catches by substock should not be taken as area-specific advice.” (ICES 2024).</p> <p>Total catches across all three substocks are presented in the figure below:</p>			

cod.27.46a7d20_2024_18678_2024423124355

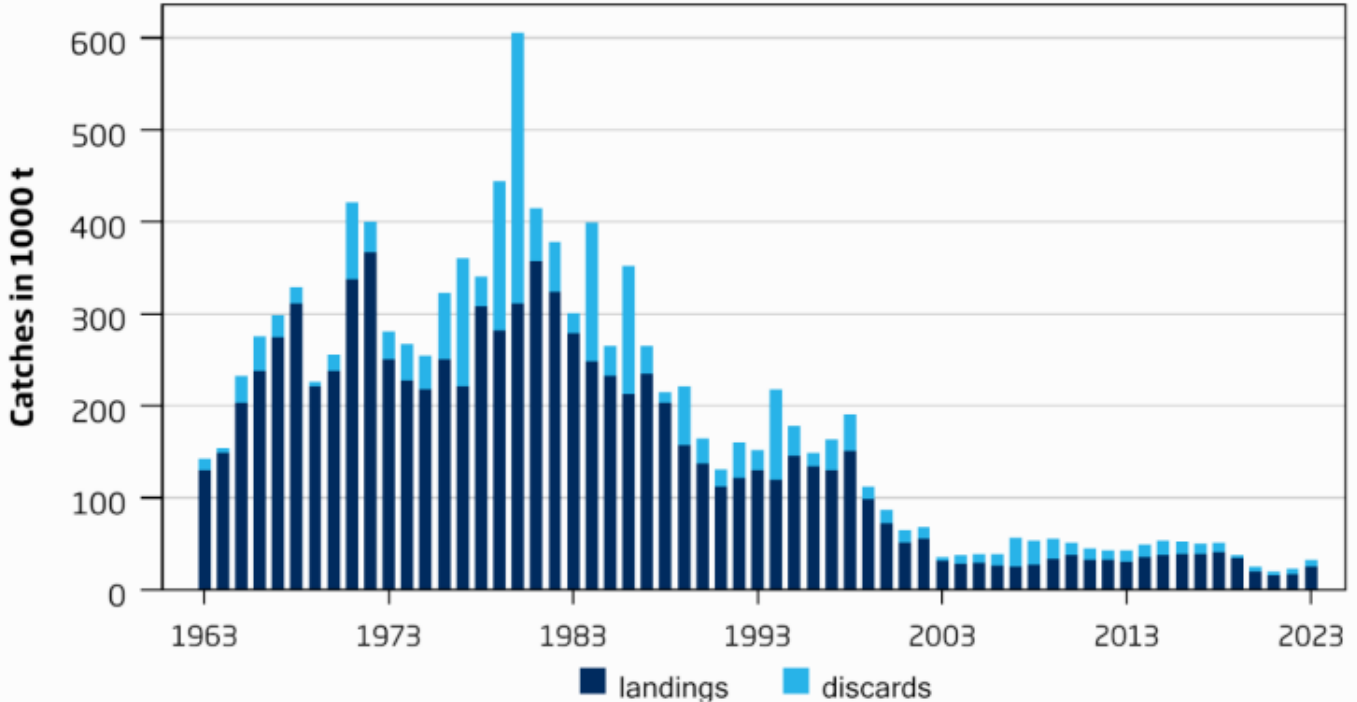


Figure 1. Cod in Subarea 4, Divisions 6a and 7d, and Subdivision 20: total catch for all substocks combined (ICES 2024)

Therefore, fishery removals of the species in the fishery under assessment are included in the stock assessment process and therefore the stock PASSES clause C1.1.

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.

The catch advice provides an indication of the current status of each sub-stock relative to established reference points. The target reference points $MSY B_{trigger}$ and B_{pa} have been set for each sub-stock as follows:

- Northwestern: 40,823t
- Viking: 13,732t
- Southern: 19,851t

The limit reference point B_{lim} has been set for each sub-stock as follows:

- Northwestern: 29,378t
- Viking: 9,619t
- Southern: 14,002t

The catch advice also includes the following projections for estimated SSB in 2025 for each sub-stock:

- Northwestern: 55,567t
- Viking: 15,249t
- Southern: 12,844t

The catch advice also states, “Fishing pressure on all three substocks is above F_{MSY} but below F_{pa} and F_{lim} . The spawning-stock size is below $MSY B_{trigger}$, B_{pa} , and B_{lim} for the Southern substock; above $MSY B_{trigger}$, B_{pa} , and B_{lim} for the Northwestern and Viking substocks.” (ICES 2024).

Estimated SSB relative to reference points is shown in Figure 2 below.

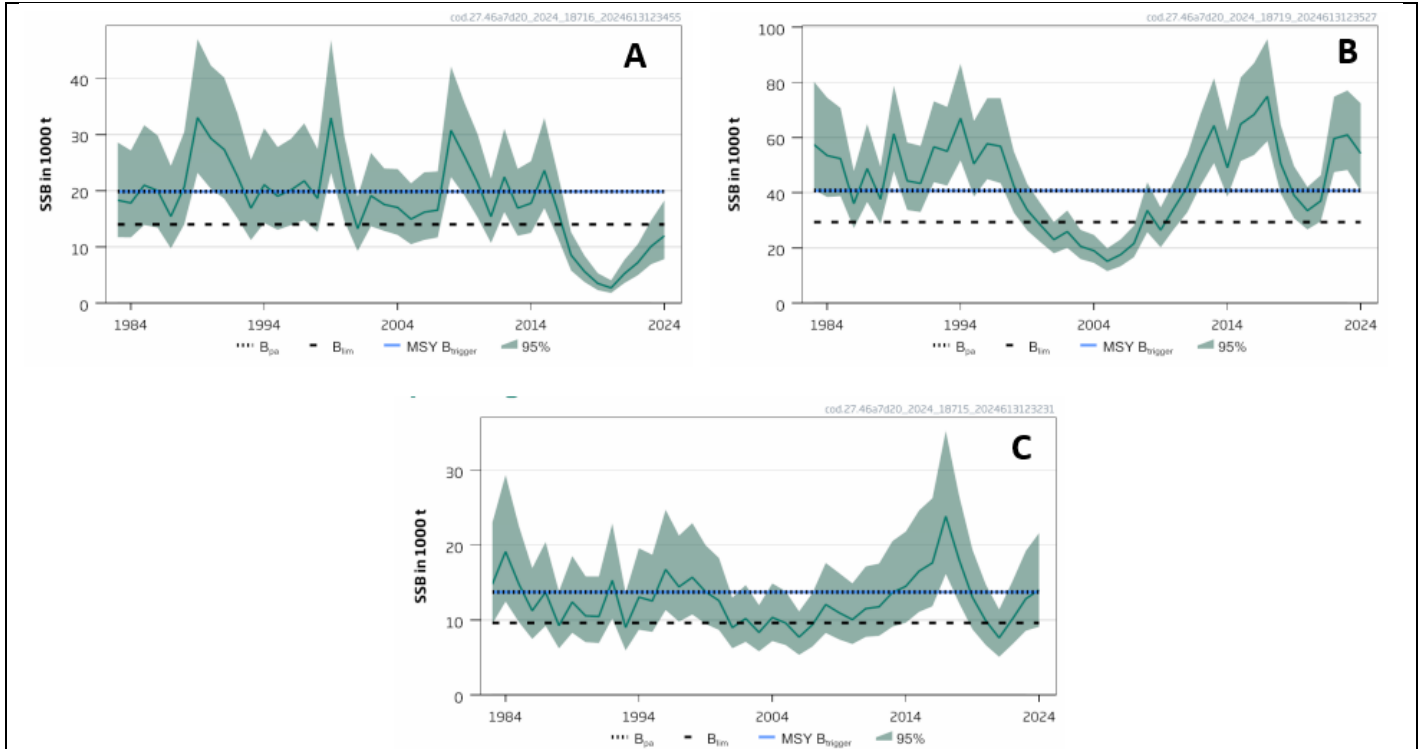


Figure 2. Cod in Subarea 4, Divisions 6a and 7d, and Subdivision 20: estimated SSB relative to current reference points for the Southern substock (A), Northwestern substock (B) and Viking substock (C) (ICES 2024)

Therefore, one of the three sub-stocks is currently considered to be BELOW the limit reference point, and C1.2 is NOT met. As per the MarinTrust byproduct assessment guidance, the species will be further assessed under Category D.

References

ICES (2024). Cod (*Gadus morhua*) in Subarea 4, divisions 6.a and 7.d, and Subdivision 20 (North Sea, West of Scotland, eastern English Channel and Skagerrak). Replacing advice provided in June 2024. ICES Advice: Recurrent Advice. Report. <https://doi.org/10.17895/ices.advice.27441678.v1>

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		Cod (<i>Gadus morhua</i>)	
	Productivity Attribute	Value	Score	
	Average age at maturity (years)	3.6 years	1	
	Average maximum age (years)	16.9 years	2	
	Fecundity (eggs/spawning)	1,610,435	1	
	Average maximum size (cm)	200cm	2	
	Average size at maturity (cm)	55cm	2	
	Reproductive strategy	Broadcast spawner	1	
	Mean trophic level	4.1	3	
	Average Productivity Score		1.71	
	Susceptibility Attribute	Value	Score	
	Availability (area overlap)	<10%	1	
	Encounterability (the position of the stock/species within the water column relative to the fishing gear)	Targeted	3	
	Selectivity of gear type	Unknown; assumed high	3	
	Post-capture mortality	Retained	3	
	Average Susceptibility Score		2.5	
	PSA Risk Rating (From Table D3)		PASS	
	Compliance rating		PASS	
	<p>Further justification for susceptibility scoring (where relevant) <i>For susceptibility attributes, please provide a brief rationale for scoring of parameters where there may be uncertainty affecting your decision</i></p>			
	<p>Computer-generated map of cod distribution. From Fishbase, https://www.fishbase.se/summary/69</p>			
	References			
Fishbase, cod: https://www.fishbase.se/summary/69				
<i>Standard clauses 1.3.2.2</i>				

Table D2 - Productivity / Susceptibility attributes and scores.

Productivity attributes	High productivity (Low risk, score = 1)	Medium productivity (medium risk, score = 2)	Low productivity (high risk, score = 3)
Average age at maturity	<5 years	5-15 years	>15 years
Average maximum age	<10 years	10-25 years	>25 years
Fecundity	>20,000 eggs per year	100-20,000 eggs per year	<100 eggs per year
Average maximum size	<100 cm	100-300 cm	>300 cm
Average size at maturity	<40 cm	40-200 cm	>200 cm
Reproductive strategy	Broadcast spawner	Demersal egg layer	Live bearer
Mean Trophic Level	<2.75	2.75-3.25	>3.25

Susceptibility attributes	Low susceptibility (Low risk, score = 1)	Medium susceptibility (medium risk, score = 2)	High susceptibility (high risk, score = 3)
Areal overlap (availability) Overlap of the fishing effort with the species range	<10% overlap	10-30% overlap	>30% overlap
Encounterability The position of the stock/species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	Low overlap with fishing gear (low encounterability).	Medium overlap with fishing gear.	High overlap with fishing gear (high encounterability). Default score for target species
Selectivity of gear type Potential of the gear to retain species	a Individuals < size at maturity are rarely caught	a Individuals < size at maturity are regularly caught.	a Individuals < size at maturity are frequently caught
	b Individuals < size at maturity can escape or avoid gear.	b Individuals < half the size at maturity can escape or avoid gear.	b Individuals < half the size at maturity are retained by gear.
Post-capture mortality (PCM) The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Evidence of majority released post-capture and survival.	Evidence of some released post-capture and survival.	Retained species or majority dead when released.

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		n/a	
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.		
D4.2	There is no substantial evidence that the fishery has a significant negative impact on the species.		
			Outcome:
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.			
D4.2 There is no substantial evidence that the fishery has a significant negative impact on the species.			
References			
Links			
MarinTrust Standard clause		1.3.2.2, 4.1.4	
FAO CCRF		7.5.1	
GSSI		D.5.01	