MarinTrust Whole fish fishery assessment report

Document TEM-002 (prev. FISH2) - Version 3.0

Issued June 2024 – Effective June 2024

Calanus finmarchius – Norway – FAO 27, Atlantic Northeast, Norway EEZ

Re-Approval
WF03

Table 1: Whole fish fishery assessment scope

Fishery name	***Calanus finmarchius*, Norway, FAO 27, Atlantic Northeast, Norway EEZ**
MarinTrust report code	**WF03**
Type 1 species (common name, Latin name)	*Calanus finmarchius*
Fishery location	*FAO 27, Atlantic Northeast, Norway EEZ*
Gear type(s)	*Midwater trawl*
Management authority (country/state)	*Ministry of Trade, Industry and Fisheries (Norway)*

Table 2: Applicant and Certification Body details

Application details			
Applicant(s)		*Calanus AS*	
Applicant country		*Norway*	
Certification Body details			
Name of Certification Body		LRQA	
Contact Information for CB (e.g. email address/address/telephone number)		mt-ca@lrqa.com LRQA, 4-5 Lochside Way, Edinburgh Park, EH12 9DT T: +44 800 092 0452	
Fishery Assessor name		Jim Missen	
CB Peer Reviewer name		Sam Peacock	
Number of assessment days	6	**Assessment period**	04/2026 to 04/2027

Table 3: Assessment outcome

Assessment outcome (See Table 4 for a summary of assessment determination)		*Approve*
Approval validity	Valid from: 04/2026	Valid until: 04/2027
CB peer reviewer evaluation		*Agree with assessment determination*
Fishery Assessment Peer Review Group external peer reviewer evaluation		*Agree with assessment determination*

Table 4: Assessment determination

Assessment determination Summary of assessment and outcome
The *Calanus finmarchicus* fishery is a highly selective pelagic trawl fishery, comprising

approximately 98.3% of total landings. Bycatch occurs in small quantities, primarily herring (*Clupea harengus*), which accounts for around 1.6% of landings. This assessment evaluated *C. finmarchicus* in FAO 27, the Atlantic Northeast, and the Norwegian EEZ, and herring in the Norwegian spring-spawning herring fishery (Subareas 1, 2, 5 and Divisions 4.a and 14.b). *C. finmarchicus* is not evaluated by the IUCN, while herring is listed as Least Concern; neither species is listed in any CITES appendix. Therefore, both are eligible for approval as MarinTrust whole fish material and meet the MarinTrust management requirements (Category M).

C. finmarchicus is managed by the Norwegian Directorate of Fisheries (DoF) under the 2016 management plan. However, a formal stock assessment and reference points do not exist, reflecting the fishery's exploratory nature. Consequently, the species is assessed as a Category B species using Table B(b). The fishery meets the requirements of this section, as the biomass is considered equal to the long-term average, fishing mortality remains negligible and far below the precautionary quota, and the stock is considered highly resilient.

The latest herring stock assessment for the Northeast Atlantic and Arctic Ocean was published in September 2025, with removals of the species included in the assessment process. Herring biomass remains above the limit reference point; therefore, herring is assessed as a Category C species and meets the requirements of this section.

Interactions between the fishery and endangered, threatened, or protected (ETP) species are recorded through the Electronic Reporting System (ERS) and logbooks, supplemented by monitoring by the Institute of Marine Research (IMR). As a highly selective fishery targeting zooplankton, bycatch and associated ETP interactions are very low. Using pelagic trawls primarily in waters deeper than 1000m, the fishery has minimal impact on marine habitats. While *C. finmarchicus* is a key component of the ecosystem, the very low utilisation and precautionary quota ensure that the impact on the marine ecosystem is minimal. As a result, the *C. finmarchicus* fishery meets the MarinTrust standards concerning marine habitats, ETP species, and ecosystem impacts.

The *C. finmarchicus* fishery in FAO 27, the Atlantic Northeast, and the Norwegian EEZ passed all MarinTrust requirements in this assessment; therefore, its re-approval is recommended for use as raw material in MarinTrust-certified products.

Last data accessed: 6 April 2026.

Summary of CB peer review	This assessment of the Norwegian *C. finmarchicus* fishery has fully applied the MT assessment methodology and provides detailed and fully referenced explanations for the scoring decisions. The stock is exploited at very low levels relative to the amount of biomass available and there appears to be limited potential for wider impacts at this scale. The peer reviewer agrees with the outcome of the assessment.
Summary of external peer review (see Appendix 1 for the full peer review report)	*Note to assessor: Include a brief summary of the external peer review evaluation.*
Notes for on-site auditor	*Note to assessor: Notes for on-site auditor should be included where there may be reason to validate the findings of the assessment*

	during the on-site audit. For example, if a marine mammal or ETP shark is allowed to be landed by the fishery, the auditor on site can review evidence to ensure this species is not used for reduction purposes.

Table 5: General results

Section	Outcome (Pass/Fail)
M1 - Management Framework	Pass
M2 - Surveillance, Control and Enforcement	Pass
E1 - Impacts on ETP Species	Pass
E2 - Impacts on Habitats	Pass
E3 - Ecosystem Impacts	Pass

Table 6: Species-specific results

See Table 7 for further details of species categorisation.

Category	Species name (common & Latin name)	Outcome (Pass/Fail/n/a)	
Category A	No species identified	A1	-
		A2	-
		A3	-
		A4	-
Category B	*Calanus finmarchicus*	Pass	
Category C	Herring (*Clupea harengus*)	Pass	
Category C	No species identified	-	
Category D	No species identified	-	

Table 7: Species categorisation table

List of all the species assessed. Type 1 species are assessed against Category A or Category B. Type 1 species must represent 95% of the total annual catch. Type 2 species are assessed against Category C or Category D. Type 2 species may represent a maximum of 5% of the annual catch. Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Species name (common & Latin name)	Stock	CITES listed yes/no	IUCN Red list Category	% catch composition	Management (Y/N)	Category (A, B, C or D)
Calanus finmarchicus	FAO 27, Atlantic Northeast, Norway EEZ	No	Not evaluated	98.3%	No	B
Herring (*Clupea harengus*)	Norwegian spring-spawning	No	Least Concern[1]	1.6%	Yes	C

	herring (subareas 1, 2, and 5, and in divisions 4.a and 14.a)					

Rationale

The Norwegian *C. finmarchicus* fishery is a data-poor, emerging fishery within FAO 27, encompassing the Northeast Atlantic and the Norwegian Exclusive Economic Zone (EEZ). The most recent catch composition data available for the fishery describes 2022 and 2023[2]. For this assessment, the 2022 data are used because the 2023 data does not provide an average *C. finmarchicus* catch composition across the survey stations.

As such, an average of the *C. finmarchicus* catch composition data from the two survey vessels is used, representing 98.3% in 2022[2]. This is combined with bycatch data considered collectively across both vessels and all stations. The majority of the remaining catch was herring (*Clupea harengus*) at 1.6%, with the remaining 0.08% comprised of Atlantic cod (*Gadus morhua*), capelin (*Mallotus villosus*), and redfish (*Sebastes spp.*)[2]. All of these are below the 0.1% threshold required for assessment under the MarinTrust framework and, as such, have not been assessed in this report.

This assessment is designated as a re-approval as it is the first for the fishery to be conducted under the MarinTrust Version 3 whole fish fishery criteria. The previous assessment, completed in 2025, was based on Version 2.

C. finmarchicus was assessed as a Category B species using Table B(b), as it is not evaluated by the IUCN, not listed in any CITES appendix, and comprises more than 95% of the fishery's total catch. While the fishery is managed by the Norwegian Directorate of Fisheries (DoF) under a management plan, a stock assessment and reference points do not exist, necessitating the Category B designation and use of Table B(b)[3].

Herring was assessed as a Category C species, as it is listed as Least Concern by the IUCN, not listed in any CITES appendix, managed by the DoF, and comprises less than 5% of the fishery's total catch.

References

1. Herdson, D. & Priede, I.G. (2010). Clupea harengus. The IUCN Red List of Threatened Species 2010: e.T155123A4717767. https://dx.doi.org/10.2305/IUCN.UK.2010-4.RLTS.T155123A4717767.en.
2. Strand, E., Broms., C., Melle, W. (2024). Inclusion of fish larvae and fry in red bait catches 2022 and 2023 [Unpublished report]. Institute of Marine Research.
3. Norwegian Directorate of Fisheries. (2016). Management plan for raudåte. https://www.fiskeridir.no/rapporter/Forvaltningsplan-for-raudaate/_/attachment/inline/3483601e-20b4-45d2-95d0-6ce21a4912e6:2398013608e683e4413d328de31a406d480741a4/forvaltning-raud%C3%A5te-TT-%20LL-%2009%2005%20%2016.pdf

Management requirements

This section, or module, assesses the general management regime applied to the fishery under assessment. It comprises two parts, M1, which evaluates the management framework, and M2, which evaluates surveillance, control and enforcement within the fishery.

1.6. All management criteria must be met (pass) for a fishery to pass the Management requirements.

1.6.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the management criteria. It is not expected that sub-criteria are assessed independently of the main criterion.

M1 Management framework

M1.1	**M1.1 There is an organisation responsible for managing the fishery.** *In reaching a determination for M1.1, the assessor should consider if the following is in place:*
	M1.1.1 The management and administration organisations within the fishery are clearly identified.
	M1.1.2 The functions and responsibilities of the management organisations include the overall regulation, administration, science and data collection and enforcement roles, and are documented and publicly available.
	M1.1.3 Fishers have access to information and/or training materials through nationally recognised organisations.
Outcome	*Pass*

Rationale

Fisheries management in Norway is overseen by the Ministry of Trade, Industry, and Fisheries (MTIF) under the Marine Resources Act (2008)[1,2]. The Directorate of Fisheries (DoF) serving as the advisory and executive body in matters pertaining to fishing and the management of aquaculture[3]. The Directorate's main objective is to promote economic activity through the sustainable use of marine resources and the marine environment, guided by the vision “Marine Life – our common responsibility”[3].

The mandate of the DoF spans the management of marine resources, aquaculture, and coastal zone management. Its role includes advising the MTIF on how the industry should be managed through policy input and ensuring that laws and regulations are complied with. The latter is achieved through the Fisheries Monitoring Centre (FMC), which oversees the activities of both domestic and foreign vessels[4].

Additionally, the DoF collaborates with other public bodies, industry actors, and research institutions to ensure sustainable and knowledge-based fisheries governance.

The management of *C. finmarchicus* is specifically addressed in Regulation FOR-2024-12-05-2943, which outlines quota allocation, spatial limitations, and other operational requirements within the fishery[5].

Based on the above, the fishery passes Clause M1.1.

References

1. Norwegian Directorate of Fisheries. (n.d.). How is the Norwegian fisheries management organised? https://www.fiskeridir.no/english/fisheries/how-is-the-norwegian-fisheries-management-organised
2. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresources act.pdf
3. Norwegian Directorate of Fisheries. (n.d.). About the Directorate of Fisheries. https://www.fiskeridir.no/english/about-us/about-the-directorate-of-fisheries
4. Norwegian Directorate of Fisheries. (n.d.). Fisheries Monitoring Centre (FMC Norway). https://www.fiskeridir.no/english/fisheries/fisheries-monitoring-centre-fmc-norway
5. Lovdata. (2024). Forskrift om [regulation details] (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943

M1.2	**M1.2 Fishery management organisations are legally empowered to take management actions.** *In reaching a determination for M1.2, the assessor should consider if the following is in place:*	
	M1.2.1 There are legal instruments in place to give authority to the management organisation(s) which can include policies, regulations, acts or other legal mechanisms.	
	M1.2.2 Vessels wishing to participate in the fishery must be authorised by the management organisation(s).	
	M1.2.3 The management system has a mechanism in place for the resolution of legal disputes.	
	M1.2.4 There is evidence of the legal rights of people dependent on fishing for food or livelihood.	
Outcome	*Pass*	

Rationale

The Marine Resources Act, established in 2008, serves as the principal legal framework for fisheries management in Norway (1). The purpose of the Act is to ensure the sustainable and economically profitable management of wild living marine resources and genetic material derived from them,

and to promote employment and settlement in coastal communities (1).

Pursuant to the Act, Chapter 3 sets catch quantities and quotas, expressed in terms of weight, volume, number of individuals, number of fishing days, or other appropriate measures (1). Quota allocations are subdivided into national, group, district, vessel, training, research, monitoring, and special quotas. However, where a national quota has been established, the sum of all subordinate quotas must not exceed the national quota (Chapter 3, Section 11) (1). As previously mentioned, the quota for *C. finmarchicus* is specified in Regulation FOR-2024-12-05-2943 (2).

The Act also operationalises critical management components, including managing the environmental impacts of fishing, establishing procedures for prosecuting fishing offences, and addressing disputes between fishers.

All commercial fishing vessels operating in Norwegian waters are required to hold a commercial licence and be registered in the Norwegian Register of Fishing Vessels through the DoF (3). The right of Norwegians to access fisheries is addressed through the Act on the Right to Participate in Fishing and Hunting (the Participation Act) (1999) (4), which requires citizenship or equivalent status, as well as prior engagement in commercial fishing. The Act also provides for the revocation of licences if required conditions are no longer met. Indigenous Sámi culture is specifically referenced under Section 7, which requires that management measures help maintain the material basis for Sámi culture (1).

Based on the above, the fishery passes Clause M1.2.

References

1. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresourcesact.pdf
2. Lovdata. (2024). Forskrift om [regulation details] (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943
3. Norwegian Directorate of Fisheries. (n.d.). The Norwegian Register of Fishing Vessels: Registration, changes and deregistration. https://info.altinn.no/en/forms-overview/directorate-of-fisheries/The-Norwegian-Register-of-Fishing-Vessels-registration-changes-and-deregistration/
4. Act related to the right to participate in fishing and hunting (Participation Act) 1999. https://icsid.worldbank.org/sites/default/files/parties_publications/C8394/Respondent%27s%20documents/RL%20-%20Legal%20Authorities/RL-0011-ENG%201999-03-26.pdf

M1.3	**M1.3 There is an organisation responsible for collecting data and (scientifically) assessing the fishery.** *In reaching a determination for M1.3, the assessor should consider if the following is in place:*	
	M1.3.1 The organisation(s) responsible for collecting data and assessing the fishery is/are clearly identified.	
	M1.3.2 The management system receives scientific advice regarding stock,	

	non-target species and ecosystem status.
	M1.3.3 Scientific advice is independent from the management organisation(s) and transparent in its formulation through a clearly defined process.
Clause outcome	*Pass*

Rationale

The Institute of Marine Research (IMR) is a national consultative research institute that conducts research and provides advisory services in the fields of marine ecosystems and aquaculture. IMR is subordinate to the MTIF, which provides approximately 40% of its funding, with the remainder coming from external research grants[1].

IMR is the body responsible for monitoring *C. finmarchicus* in Norwegian waters. This is carried out through plankton surveys in the Norwegian Sea and Barents Sea using multi-gear sampling, acoustic technologies, satellite data, and biophysical modelling tools, most notably the Norwegian Ecological Model System End-to-End (NORWECOM.E2E) ecosystem model[2]. Fisheries data in Norway are primarily collected by IMR. Additionally, the DoF operates an Electronic Reporting System (ERS), which allows Norwegian vessels to log data when operating in the EEZs of other nations or in international waters[3].

Norway is a non-EU member state of the International Council for the Exploration of the Sea (ICES) and actively collaborates on marine research, scientific advice, and fisheries management[4]. As such, IMR also participates in the Working Group on the Integrated Assessments of the Norwegian Sea (WGINOR), which evaluates ecosystem trends, including plankton dynamics and predator–prey interactions relevant to the fishery[5].

This area is expected to continue evolving, with the Norwegian Seafood Research Fund (FHF) seeking to better link data collected by fishing vessels with scientific research[6]. This includes the use of echosounders, sonar, and catch reports to improve stock monitoring and quota-setting, particularly as climate change is causing fish stocks to shift more rapidly than traditional research methods can track. FHF is a state-owned company under the MTIF.

Based on the above, the fishery passes Clause M1.3.

References

1. Institute of Marine Research. (n.d.). About us. https://www.hi.no/en/hi/about-us
2. Arven etter Nansen. (n.d.). Norwecom. https://arvenetternansen.com/norwecom/
3. Norwegian Directorate of Fisheries. (n.d.). Electronic reporting (ERS) and position reporting (VMS) in Norwegian fisheries. https://www.fiskeridir.no/english/fisheries/reporting-systems-and-innovation/electronic-reporting-ers-and-position-reporting-vms-in-norwegian-fisheries
4. International Council for the Exploration of the Sea. (2023). Memorandum of understanding between Norway and ICES. https://www.ices.dk/about-ICES/Documents/Cooperation%20agreements/Norway/MoU_Norway_ICES.pdf
5. International Council for the Exploration of the Sea. (2024). Working group on integrated assessments of the Norwegian Sea (WGINOR): Outputs from 2024 meeting. https://ices-library.figshare.com/articles/report/Working_Group_on_Integrated_Assessments_of_the_No

rwegian_Sea_WGINOR_outputs_from_2024_meeting_/29503769?file=57660148
6. We Are Aquaculture. (2025). From deck to data: Norwegian fishing fleet to help monitor the sea. https://weareaquaculture.com/news/fisheries/from-deck-to-data-norwegian-fishing-fleet-to-help-monitor-the-sea

M1.4	**M1.4 The fishery management system is based on the principles of sustainable fishing and a precautionary approach.** *In reaching a determination for M1.4, the assessor should consider if the following is in place:* M1.4.1 A policy or long-term management objective for sustainable harvesting based on the best scientific evidence and a precautionary approach is publicly available and implemented for the fishery.
Outcome	*Pass*

Rationale

The importance of sustainable fisheries utilisation and a precautionary approach within fisheries management is underscored in Section 7 of the Marine Resources Act[1]. As previously mentioned, this approach is instilled within the objectives of the management body, the DoF[2].

This approach permeates IMR and the wider sector, with its social mission being to "be a leading supplier of knowledge relating to the sustainable management of the resources in our marine ecosystems and the whole food chain from the sea to the table"[3].

The introduction of the Act also saw a legal mandate for the implementation of Ecosystem Based Fisheries Management (EBFM)[4]. Figure 1 displays the comprehensive approach taken for quota-regulated stocks, incorporating scientific advice with consecutive rounds of stakeholder engagement and research gathering to inform mid-year regulatory amendments where needed.

While C*. finmarchicus* is categorised as a data-poor stock, this approach is indicative of the rigour taken in quota allocation, characteristic of the fisheries management system. Landings data for data-poor stocks are publicly available and, for these stocks, it is at the discretion of the DoF whether improved management is required to ensure sustainability[4,5].

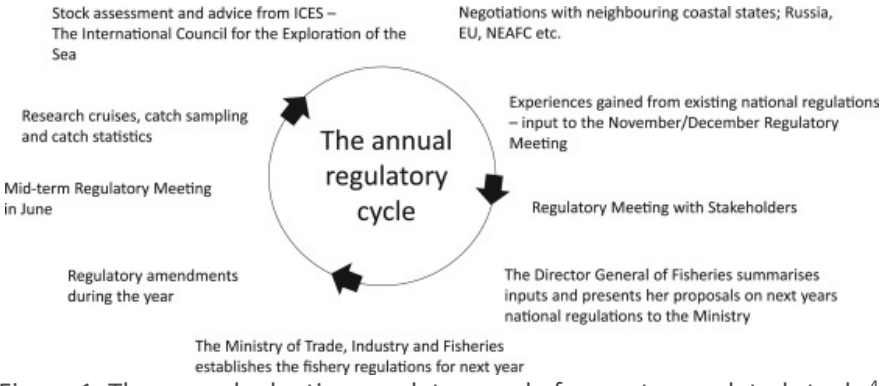

Figure 1. The annual adaptive regulatory cycle for quota-regulated stocks[4].

Based on the above, the fishery passes Clause M1.4.

References

1. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresourcesact.pdf
2. Norwegian Directorate of Fisheries. (n.d.). About the Directorate of Fisheries. https://www.fiskeridir.no/english/about-us/about-the-directorate-of-fisheries
3. Institute of Marine Research. (n.d.). About us. https://www.hi.no/en/hi/about-us
4. Gullestada, P., Abotnesa, A. M., Bakkea, G., Skern-Mauritzenb, M., Nedreaasb, K., Søvikb, G. (2017). Towards ecosystem-based fisheries management in Norway – Practical tools for keeping track of relevant issues and prioritising management efforts. Marine Policy. https://www.sciencedirect.com/science/article/pii/S0308597X16305383
5. Norwegian Directorate of Fisheries. (n.d.). Data-poor stocks (catch data). https://www.fiskeridir.no/statistikk-tall-og-analyse/data-og-statistikk-om-yrkesfiske/fangst/datafattige-bestander

M1.5	**M1.5**	**There is a clearly defined decision-making process which is transparent, with processes and results made publicly available.** *In reaching a determination for M1.5, the assessor should consider if the following is in place:*
	M1.5.1	There is participatory engagement through which fishery stakeholders and other stakeholders can access, provide information, consult with, and respond to, the management systems' decision-making process.
	M1.5.2	The decision-making process is transparent, with results made publicly available.
	M1.5.3	The fishery management system is subject to periodic internal or external review to validate the decision-making process, outcomes and scientific data.
Outcome	*Pass*	

Rationale

The fisheries management decision-making process relevant to this fishery is transparent, with resources and results being publicly available. Almost all fishery regulations, background documents, monitoring protocols, and scientific reports are publicly available through the DoF and IMR websites[1,2]. In cases where a document is not publicly available, IMR has been willing and prompt in sharing it as was case with the 2024 report assessing the contamination of fish larvae and juvenile fish in the fishery[3].

Norway's regulatory system prioritizes public accessibility through online databases such as Regjeringen.no, the Norwegian Marine Data Center, and the Electronic Reporting Systems portal, which support traceability and stakeholder oversight[4,5]. The public has access to regulation

histories, quota usage, and compliance data. Vessels must also submit annual summaries detailing their contributions to gear development, data collection, and scientific cooperation, adding transparency and traceability to fishery development. Based on the above, the fishery passes Clause M1.5.
References 1. Norwegian Directorate of Fisheries. (n.d.). Statistics. https://www.fiskeridir.no/english/fisheries/statistics 2. Institute of Marine Research. (n.d.). Reports (nettrapporter). https://www.hi.no/en/hi/nettrapporter 3. Strand, E., Broms., C., Melle, W. (2024). Inclusion of fish larvae and fry in red bait catches 2022 and 2023 [Unpublished report]. Institute of Marine Research. 4. Government of Norway. (n.d.). Government.no. https://www.regjeringen.no/no/id4/ 5. Norwegian Marine Data Centre. (n.d.). NMDC. https://www.nmdc.no/

M2 Surveillance, control and enforcement

M2.1	**M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.** *In reaching a determination for M2.1, the assessor should consider if the following is in place:*	
	M2.1.1	There is an organisation responsible for monitoring compliance with specific monitoring, control and surveillance (MCS) mechanisms in place.
	M2.1.2	There are relevant tools or mechanisms used to minimise IUU fishing activity.
	M2.1.3	There is evidence of monitoring and surveillance activity appropriate to the intensity, geography, management control measures and compliance behaviour of the fishery.
Outcome	*Pass*	

Rationale

As set out in Chapter 7 of the Marine Resources Act, it is the DoF that is responsible for ensuring compliance with the Act is maintained[1]. This is achieved by the FMC, which monitors the Vessel Monitoring System (VMS), ERS data from Norwegian and foreign vessels, and quota control messages from Russian fishing vessels[2]. Their role also extends to the port state, where they authorise landings of foreign vessels in Norwegian ports and represent the flag state for Norwegian vessels landing catches in foreign ports[2]. This involves verifying compliance with quotas, permits, and reporting requirements before final authorisation by the relevant port state authority.

The DoF maintains strong cross-agency partnerships with law enforcement, customs, tax authorities, and the Coast Guard. The resultant data sharing and centralised analysis enable joint risk assessments and strategic inspections, ensuring the entire value chain is monitored for potential rule violations[3]. In particular, the Norwegian Coast Guard also plays a critical role in fisheries management. The Coast Guard is responsible for monitoring, controlling, investigating, and enforcing fisheries legislation. Its activities ensure compliance with fisheries laws through monitoring, control, and surveillance (MCS).

For *C. finmarchicus* specifically, under the associated regulation, observers from the IMR and the DoF shall be allowed to participate free of charge on board vessels harvesting the species[4].

Based on the above, the fishery passes Clause M2.1.

References

1. Coast Guard Act 1999. https://lovdata.no/dokument/NL/lov/1997-06-13-42?q=kystvaktloven
2. Norwegian Directorate of Fisheries. (n.d.). How is the Norwegian fisheries management organised? https://www.fiskeridir.no/english/fisheries/how-is-the-norwegian-fisheries-management-organised
3. Norwegian Directorate of Fisheries. (n.d.). Control and enforcement. https://www.fiskeridir.no/english/fisheries/control-and-enforcement
4. Lovdata. (2024). Forskrift (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943

M2.2	**M2.2 There is a framework of sanctions which are applied when infringements against laws and regulations are discovered.** *In reaching a determination for M2.2, the assessor should consider if the following is in place:*
	M2.2.1 The laws and regulations provide for penalties or sanctions that are adequate in severity to act as an effective deterrent.
	M2.2.2 There is no evidence of systematic non-compliance.
Outcome	*Pass*

Rationale

Sanctions are applied through the Marine Resources Act, specifically Chapter 11 (Coercive fines and infringement fines) and Chapter 12 (Criminal liability)[1]. Coercive fines are imposed to ensure compliance with the provisions of the Act. A coercive fine is a continuous fine that becomes effective from a specified deadline for complying with an order, if that deadline is not met. An infringement fine may be imposed on any person who wilfully or through negligence contravenes provisions or decisions laid down in or under the Act. Factors such as the profit or potential profit gained through the contravention, the seriousness of the contravention, and the additional costs of control measures and case processing may be considered in determining the amount of the fine. Under Section 65, confiscation of gear, objects, property, facilities, or vessels used in the contravention is another enforcement tool[1].

Norwegian enforcement policy follows a tiered approach, including oral warnings, administrative fines, quota reductions, licence revocation, and penal charges. Catch values exceeding a vessel's legal quota can be seized and allocated to control purposes by the fish sales organisation under national regulations.

These measures are supported by the Coast Guard Act (1997) and the Act on First-Hand Purchase of Wild Marine Resources (No. 75 of 2013), both of which allow for confiscation and criminal liability in aggravated cases[2,3].

As of 2024, no serious infractions have been recorded in the *C. finmarchicus* fishery, due to stringent oversight, but also likely as a result of its small scale[4].

Based on the above, the fishery passes Clause M2.2.

References

1. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresourcesact.pdf
2. The Coast Guard Act 1999. https://lovdata.no/dokument/NL/lov/1997-06-13-42?q=kystvaktloven
3. Act on First-Hand Purchase of Wild Marine Resources (No. 75 of 2013) https://faolex.fao.org/docs/pdf/nor125709.pdf
4. Norwegian Directorate of Fisheries. (2022). Norwegian blacklist of fishing vessels. https://www.fiskeridir.no/english/Fisheries/iuu-and-the-norwegian-blacklist/_/attachment/inline/edeeeb27-4b6a-427b-844f-1dbd974754ff:b0912e0d4be2bc415c2c4571590fa2001d96a7f6/20220216-revidert-Norwegian-Black-List.pdf

M2.3	**M2.3 There is substantial evidence of widespread compliance in the fishery, and no substantial evidence of IUU fishing.** *In reaching a determination for M2.3, the assessor should consider if the following is in place:*
	M2.3.1 The level of compliance is documented and updated routinely, statistically reviewed and available.
	M2.3.2 Fishers provide additional information and cooperate with management/enforcement agencies/organisations to support the effective management of the fishery.
	M2.3.3 The catch recording and reporting system is sufficient for effective traceability of catches per vessel and supports the prevention of IUU fishing.
Outcome	*Pass*

Rationale

Norway maintains a strict compliance framework, and IUU fishing is specifically addressed within Chapter 8 of the Marine Resources Act, which describes measures targeting persons engaged in or accessory to IUU fishing, as well as prohibitions against activities that may undermine management measures[1].

There is evidence of these prohibitions being applied, as was the case in 2024 when a Russian vessel was seized after being found in a protected area[2]. A decision to adopt EU-imposed sanctions can also be seen as recently as 2025, which saw fishing vessels of a company banned from Norwegian ports and denied fishing licences within the Norwegian Exclusive Economic Zone (EEZ)[3]. Both cases indicate Norway's commitment to preventing IUU fishing and its willingness to act in this endeavour.

Norway maintains two blacklists for its EEZ, with vessels listed on either being prohibited from fishing within Norwegian waters[4]. If a vessel is added to the blacklist, it cannot be removed and, since its inception in 1998, no *C. finmarchicus* operations have appeared on it[5]. The most recent vessel was added in 2022[5].

Since 2022, Norway has been collaborating with Global Fishing Watch (GFW) to publish its VMS data, making it the first European country to do so[6]. GFW seeks to advance ocean governance through increased transparency of human activity at sea. By creating and publicly sharing map visualisations, data, and analysis tools, it enables scientific research and drives a transformation in how oceans are managed[7].

Based on the above, the fishery passes Clause M2.3.

References

1. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresourcesact.pdf
2. The Fishing Daily. (2024). Norwegian authorities seize Russian trawler caught fishing illegally. https://thefishingdaily.com/latest-news/norwegian-authorities-seize-russian-trawler-caught-fishing-illegally/
3. The Fishing Daily. (2025). Norway's sanctions threaten longstanding fisheries agreement: Murman. https://thefishingdaily.com/european-fishing-industry-news/norways-sanctions-threaten-longstanding-fisheries-agreement-murman/
4. Norwegian Directorate of Fisheries. (n.d.). IUU fishing and the Norwegian blacklist. https://www.fiskeridir.no/english/fisheries/iuu-and-the-norwegian-blacklist
5. Norwegian Directorate of Fisheries. (2022). Norwegian blacklist of fishing vessels. https://www.fiskeridir.no/english/Fisheries/iuu-and-the-norwegian-blacklist/_/attachment/inline/edeeeb27-4b6a-427b-844f-1dbd974754ff:b0912e0d4be2bc415c2c4571590fa2001d96a7f6/20220216-revidert-Norwegian-Black-List.pdf
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7. Global Fishing Watch. (n.d.). A vision for our global ocean. https://globalfishingwatch.org/a-vision-for-our-global-ocean/

Species requirements

This section, or module, comprises of four species categories. Each species in the catch is subject to an assessment against the relevant species category in this section (see clauses 1.2 and 1.3 and Table 6).

Type 1 species can be considered the 'target' or 'main' species in the fishery under assessment. They make up the bulk of the catch and a subjected to a detailed assessment. Type 1 species must represent 95% of the total annual catch. If a species-specific management regime is in place for a Type 1 species, it shall be assessed under Category A. If there is no species-specific management regime in place for a Type 1 species, it shall be assessed under Category B.

Type 2 Species can be considered the 'non-target' species in the fishery under assessment. They comprise a small proportion of the annual catch and are subjected to a relatively high-level assessment. Type 2 species may represent a maximum of 5% of the annual catch. If a species-specific management regime is in place for a Type 2 species, it shall be assessed under Category C. If there is no species-specific management regime in place for a Type 2 species, it shall be assessed under Category D.

Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Category A species

2.1. All clauses must be met for a species to pass the Category A assessment.

2.1.1. If a species fails any of the Category A clauses, it should be re-assessed as a Category B species.

A1 Data collection

A1.1	**A1.1 Landings data are collected such that the fishery-wide removals of this species are known.**
Outcome	Choose an item.
Rationale	
References	

A1.2	**A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.**
Outcome	Choose an item.

Rationale	
References	

A2 Stock assessment

A2.1	**A2.1 A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.**
Outcome	Choose an item.
Rationale	
References	

A2.2	**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**
Outcome	Choose an item.
Rationale	
References	

A2.3	**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**
Outcome	Choose an item.
Rationale	
References	

A2.4	**A2.4 The assessment is subject to internal or external peer review.**
Outcome	Choose an item.
Rationale	

References

A2.5	**A2.5 The assessment is made publicly available.**
Outcome	Choose an item.
Rationale	
References	

A3 Harvest strategy

A3.1	**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**
Outcome	Choose an item.
Rationale	
References	

A3.2	**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**
Outcome	Choose an item.
Rationale	
References	

A3.3	**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**
Outcome	Choose an item.
Rationale	
References	

A4 Stock status

A4.1	**A4.1 The stock is at or above the target reference point; OR IF NOT: the stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure; OR IF NOT: the stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.**
Outcome	Choose an item.
Rationale	
References	

Category B species

Category B species are assessed using a risk-based approach.

2.2. The risk matrix in Table B(a) shall be used when assessing a Category B species when estimates of Fishing mortality (F), Biomass (B) and reference points are available.

2.3. The risk matrix in Table B(b) shall be used when assessing a Category B species when no reference points are available.

B1	**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**
Table used B(a) or B(b)	Table B(b) – Biomass resilience ratings, assessing Category B species when no reference points available.
Outcome	*Pass*

Rationale

The *C. finmarchicus* fishery is defined as a data-poor stock by the DoF, reflecting its low utilisation and emerging nature. As a result, while it is managed by the DoF under the 2016 management plan, it is not subjected to formal stock assessment, and no reference points are available[1].

A quota for the fishery is set at 254,000 tonnes within the Norwegian EEZ 1000m depth contour north of 62° N and west of 24° E, the fishing zone at Jan Mayen, and international waters in the Norwegian Sea (NEAFC RA 2 (XNS))[2]. Of this quantity, 3,000 tonnes are allocated to experimental and research purposes. Since landings commenced in 2004, the catch has never exceeded the quantity caught in 2018 of 1,362 tonnes, with the most recent 2025 landings of 347 tonnes (Table 1)[3]. Therefore, fishing mortality is thought to remain negligible and far below the precautionary quota set for the fishery (F < Fav).

Table 1. *C. finmarchicus* catch against 2025 quota (254,000 tonnes) utilisation from 2016 to 2025[3].

Year	Catch (tonnes)	% of quota used
2016	650	0.26%
2017	760	0.30%
2018	1,362	0.54%
2019	352	0.14%
2020	0	0.00%
2021	1,156	0.46%
2022	1,336	0.53%
2023	60	0.02%
2024	194	0.08%
2025	347	0.14%

The biomass of *C. finmarchicus* in the Norwegian EEZ was most recently estimated at 33 million tonnes in 2016[1]. Representing the dominant mesozooplankter in the North Atlantic Ocean and adjacent subarctic shelf seas[4,5]. Biomass is expected to fluctuate significantly year on year in response to environmental conditions and predation.

Overall, in 2024, zooplankton biomasses were generally at similar levels across all sub-areas and seasons (Figure 2), with higher values in the western Norwegian Basin in summer and somewhat lower values in the Iceland Sea in spring[6]. This broadly corresponds to the findings of a reconstructed time-series biomass for copepods in the Norwegian Sea using 1995–2019 data, which indicates that biomass has shown an increasing trend since 2016[7].

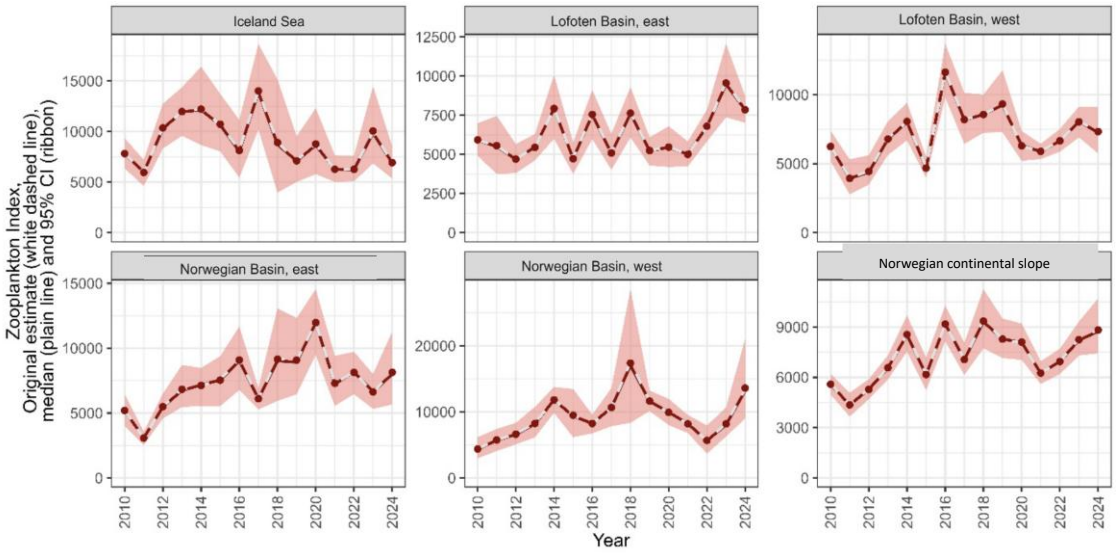

Figure 2. Zooplankton biomass in July and August through time[6].

Considering this, the biomass is assumed to equal the long-term average (B = Bav), representing a precautionary assessment of *C. finmarchicus* biomass and the inherent variability of the stock.

The resilience of the fishery is thought to be high, accounting for the following considerations. The population size is large, with a standing biomass of 33 million tonnes, supported by high

productivity, with annual production estimated between 190 and 290 million tonnes[1,8]. Globally, zooplankton comprise the majority of biomass, with *C. finmarchicus* dominant in the Northern Atlantic[4]. It can be found across the Norwegian Sea and North Atlantic sub-Arctic waters. The species exhibits a short generation time, completing its life cycle in approximately one year, with rapid reproduction and overwintering in the copepodite stage[7]. Fecundity is highly variable depending on environmental conditions, but egg production per female per day can reach approximately 37[9]. Peak fecundity occurs during the spring phytoplankton bloom; however, significant pre-bloom egg production occurs in the Atlantic part of the Norwegian Sea and adjacent Atlantic areas[10].

Based on the above, the fishery passes Clause B1 against Table B(b).

References

1. Norwegian Directorate of Fisheries. (2016). Management plan for raudåte. https://www.fiskeridir.no/rapporter/Forvaltningsplan-for-raudaate/_/attachment/inline/3483601e-20b4-45d2-95d0-6ce21a4912e6:2398013608e683e4413d328de31a406d480741a4/forvaltning-raud%C3%A5te-TT-%20LL-%2009%2005%20%2016.pdf
2. Lovdata. (2024). Forskrift (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943
3. Norwegian Directorate of Fisheries. (n.d.). Data-poor stocks. https://www.fiskeridir.no/statistikk-tall-og-analyse/data-og-statistikk-om yrkesfiske/fangst/datafattige-bestander
4. Norwegian Directorate of Fisheries. (2016). Management plan for raudaate. https://www.fiskeridir.no/rapporter/Forvaltningsplan-for-raudaate/_/attachment/inline/3483601e-20b4-45d2-95d0-6ce21a4912e6:2398013608e683e4413d328de31a406d480741a4/forvaltning-raud%C3%A5te-TT-%20LL-%2009%2005%20%2016.pdf
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6. International Council for the Exploration of the Sea. (2024). Working Group on Integrated Assessments of the Norwegian Sea (WGINOR): Outputs from 2024 meeting. https://ices-library.figshare.com/articles/report/Working_Group_on_Integrated_Assessments_of_the_Norwegian_Sea_WGINOR_outputs_from_2024_meeting_/29503769
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8. Fjeld, K., Tiller, R., Grimaldo, E., Grimsmo, L., & Standal, I.-B. (2023). Mesopelagics–New gold rush or castle in the sky? Marine Policy, 147, 105359. https://doi.org/10.1016/j.marpol.2022.105359
9. Jónasdóttir, S. H., Trung, N. H., Hansen, F., & Gärtner, S. (2005). Egg production and hatching success in the calanoid copepods Calanus helgolandicus and Calanus finmarchicus in the North Sea from March to September 2001. Journal of Plankton Research, 27(12), 1239–1259. https://doi.org/10.1093/plankt/fbi091
10. Gaard, E., Nattestad, K., Gaard, E., & Nattestad, K. (n.d.). Feeding, reproduction and seasonal development of Calanus finmarchicus in relation to water masses and phytoplankton in the

southern Norwegian Sea. Retrieved April 10, 2026, from https://www.ices.dk/sites/pub/CM%20Doccuments/2002/N/N0802.pdf

Category C species

2.4. All clauses must be met for a species to pass the Category C assessment.

2.4.1. Where a species fails this Category C clause, it should be assessed as a Category D species instead, except if there is evidence that the species is currently below the limit reference point.

C1.1	**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.**
Outcome	*Pass*

Rationale

The most recent stock assessment for herring in the Northeast Atlantic and Arctic Ocean, in subareas 1, 2, and 5, and in divisions 4.a and 14.a, was conducted in 2025[1]. This assessment was completed by the ICES Working Group on Widely Distributed Stocks (WGWIDE) and followed a benchmarking of the stock in 2025, with reference points updated[2].

Discards and bycatch values are not included in the stock assessment, as ICES considers them negligible. This includes bycatch resulting from the C. *finmarchicus* fishery, which occurs in the form of planktonic larvae. Estimates of herring bycatch in the fishery in 2022 were 1.6% by weight (approximately 21 tonnes), comprising 95.2% of all bycatch[3]. In 2023, herring comprised 72% of bycatch[3]. These figures indicate that the level of removals from the fishery is negligible.

Based on the above, the fishery passes Clause C1.1.

References

1. ICES (2025). Herring (Clupea harengus) in subareas 1, 2, 5 and divisions 4.a and 14.a, Norwegian spring-spawning herring (the Northeast Atlantic and Arctic Ocean). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.27202611.v1
2. ICES (2025). Benchmark workshop on Mackerel and Norwegian Spring-Spawning Herring (WKMACNSSH). ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.29279615.v1
3. Strand, E., Broms., C., Melle, W. (2024). Inclusion of fish larvae and fry in red bait catches 2022 and 2023 [Unpublished report]. Institute of Marine Research.

C1.2	**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.**

Outcome	*Pass*

Rationale

The 2025 ICES stock assessment indicates that the spawning-stock biomass (SSB) is below MSY $B_{trigger}$ but above B_{PA} and B_{lim} at 3,012,000 tonnes (Figure 3)[1]. Fishing mortality (F) for ages 5 to 12+ is below the fishing mortality corresponding to Maximum Sustainable Yield (F_{MSY}) at 0.138, but above the harvest control rule (HCR) fishing mortality rate (F_{mgt}) (Figure 3)[1,2].

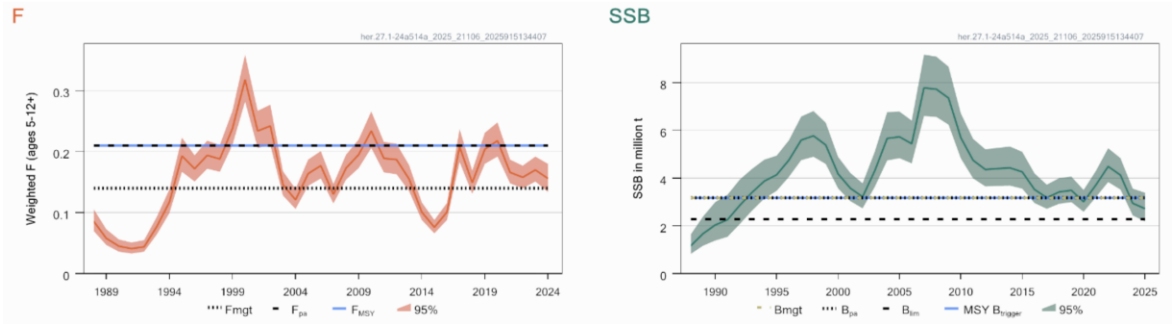

Figure 3. Herring in subareas 1, 2, and 5, and in divisions 4.a and 14.a (Norwegian spring-spawning herring) fishing mortality and spawning-stock biomass through time[1].

In line with long-term management strategy agreed by UK, the Faroe Islands, Iceland, Norway, the Russian Federation, and the European Union, ICES advises that catches in 2026 should not exceed more than 533,914 tonnes.

As a result, based on the most recent ICES stock assessment, the herring biomass is above the limit reference point and the removals resulting from the *C. finmarchicus* are thought to be negligible.

Based on the above, the fishery passes Clause C1.2.

References

1. ICES (2025). Herring (Clupea harengus) in subareas 1, 2, 5 and divisions 4.a and 14.a, Norwegian spring-spawning herring (the Northeast Atlantic and Arctic Ocean). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.27202611.v1
2. ICES (2018). Report of the Workshop on a long-term management strategy for Norwegian Spring-spawning herring (WKNSSHMSE). ICES Expert Group reports (until 2018). Report. https://doi.org/10.17895/ices.pub.5583

Category D species

Category D species are assessed against a risk-based approach.

2.5. The Productivity-Susceptibility Analysis (PSA) in Table D(a) shall be used when assessing Category D species.

2.6. Table D(b) shall be used to calculate the overall PSA risk rating for the Category D species.

2.7. Should the PSA indicate a high risk, further assessment shall be completed against the

requirements in Table D(C).

Productivity Susceptibility Analysis (PSA) and scores

Table D(a) provides detailed values and scores for the species productivity and susceptibility attributes and attributes, the assessor shall use Table D(a) to the PSA table.
Table D(b) is used to calculate the overall PSA risk rating for the Category D species.

Species name		
Productivity attributes	**Value**	**Score**
Average age at maturity		
Average maximum age		
Fecundity		
Average maximum size		
Average size at maturity		
Reproductive strategy		
Mean Trophic Level (MTL)		
Density dependence (to be used when scoring invertebrate species only)		
Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock		
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		
Selectivity of gear type: Potential of the gear to retain species		
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		
Average productivity score		
Average susceptibility score		

PSA risk rating (from Table D(b))	
Compliance rating	

Further assessment for Category D species

Should the PSA indicate a high risk, further assessment shall be completed against the requirements D1 and D2 – Table D(c).

D1	**D1. The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.**
Outcome	Choose an item.
Rationale	
References	

D2	**D2. There is no substantial evidence that the fishery has a significant negative impact on the species.**
Outcome	Choose an item.
Rationale	
References	

Ecosystem requirements

This section, or module, assesses the impacts that the fishery under assessment may have on key ecosystem components: ETP species, habitat and the wider ecosystem.

3.1. All ecosystem criteria must be met (pass) for a fishery to pass the Ecosystem Requirements.

3.1.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the ecosystem criteria, it is not expected that sub-criteria are assessed independently of the main criterion.

E1 Impact on Endangered, Threatened or Protected species (ETP species)

E1.1	**E1.1 Information on interactions between the fishery and ETP species is collected.** *In reaching a determination for E1.1, the assessor should consider if the following is in place:*	
	E1.1.1 ETP species which may be directly affected by the fishery have been identified.	
	E1.1.2 Interactions between the fishery and ETP species are recorded and reported to management organisations.	
	E1.1.3 Collection and analysis of ETP information is adequate to provide a reliable indication of the impact the fishery has on ETP species.	
Outcome	*Pass*	

Rationale

The *C. finmarchicus* fishery, like all commercial fisheries in Norway, is subject to a rigorous monitoring framework. Information on interactions is recorded through a number of streams, primarily through the ERS and logbook system, which is mandated by the Marine Resources Act and collects instances of direct interactions.

Supplementing this information is scientific monitoring of catch composition completed by IMR. Norway, as an ICES Member State, collaborates on marine research, scientific advice, and fisheries management[1]. As such, it participates in the Working Group on Bycatch of Protected Species (WGBYC), which requires the recording and contribution of ETP species interaction data[2].

The North Atlantic Marine Mammal Commission (NAMMCO) established the Bycatch Working Group (BYCWG) in 2014[3]. The BYCWG identifies all fisheries with potential bycatch of marine mammals, reviews and evaluates current bycatch estimates, and, if necessary, provides advice on improved data collection and estimation methods to obtain the best estimates of total bycatch over time[3]. The BYCWG will next meet in April 2026. As reliable data on bycatch are lacking for other fisheries, the working group is currently progressing with assessing bycatch exposure by mapping the overlap of fishing effort (both national and foreign) and marine mammal distribution in the NAMMCO area[3].

Additionally, the DoF mandates the presence of scientific observers on selected trips, particularly those conducted under experimental permits. These observers verify compliance with environmental protocols and record any observations of ETP species.

The fishery regulation (FOR-2024-12-05-2943) requires a move-on rule if the catch includes more than 10% contamination with fish larvae and juveniles, regardless of species[4]. This is particularly relevant to common redfish (*Sebastes norvegicus*), a highly endangered species as listed on the Norwegian Red List[5].

Based on the above, the fishery passes Clause E1.1.

References

1. International Council for the Exploration of the Sea. (n.d.). Memorandum of understanding between Norway and ICES. https://www.ices.dk/about-ICES/Documents/Cooperation%20agreements/Norway/MoU_Norway_ICES.pdf
2. International Council for the Exploration of the Sea. (2024). Working group on bycatch of protected species (WGBYC). ICES Scientific Reports. https://ices-library.figshare.com/articles/report/Working_Group_on_Bycatch_of_Protected_Species_WGBYC_/27762723
3. North Atlantic Marine Mammal Commission. (n.d.). By-catch working group. https://nammco.no/by-catch-working-group/
4. Lovdata. (2024). Forskrift (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943
5. Artsdatabanken. (2021). Rødliste for arter. https://lister.artsdatabanken.no/rodlisteforarter/2021/21421

E1.2	**E1.2 The fishery has no significant negative impact on ETP species.** *In reaching a determination for E1.2, the assessor should consider if the following is in place:*
	E1.2.1 The information collected in relation to E1.1.3 indicates that the fishery does not have a significant negative impact on ETP species.
Outcome	*Pass*

Rationale

Several characteristics of the fishery mean that the likelihood of a significant negative impact on ETP species is very unlikely. The gear itself employs fine-mesh (500 ug) trawls at slow speeds (1 knot) to specifically target zooplankton in the water column limiting the likelihood of ETP capture[1]. Spatially, the vast majority of the quota is restricted to be used outside of 1000 depth contour (approximately 96%)[2]. In doing so, limits activity within the productive coastal waters with the ETP species listed in the Norwegian Red List such as cetaceans and seabirds are not commonly present in offshore harvesting zones, further reducing the likelihood of spatial or behavioural overlap. In addition, the fishery sees marginal utilisation of the allocated quota meaning that interactions with ETP species are inherently uncommon at the current level.

As previously mentioned, as of 2021, common redfish (*Sebastes norvegicus*) is considered as a highly endangered species on the Norwegian red list[3]. It is however, categorised as Least Concern on the IUCN Red List[4]. Common redfish larvae were detected in *C. finmarchicus* trawls in 2022 at a relatively consistent level of approximately 4,000 per tonne while, capture was most entirely absent in 2023[5]. Genetic analysis was able to distinguish between other redfish species (*Sebastes mentella* and *Sebastes viviparus*) and found larval contamination composition to be highly spatial specific. The IMR noted that special emphasis should be placed on the interference of redfish larvae in the monitoring and regulation of the *C. finmarchicus*. Regulation regulating the fishery have seen a clause requiring move on due to excess larval and juvenile fish contamination since 2021[6]. In 2022 0.02% of catch by weight was redfish larvae and 0% in 2023[5].

Capture of common redfish larvae within the fishery is not indicative of true ETP interactions due

to the very high mortality inherent to larval stages. In combination with the low values in recent years of between 4,000 and essentially 0 per tonne of catch, and a management strategy geared to mitigating larval contamination, it appears the there is not a significant impact on the species.

The company, Calanus AS, holds a Friend of the Sea certification, which includes requirements to avoid bycatch of threatened species and mandates the use of low-impact fishing technology[7,8].

Based on the above, the fishery passes Clause E1.2.

References

1. International Council for the Exploration of the Sea (ICES) & Food and Agriculture Organization of the United Nations (FAO). (2023). Proceedings of the DEMaT 2022 meeting (WGFTFB). https://wgftfb.org/wp-content/uploads/2023/03/DEMaT2022_Proceedings.pdf
2. Lovdata. (2024). Forskrift (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943
3. Artsdatabanken. (2021). Rødliste for arter. https://lister.artsdatabanken.no/rodlisteforarter/2021/21421Christiansen, H. 2024.
4. Sebastes norvegicus. The IUCN Red List of Threatened Species 2024: e.T18237880A236069255. https://dx.doi.org/10.2305/IUCN.UK.2024-2.RLTS.T18237880A236069255.en.
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8. Friend of the Sea. (n.d.). Friend of the Sea certification programme. https://friendofthesea.org/friend-of-the-sea/

E1.3	**E1.3 There is an ETP management strategy in place for the fishery.** *In reaching a determination for E1.3, the assessor should consider if the following is in place:*	
	E1.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on ETP species.
	E1.3.2	The measures are considered likely to achieve the objectives of regional, national and international legislation relating to ETP species.
Outcome	*Pass*	

Rationale

While the fishery has limited recorded interactions with ETP species and no discernible impact, a management strategy is in place, in line with all Norwegian commercial fisheries.

This protection is provided through the Marine Resources Act and the Nature Diversity Act (2009)[1,2]. These Acts collectively prohibit disturbance or harm to marine mammals, birds, and other listed

species and provide the DoF with the authority to impose emergency closures or require operational changes if needed. Specific to the fishery, there is flexibility to update the Regulation mid-season to incorporate new mitigation measures. It is apparent that the management strategy is sufficiently robust to detect ETP species interactions when they occur and has the mechanisms necessary to act appropriately. Based on the above, the fishery passes Clause E1.3.
References 1. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresources act.pdf 2. Nature Diversity Act 2009. https://www.regjeringen.no/en/documents/nature-diversity-act/id570549/

E2 Impact on the habitat

E2.1	**E2.1**	**Information on interactions between the fishery and marine habitats is collected.** *In reaching a determination for E2.1, the assessor should consider if the following is in place:*
	E2.1.1	Habitats which may be directly affected by the fishery have been identified, including any habitats which may be particularly vulnerable.
	E2.1.2	Information on the scale, location and intensity of fishing activity relative to habitats is collected.
	E2.1.3	Collection and analysis of habitat information is adequate to provide a reliable indication of the impact the fishery has on marine habitats.
Outcome	*Pass*	

Rationale

Interactions between the fishery and marine habitats are very unlikely to occur, due to the characteristics of the fishing method employed. The fishery uses a midwater trawl that operates within the water column and is not designed to have a physical impact on the seabed[1].

However, Norwegian fisheries management more broadly considers potential habitat interactions. This is achieved through the Marine Resources Act and the Nature Diversity Act[2,3]. The former requires that an ecosystem-based approach is taken, accounting for habitats and biodiversity. The latter addresses habitat protection more specifically, requiring managers to maintain habitat integrity, ecosystem functioning, and precaution in human activities affecting biodiversity. These

Acts provide guidance for recognising where impacts on habitats may occur.

Most recently, a 2023 regulatory meeting considered the implications of increasing the inshore quota (from the coastline to the 1000m depth contour) from 3,000 tonnes to 10,000 tonnes[4]. The IMR assessment of these effects found them to be negligible and sustainable up to 15,000 tonnes.

It is apparent that the fishery is not intended to interact with the marine habitat, and there is no evidence to suggest otherwise. If such interactions were to occur, a rigorous monitoring and regulatory regime is in place to detect and address any impacts.

Based on the above, the fishery passes Clause E2.1.

References

1. Marine Stewardship Council. (n.d.). Pelagic trawls. https://www.msc.org/what-we-are-doing/our-approach/fishing-methods-and-gear-types/pelagic-trawls
2. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresourcesact.pdf
3. Nature Diversity Act 2009. https://www.regjeringen.no/en/documents/nature-diversity-act/id570549/
4. Norwegian Directorate of Fisheries. (2023). Raudåte management plan. https://www.fiskeridir.no/yrkesfiske/reguleringsmotet/november-2023/saksdokumenter/sak-25-2023-rodate.pdf

E2.2	**E2.2 The fishery has no significant impact on marine habitats.** *In reaching a determination for E2.2, the assessor should consider if the following is in place:*
	E2.2.1 The information collected in relation to E2.1.3 indicates that the fishery does not have a significant negative impact on marine habitats.
Outcome	*Pass*

Rationale

As previously mentioned, the fishery employs fine-mesh midwater trawls that operate entirely within the water column, with no intention of contacting the seabed.

The majority of the quota is allocated for use in deep water beyond the 1000m contour. Any fishing that could occur inside this limit, for the reasons stated above, is very unlikely to impact the marine habitat. There is no evidence to suggest otherwise.

Based on the above, the fishery passes Clause E2.2.

References

E2.3	**E2.3 There is a habitat management strategy in place for the fishery.** *In reaching a determination for E2.3, the assessor should consider if the following is in place:*
	E2.3.1 There are measures applied to the fishery which are designed to manage the impact of the fishery on marine habitats.
	E2.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine habitats.
Outcome	*Pass*

Rationale

While there is no evidence to suggest that a habitat management strategy is required for the fishery, precautionary controls are in place to reduce any indirect ecological pressure in coastal and midwater zones. These include the zonal quota structure and an IMR-designed sampling protocol that ensures systematic monitoring of catch composition, including any bycatch with potential habitat implications (1).

As a result, any unforeseen impacts could be detected promptly and addressed.

Based on the above, the fishery passes Clause E2.3.

References

1. Lovdata. (2024). Forskrift om [regulation details] (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943

E3 Impact on the ecosystem

E3.1	**E3.1 Information on the potential impacts of the fishery on marine ecosystems is collected.** *In reaching a determination for E3.1, the assessor should consider if the following is in place:*
	E3.1.1 The main elements of the marine ecosystems in the area(s) where the fishery takes place have been identified.
	E3.1.2 The role of the species caught in the fishery within the marine ecosystem is understood, either through research on this specific fishery or inferred from other fisheries.
	E3.1.3 Collection and analysis of ecosystem information is adequate to provide a reliable indication of the impact the fishery has on marine ecosystems.

Outcome	*Pass*

Rationale

Globally, copepods serve as a key link between primary production and upper trophic levels, with *C. finmarchicus* being the dominant mesozooplankter in the North Atlantic Ocean and adjacent subarctic shelf seas[1,2]. As such, it plays a significant role in the ecosystem, serving as a key prey species for many planktivorous fish and fish larvae, including Norwegian spring-spawning herring (*Clupea harengus*), blue whiting (*Micromesistius poutassou*), and Atlantic mackerel (*Scomber scombrus*, Scombridae)[3]. In addition to these migrating predators, large standing stocks of invertebrates and mesopelagic fish feed on different stages of *C. finmarchicus*[3,4,5]. Interannual zooplankton biomass variability is large, with climate and predation thought to be important drivers of this variability[2,6].

The species also plays a major role in biogeochemical cycling through the "lipid pump." During diapause, *C. finmarchicus* descends to deep waters (>1000m) carrying lipid stores, thus contributing to long-term carbon sequestration[7]. This ecological function is considered in management discussions as part of Norway's ecosystem-based approach. Recent assessments by WGINOR and ICES have reinforced the role of Calanus as a critical component of North Atlantic trophodynamics, with cascading effects across pelagic food webs[8]. The population in the North Sea is thought to depend on inflows that account for 41% of the regional biomass, with the Norwegian Trench and East Shetland Atlantic serving as important pathways, highlighting the significance of the stock outside the fishery range[9].

A sustained *C. finmarchicus* stock is essential for ecosystem function. In recognition of this, fisheries management is particularly conservative. The quota currently sits at 254,000 tonnes, representing less than 1% exploitation of an estimated 33 million tonne standing biomass. Of this quantity, 10,000 tonnes are allowed within the 1000m depth contour to the coastline, protecting especially productive coastal waters. This approach is reinforced by regular scientific advice and modelling of food web interactions using the NORWECOM.E2E model.

It is apparent that the ecological and associated economic importance of a sustained stock is fully realised in the management approach to the fishery. Continued shifts in oceanographic conditions and the potential for full quota utilisation will require consistent monitoring of the impact on the marine ecosystem.

Based on the above, the fishery passes Clause E3.1.

References

1. Gao, S., Hjøllo, S. S., Falkenhaug, T., Strand, E., Edwards, M., & Skogen, M. D. (2021). Overwintering distribution, inflow patterns and sustainability of Calanus finmarchicus in the North Sea. Progress in Oceanography, 194, 102567. https://doi.org/10.1016/j.pocean.2021.102567
2. Kristina Øie Kvile, Prokopchuk, I. P., & Leif Christian Stige. (2021). Environmental effects on Calanus finmarchicus abundance and depth distribution in the Barents Sea. ICES Journal of Marine Science, 79(3), 815–828. https://doi.org/10.1093/icesjms/fsab133
3. Institute of Marine Research. (2021). Calanus finmarchicus narrative.

https://www.hi.no/resources/klimastatus-pa-bestander/20211214_Calanus-finmarchicus_narrative.pdf
4. Hansen, C., Skogen, M., Utne, K. R., Broms, C., Strand, E., H, S. S. (2021). Patterns, efficiency and ecosystem effects when fishing Calanus finmarchicus in the Norwegian Sea—using an individual-based model. Marine Ecology Progress Series. https://nva.sikt.no/registration/0198cc4363bc-3397d343-e83a-4873-9f6e-d294d0b6510e
5. Dalpadado, P., Ellertsen, B., Melle, W., & Skjoldal, H. R. (1998). Summer distribution patterns and biomass estimates of macrozooplankton and micronekton in the Nordic Seas. Sarsia, 83(2), 103–116. https://www.researchgate.net/publication/235408344_Summer_distribution_patterns_and_biomass_estimates_of_macrozooplankton_and_micronekton_in_the_Nordic_Seas
6. Jónasdóttir, S. H., Visser, A. W., Richardson, K., & Heath, M. R. (2015). Seasonal copepod lipid pump promotes carbon sequestration in the deep North Atlantic. Proceedings of the National Academy of Sciences, 112(39), 12122–12126. https://doi.org/10.1073/pnas.1512110112
7. ICES (2024). Working Group on the Integrated Assessments of the Norwegian Sea (WGINOR; outputs from 2023 meeting). ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.25526548.v1
8. Hjøllo, S. S., Skogen, M. D., Hanse, C., Bagøien, E., Helge, J. (2015). A direct estimate of the Calanus finmarchicus biomass in the Norwegian Sea. ICES. https://ices-library.figshare.com/ndownloader/files/45836469

E3.2	**E3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.** *In reaching a determination for E3.2, the assessor should consider if the following is in place:*
	E3.2.1 The information collected in relation to E3.1.3 indicates that the fishery does not have a significant negative impact on marine ecosystems.
Outcome	*Pass*

Rationale

Concerns do exist regarding the implications of harvesting primary producers and the potential impact on other larval and juvenile fish bycatch due to the fine mesh. This is primarily in the context of the economically important Norwegian spring-spawning herring (*Clupea harengus*) and Atlantic cod (*Gadus morhua*) fisheries[1,2]. However, estimates suggest that, per tonne of *C. finmarchicus* harvested, just over one cod fails to reach the age of three. This is owing to the very high natural mortality of fish larvae and minimal harvesting, suggesting a limited ecological impact[3].

While the species is undeniably a key component of the ecosystem, as previously discussed, utilisation of the *C. finmarchicus* stock is very low, with the quota set at less than 1% of standing biomass. Research simulating full utilisation of the available 254,000-tonne quota found negligible effects on predator foraging and zooplankton standing biomass[4]. The impact of the fishery due to coastal harvest was also evaluated in 2023 by IMR, which found that the fishery would not significantly negatively impact larval fish nurseries or predator foraging areas. This assessment supported an increase in the zonal allocation from 3,000 to 10,000 tonnes[3].

Taken together with a stringent management regime, there is no substantial evidence to suggest that the fishery has a significant negative impact on the marine ecosystem. This is validated annually by IMR ecosystem surveys, which assess plankton biomass and predator condition indices. ICES WGINOR and Norwegian national reports also provide regular ecosystem status assessments.

Based on the above, the fishery passes Clause E3.2.

References

1. Crosman, K. M., Hayes, A. L., Davies, E. J., & Majaneva, S. (2025). Conflict, cod and Calanus: can technology increase trust in management of a contested fishery? Frontiers in Marine Science, 12. https://doi.org/10.3389/fmars.2025.1572772
2. SINTEF. (2025). What inhibits fishing for Calanus? https://www.sintef.no/en/latest-news/2025/what-inhibits-fishing-for-calanus/
3. Fiskeridirektoratet. (2023). Sak 25/2023: Rådata [PDF]. https://www.fiskeridir.no/yrkesfiske/reguleringsmotet/november-2023/saksdokumenter/sak-25-2023-rodate.pdf
4. Hansen, C., Skogen, M., Utne, K. R., Broms, C., Strand, E., H, S. S. (2021). Patterns, efficiency and ecosystem effects when fishing Calanus finmarchicus in the Norwegian Sea—using an individual-based model. Marine Ecology Progress Series. https://nva.sikt.no/registration/0198cc4363bc-3397d343-e83a-4873-9f6e-d294d0b6510e

E3.3	**E3.3 There is an ecosystem management strategy in place for the fishery.** *In reaching a determination for E3.3, the assessor should consider if the following is in place:*	
	E3.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on marine ecosystems.
	E3.3.2	The measures are considered likely to prevent the fishery from having a significant negative impact on marine ecosystems.
Outcome	*Pass*	

Rationale

Regardless of the currently very low utilisation of the available *C. finmarchicus* quota, even at full utilisation, no ecosystem impacts are expected[1]. This precautionary approach to the quota recognises the key role the species plays in the marine ecosystem and underpins the cautious management of the fishery.

Regulatory measures are designed to avoid underfishing of zooplankton in important grazing areas for marine mammals and central fish stocks, i.e., species at higher trophic levels[2]. The major legal instrument under which the fishery operates is the Marine Resources Act, which provides a legislative framework with an explicit precautionary approach based on sustainability principles[3]. This approach is applied to all fisheries in Norway and has proven effective.

Calanus AS is currently leading the development of a new industrial value chain based on *C. finmarchicus*. They have developed and patented an environmentally friendly harvesting technology using a specialised planktonic trawl. The trawl is wide and shallow, equipped with a mesh size suited for sieving water while retaining the target species. This technology minimises bycatch, and all raw material is used in production, with only water being filtered out[4].

Norwegian fisheries management incorporates an EBFM strategy at its core. This approach is reflected in the fishery through a precautionary quota, a research regime geared to detecting potential impacts, and a regulatory framework capable of acting effectively when required. The DoF retains the ability to amend these regulations and lay down further provisions necessary to ensure rational and appropriate implementation of the harvest[5].

Based on the above, the fishery passes Clause E3.3.

References

1. Hansen, C., Skogen, M., Utne, K. R., Broms, C., Strand, E., H, S. S. (2021). Patterns, efficiency and ecosystem effects when fishing Calanus finmarchicus in the Norwegian Sea—using an individual-based model. Marine Ecology Progress Series. https://nva.sikt.no/registration/0198cc4363bc-3397d343-e83a-4873-9f6e-d294d0b6510e
2. Norwegian Directorate of Fisheries. (2016). Management plan for raudåte. https://www.fiskeridir.no/rapporter/Forvaltningsplan-for-raudaate/_/attachment/inline/3483601e-20b4-45d2-95d0-6ce21a4912e6:2398013608e683e4413d328de31a406d480741a4/forvaltning-raud%C3%A5te-TT-%20LL-%2009%2005%20%2016.pdf
3. Marine Resources Act 2008. https://www.regjeringen.no/globalassets/upload/fkd/vedlegg/diverse/2010/marineresources act.pdf
4. Zooca. (n.d.). Harvesting. https://zooca.eu/harvesting/
5. Lovdata. (2024). Forskrift om [regulation details] (FOR-2024-12-05-2943). https://lovdata.no/dokument/LTI/forskrift/2024-12-05-2943

Annex 1: External Peer Review report

Assessment and determination summary

Fishery name	**Calanus finmarchius, Norway, FAO 27, Atlantic Northeast, Norway EEZ**
MarinTrust report code	**WF03**
Type 1 species (common name, Latin name)	*Calanus finmarchius*
Fishery location	*FAO 27, NE Atlantic Norway EEZ*
Gear type(s)	*Small-meshed mid-water trawl*
Management authority (country/state)	*Ministry of Trade, Industry and Fisheries (Norway)*
Certification Body recommendation	*Approved*
FAPRG reviewer recommendation	Agree with CB determination

Summary of peer review outcomes

Summary *Provide any information about the fishery that the reviewers feel is significant to their decision. This summary is used by the Certification Body in the Fishery Assessment Report.*
The assessor have provided a very thorough examination of the fishery with appropriate levels of referenced evidence to substantiate a decision to re-approve the fishery in accordance with scoring methodology and guidance. The fishery is underutilised and at the current level of exploitation, is sustainably managed with negligible impacts. Noting the increase in allocation of quota to the coastal region (10,000 t), it will be pertinent to examine if this will lead to greater participation in the fishery in future assessments. The external peer reviewer agrees with the outcome to re-approve the fishery.
General comments on the draft report provided to the peer reviewer
The report is comprehensive and addresses each assessment clause concisely and specifically . Very, very minor notes raised and not requesting a response.

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. When the situation is more complicated, reviewers may answer "See Notes" instead.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
3. Are the scores in the following sections consistent with the MarinTrust requirements (i.e. do the scores reflect the evidence provided)?	Yes
Section M – Management Requirements	Yes
Category A Species	n/a
Category B Species	Yes

Category C Species	Yes
Category D Species	n/a
Section E – Ecosystem Impacts	Yes

Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.
Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).
Boxes may be extended if more space is required.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
The assessment has been fully completed and uses the recognised MarinTrust fishery methodology and MarinTrust Wholefish fishery Criteria Guidance.	
Certification Body response	

2. Does the species categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
Yes, the species categorisation section reflects the best current understanding of catch composition. Composition is based on work carried out by the Norwegian Institute of Marine Research (IMR) 2022 and 2023 from two survey vessels - C, Strand, Brons and, Melle, W, (2024) using 2022 and combined with bycatch data across vessels and stations. Calanus makes up the majority of landings at 98.3% and is assessed as type 1, the remainder comprising of various larval catches of which herring (Clupea harengus) at 1.6% is assessed as type 2, with the remaining 0.08% comprised of Atlantic cod (Gadus morhua), capelin (Mallotus villosus), and redfish (Sebastes spp.) below the 0.1% threshold and are correctly not assessed as type 2. The assessor does consider these catches (notably, redfish) in the Ecosystem section of the assessment. The assessor identifies Calinus as a Category B species using Table B(b), noting that whilst the fishery is managed by the Norwegian Directorate of Fisheries (DoF) under a management plan, a stock assessment and reference points do not exist, necessitating the Category B designation and use of Table B(b). Also, the assessor observes that calanuc is not evaluated by the IUCN, not listed in any CITES appendix. Herring is assessed as a Category C species since it is managed with formal reference points, and since is IUCN Least Concern and not CITES listed is eligible for assessment.	
Certification Body response	

3. Is the scoring of the fishery consistent with the MarinTrust requirements, and clearly based on the evidence presented in the assessment report?	Yes
Yes, the scoring of the fishery is consistent with the MarinTrust requirements and provides sufficient evidence presented in concise summarises with appropriate references that justifies the pass outcome.	
Certification Body response	

3a. Are the "Category A Species" scores clearly justified?	n/a
There are no Cat A species	
Certification Body response	

3b. Are the "Category B Species" scores clearly justified?	Yes
Calanus is identified as Cat B since no reference points are established. The biomass of C. finmarchicus in the Norwegian EEZ was estimated in 2016 at 33 million tonnes and a quota of 254,000 tonnes has been established within a clearly defined boundary described by the assessor. Time series landings (2016-2025) are presented demonstrating that catches are <1% of the quota and that fishey mortality is neglible by comparison to the annual fluctations (noting 2024 zooplankton biomass surveys) in the stock and well below precautionary quota. The assessor uses Table Bb to assess the resilience of the fishery, describing the inherent resilient features of the stock and fishery; large population size, high productivity, short generation time, also the geographic extent of the species. The current stock biomass remains at the long term average (B=Bav) and fishing mortality is thought to remain negligible and far below the precautionary quota set for the fishery (F < Fav). Fishbase does not have life-history data for C. finmarchicus but 10 references are provided to substantiate the assessment against Table B(b). The external peer reviewer agrees and the score is clearly justified.	
Certification Body response	

3c. Are the “Category C Species” scores clearly justified?	Yes

The bycatch species; herring and redfishes are assessed as Cat C species in the fishery.
Herring
The ICES stock assessment Herring (Clupea harengus) for, Norwegian spring-spawning herring (Northeast Atlantic and Arctic Ocean) subareas 1,2 & 5/Divisions 4.a and 14.a includes commercial catches from both directed and indirect (bycatch) fisheries.
The advice for 2025 completed by the ICES Working Group on Widely Distributed Stocks (WGWIDE) and followed a benchmarking of the stock, with reference points updated.
The assessor notes that whilst siscards and bycatch are not included as ICES considers them negligible and identifies that in 2022 herring represented 95.2% of bycatch, with volume of 21 tonnes and in 2023, herring comprised 72% of bycatch. These figures indicate that the level of removals from the fishery is negligible.
Also that The 2025 ICES stock assessment is provided which demonstrates that the herring stock is above the limit reference point with negligible removals in the C.finmarchicus fishery.
The external peer reviewer in agreement with Cat C the score and rationale.

Certification Body response

3d. Are the “Category D Species” scores clearly justified?	n/a

There are no Cat D species (FAPRG peer reviewer in agreement).

Certification Body response

Are the scores in “Section M – Management Requirements” clearly justified?	Yes

The scores in this section are evidenced by the available information and are justified.

A concise description of the Norwegian management system is provided, noting the functions (administration, act, policy, monitoring, research etc.) and that collaboration with public bodies, research and industry occurs. (M1.1 clauses are addressed consistent with requirements).
Legal instruments (Marine Resources Act 2008), licensing of fishing vessels, quota management, revocation of licenses, addressing disputes and protection of rights for indigenous fishers (termed Sami culture). M1.2 clauses are met.
The IMR is identified as the national consultative research arm of the Norwegian

fisheries management framework conducting plankton surveys in the Norwegian Sea and Barents Sea using multi-gear sampling, acoustic technologies, satellite data, and biophysical modelling tools. Norways role with ICES is also noted (WGINOR). Also at clause M1.4 the assessor describes the regulatory cycle for managing of quota regulated stocks (including calanus) describing policy for sustainable fishing.
The assessor describes the decision making processes, public accessibility (online databases, electronic reporting portal, access to regulations, vessel summarises. Period internal or external peer review is not noted per se although the system is comprehensively described and the figure demonstrates that inputs from external bodies (ICES), EU, NEAFC and internal stakeholders are strong features.
Monitoring and enforcement is succincly described noting the organisation (DoF - FMC), supported by the Norwegian Coast Guard and tools including VMS, ERS data, quota management, monitoring of landings, and also onboard observers from DoF, IMR. The system of sanctions (coercive and infringement fines, consfication of gear, catch, facilities etc.) is described and that as of 2024, the assessor notes that no serious infringements have been recordedi in the calanus fishery. The assessor comprehensively describes Norway's administrative provisions (Ch 8 Marine Resources Act), maintenance of 2 blacklists of known IUU vessels, noting no vessels fishing Calanus are listed and colaboraton with Global Fishing Watch. M2.1-3 clause scores are clearly justified and documented with references.

Certification Body response

Are the scores in "Section E – Ecosystem Impacts" clearly justified?	Yes

The assessor describes the recording of interactions, primarily the ERS and logbook system, scientific monitoring, and participation in ICES WGBYC requiring recording and contributions of ETP data. Monitoring and data collection within the NAMMCO area for marine mammals is described and that DoF mandates the presence of sicentific observers on selected trips, particularly exploratory fisheries such as C.finmarchicus.

The assessor notes that the common redfish (Sebastes norvegicus), larvae of which are recorded in the fishery is listed as highly endangered in Norway (although not by IUCN) and describes the move on rule if catches include >10% contamination with fish larvae and juveniles. Redfish larvae were encountered at 4000/tow (2022) although almost entirely absent in 2023 (post the move on rule), and species was highly spatial specific. Given the very low level of capture, and noting that the high natural mortality inherent in larval stages, this constitutes no significant negative impact on the species.

Noting that the gear is towed at low speeds, offshore (1000m depth contour), with less likely interaction with listed coastal species, and will allow for species opportunities to avoid capture, including ETPs. There are non reported in the most recent report but it is

evident that were ETP's to be encountered, they would be recorded and there is no evidence that ETP species are negatively impacted by the fishery. The assessor also describes the protection provided through the Marine Resources Act and the Nature Diversity Act (2009) which collectively prohibit disturbance or harm to marine mammals, birds, and other listed species and provide the DoF with the authority to impose emergency closures or require operational changes if needed.

The external peer reviewer agrees that E1-3 clauses are met and justified.

The assessor draws reference to the framework of Acts and policies regarding management decision making taking consideration of habitat interactions. The fishery is midwater, uses fine-mesh gear that is highly unlikely to interact with seabed habitats and operates at <1knt speed and highly unlikely to cause negative impact of habitat. The external peer reviewer agrees that E2 clauses are met and justified.

Regarding ecosystem considerations; The assessor clearly identifies the role of the C. finmarchicus in the ecosystem - the dominant mesozooplankton in the North Atlantic Ocean and adjacent subarctic shelf seas and that it plays a significant role in the ecosystem, serving as a key prey species for many planktivorous fish and fish larvae, including Norwegian spring-spawning herring (Clupea harengus), blue whiting (Micromesistius poutassou), and Atlantic mackerel (Scomber scombrus, Scombridae). Also that large standing stocks of invertebrates and mesopelagic fish feed on different stages of C. finmarchicus. Also biogeochemical cycling contributing to carbon sequestration. Information on the role of the species in the ecosystem is collected and as the assessor notes, the utilisation of the stock is very low.

The assessor also identifies that the impact of the fishery due to coastal harvest was also evaluated in 2023 by IMR, which found that the fishery would not significantly negatively impact larval fish nurseries or predator foraging areas. This assessment supported an increase in the zonal allocation from 3,000 to 10,000 tonnes noting that up to 15,000 tonnes was indicated as sustainable. The assessor makes reference to the rigorous monitoring regime which the external peer review agrees, should support the detection of any elevated interaction with coastal dwelling species.
Minor note referring to the statement 'Regulatory measures are designed to avoid underfishing of zooplankton in important grazing areas for marine mammals and central fish stocks,….' may have meant to read avoid overfishing?

A clearly precautionary quota and strategy incorporating an ecosystem based approach is evident and described by the assessor, in light of the important role of Calanus in the ecosystem. References are provided. The external peer reviewer agrees with the rationale and outcome score for E section. An interesting recent paper by

Certification Body response

Optional: General peer reviewer comments on the draft report
The report provides comprehensive evidence, rationale and references to justify the pass outcome. The external peer reviewer notes the reference to the interesting paper Crosman et. al, Conflict , Cod and Calanus which may provide some context to why the Norwegian quota is so underutilised. Also noting, that the paper notes that the sampling procedure for bycatch larvae has been improved LindbækE. (2022b). Raudåteprodusenten Zooca: Bare 30 kilo bifangst i et trålhal med fem tonn raudåte (fiskeribladet.no) (https://www.fiskeribladet.no/fiskeri/raudateprodusenten-zooca-bare-30-kilo-bifangst-i-et-tralhal-med-fem-tonn-raudate/2-1-1222008). No response requested.
Certification Body response
We agree with the feedback.