DNV

WHEN TRUST MATTERS

Announcement Comment Draft Report

FISF FAROE ISLANDS NEA COD, HADDOCK AND SAITHE

Marine Stewardship Council fisheries assessments

Conformity Assessment Body (CAB)	DNV Business Assurance
Assessment team	Lucia Revenga, Lisa Borges, Jose Peiro Crespo, Geir Honneland
Fishery client	FISF
Assessment Type	First reduced reassessment
Date	10.02.2022

1 Contents

Contents

2 Glossary

Abbreviations & acronyms

ACOM	(ICES) Advisory Committee
AFWG	(ICES) Arctic Fisheries Working Group
ATF/OT	Arkhangelsk Trawl fleet/ Ocean Trawlers
CAB	Conformity Assessment Body
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoC	Chain of Custody
CPUE	Catch per unit effort
CR	Certification Requirements
EEZ	Exclusive Economic Zone
ETP	Endangered, threatened and protected species
EU	European Union
FAM	Fisheries Assessment Methodology
FAMRI	Faroe Marine Research Institute (Havstovan)
FAO	Fisheries and Agriculture Organization (of United Nations)
FISF	Faroe Islands Sustainable Fisheries
FPZ	Fishery Protection Zone
HCR	Harvest Control Rule
H&G	Headed and gutted
ICES	International Council for the Exploration of the Sea
IMR	Institute of Marine Research, Norway
IPI	Inseparable and practically inseparable (species)
ISBF	Introduced Species Based Fisheries
ISF	Icelandic Sustainable Fisheries
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unreported
JNRFC	Joint Norwegian Russian Fisheries Commission
LTL	Low Trophic Level
MPA	Marine Protected Area
MRI	Marine Research Institute, Iceland
MCS	Monitoring, control and surveillance
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
NAFO	Northwest Atlantic Fisheries Organisation
NAMMCO	North Atlantic Marine Mammal Commission
NC	Norwegian Coastal
NEA	North East Atlantic
NEAFC	North East Atlantic Fisheries Commission
NGO	Non - Governmental Organization
NOSS	Norwegian spring-spawning (herring)
OSPAR	Oslo – Paris Convention. The Convention for the Protection of the Marine Environment of the North-East Atlantic.
PCDR	Public Comment Draft Report
PI	Performance Indicator
PINRO	Polar Research Institute of Marine Fisheries and Oceanography, Russia
PISG	Performance Indicator Scoring Guideposts
PSC	Port State Control
REZ	Russian Economic Zone
SG	Scoring guidepost
spp.	Species
SSB	Spawning Stock Biomass
TAC	Total allowable catch
TBD	To be decided
UNLOSC	United Nations Law of the Sea Conference
UoA	Unit of assessment
UoC	Unit of certification
VME	Vulnerable marine ecosystems
VMS	Vessel Monitoring System
WWF	World Wildlife Fund
XSA	Extended survivorship analysis
SAM	Assessment method (state-space fish stock assessment model)
SGBYC	Study Group for Bycatch of Protected Species

Stock assessment reference points

F	Instantaneous rate of fishing mortality
MSY	Maximum Sustainable Yield
SSB	Spawning Stock Biomass
F_{MSY}	Fishing mortality corresponding to MSY fishing
F_{PA}	Fishing mortality under precautionary fishing
F_{lim}	Fishing mortality above which limit the stock is expected to fall to levels where recruitment might be impaired
$F_{0.1}$	The point at which slope of the yield-per-recruit v. fishing-mortality curve equals 10% the slope at the origin. May be used as F_{MSY}, F_{PA} or F_{lim} proxy
B_{MSY}	Spawning Stock Biomass at MSY fishing
B_{PA}	Spawning stock biomass under precautionary fishing
B_{lim}	Spawning stock biomass (SSB) below which recruitment might be impaired

List of Tables

List of Figures

3 Executive summary

3.1.1 Changes since previous assessment

Draft determination to be completed at Public Comment Draft Report stage

This report provides information on the reassessment of the FISF Faroe Islands North East Arctic cod, haddock and saithe fishery against Marine Stewardship Council (MSC) Fisheries Standard. The report is prepared by DNV for the client Faroe Islands Sustainable Fisheries (FISF).

The assessment was carried out using MSC Fisheries Certification Process v2.2. For the reassessment, the default assessment tree in Annex SA from the MSC Fisheries standard v2.01, without any changes, was used.

The assessment covers 3 UoAs targeting cod, haddock and saithe with bottom trawlers. The cod, haddock and saithe are indigenous to the Barents Sea region and no enhancement takes place.

The assessment process was initiated by the announcement on the MSC web-side on the 11.02.2022 and the recertification audit was conducted remotely on the week commencing 14th March 2022 using IT means (Microsoft teams).

*A comprehensive programme of stakeholder consultations was carried out in xx as part of this assessment, complemented by a full and thorough review of relevant literature and data sources. (This fishery is, at present certified - Certificate number MSC-F-*31322 *valid until 17 February 2023.*

A rigorous assessment of the MSC Principles and Criteria was undertaken by the assessment team and detailed and fully referenced scoring rationales are provided through the assessment tree scoring tables provided in chapter ***Error! Reference source not found.****-of this report.*

The Eligibility Date for this assessment is xxx (which is also the scheduled date of recertification).

a. Main strengths

Table 1 Main strengths

Principle	Performance Indicator	Comment
Principle 1	PIs 1.1.1-1.2.4	All three stocks of cod, haddock and saithe are healthy, being at or fluctuating around MSY levels and have a management plan with specific and well-defined HCRs that are used to establish the TACs. There is good information available from the stocks and the fisheries, and the stocks have quantitative stock assessments that estimated reference points
Principle 2	PIs 2.1.1, 2.2.1 and 2.3.1	Catch and bycatch data is regularly collected in the logbooks and provide to the authorities. The impact of the fishery on primary, secondary and ETP species is considered relatively low.
Principle 3	PIs 3.1.1-3.2.4	The fishery operates within a well-established management framework at both international level and at national level in all the flag/port and coastal states involved in the management of the fishery, with a comprehensive legislative base, regulatory arrangement, consultation mechanisms and enforcement measures.

b. Main weaknesses

Table 2 Main weaknesses

Principle	Performance Indicator	Comment
Principle 1	PI 1.2.2	Fishing mortality for cod, but particularly for haddock is increasing in recent years, while biomass is decreasing. For haddock, there is only some evidence that the HCRs are limiting exploitation.
Principle 2	PI 2.4.2	At ACDR stage, compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs has not been proved.
Principle 3	PI 3.2.3	At ACDR stage, compliance in the UoA has not yet been ascertained with Faroese and Icelandic enforcement authorities

c. Summary of key issues for further investigation

Table 3 Summary of key issues for further investigation

Principle	PI	Key issue for further investigation
1	1.2.2	There is only some evidence that the HCR is limiting haddock exploitation.
2	2.4.2	At ACDR stage, compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs has not been proved Updated data about the area of operation of the fleet needs to be provided Compliance with management measures in regard to some of the elements scored in Principle 2 (primary, secondary, ETP species and habitats) need to be ascertain with the enforcement authorities
3	3.2.3	At ACDR stage, compliance in the UoA has not yet been ascertained with Faroese and Icelandic enforcement authorities

d. Changes since previous assessment:

i. Principle 1

The number of MSC fisheries in the area has increased.
For the past 5 years biomass of cod and haddock has been declining while biomass of saithe has increased.
The Faroese Marine Resources Act was subject to review in 2019 and the review was implemented in 2020.

ii. Principle 2

Norwegian J-61-2019 regulation has been implemented in Norwegian EEZ in relation to the protection of benthic habitats. New Marine Protected Areas have been established.
The Faroese Marine Resources Act was subject to review in 2019 and the review was implemented in 2020.

iii. Principle 3

The Faroese Marine Resources Act was subject to review in 2019 and the review was implemented in 2020.

e. Draft Determination

The draft Principle scores are summarised in Table 15.

The FISF Faroe Islands NEA cod, haddock and saithe fishery achieved a score of 80 or more for each of the three MSC Principles and did not score under 60 for any of the set MSC criteria.

The FISF Faroe Islands NEA cod, haddock and saithe fishery achieved a score of below 80 against x scoring indicators and was set x conditions and x recommendations for (continuing) certification that the client is required to address.

The main findings of the surveillance audit included

- *The fisheries are conducted with the same strategy, same gears and covering the same grounds as in previous years*
- *The fisheries are documented at the same level as in previous years*
- *The stocks remain healthy*
- *Management regulations are unchanged*
- *Control and Enforcement activities and strategies were unchanged and no significant non-compliance has been reported*
- *Research continues to improve understanding of the biology of the fisheries*
- *Traceability issues are unchanged*
- *Monitoring, control and surveillance activities remained as in previous years*
- *The reassessment for the fishery has XX conditions and XX recommendations*

Overall, the fishery continues to be fully compliant with the standards set for MSC certification SG 80. Based on the review, analysis and evaluation of available data for the fishery presented in this report the assessment team did not identify any issues that prevent the reassessment of the FISF Faroe Islands NEA cod, haddock and saithe fishery and the assessment team recommends the re- certification of the fishery.

4 Report details

4.1 Authorship and peer review details

Peer reviewer information to be completed at Public Comment Draft Report stage

Table 4 Assessment team

Name	**Lucia Revenga**
Role	Team leader
Qualifications: Lucia Revenga is a marine scientist, specialized in Fisheries Biology who holds degrees in Marine Sciences and in Environmental Sciences from Cadiz University (Spain). For 5 years she worked with TRAGSA for the Spanish General Marine Secretariat, conducting researches on the biology and stock status of different species, such as bluefin tunas, skipjack tunas, albacores, mackerels, sardines, eels, prawns, Norway lobsters, haliputs. She has also taken part in oceanographic surveys focused in the search of vulnerable marine ecosystems. From 2011 to 2015 she worked for IFAPA (Institute for Research and Training in Fisheries) as a Fisheries biology teacher for fishermen. She also conducted research in fishery local activities with the aim of increasing community awareness of the conservation of coastal ecosystems and encouraging sustainable fishing practices. From 2015 to 2020 she worked full time as an independent consultant, covering the roles of P2 assessor and team leader for different CABs and assessments. In 2020 she joined DNV as part of DNV MSC Fishery Global Unit. Lucia's qualifications also meet the competence criteria defined in Annex PC for the Team-Leader and Chain of custody responsible: • She has an appropriate university degree • She has passed the MSC team leader training • She has passed the MSC Traceability training module • She meets ISO 19011 training requirements • She has passed the RBF training module • She has undertaken two fishery assessments as a team member in the last five years, and • She has experience in applying different types of interviewing and facilitation techniques and is able to effectively communicate with clients and various stakeholder groups. • She has no conflicts of interest in relation to the fishery under assessment. • Full CV is available upon request.	
Name	**Lisa Borges**
Role	Principle 1 expert
Qualifications: Lisa Borges has been a fisheries scientist for over 25 years and runs her own consulting firm. Lisa has a degree in Marine Biology and Fisheries from the University of Algarve (Portugal), a Master's in Fisheries from the University of Porto (Portugal) and a PhD in demersal fisheries discards from the National University of Ireland. Lisa worked for three national fisheries research institutes: IPMA (Portugal), Marine Institute (Ireland) and IMARES (Netherlands). Lisa has extensive knowledge and experience in assessing the environmental impact of fisheries, namely on discards and accidental catch. She also has knowledge and experience in fisheries management policies, including catch control rules; management plans and development of discard policies. Lisa developed fish stocks conservation policies while working for the European Commission in Belgium. In addition, Lisa has a multitude of publications on catch retention related fisheries policies and procedures and has been the chair/co-chair in several international conferences, workshops and working groups. Lisa has extensive experience conducting MSC pre-assessments and assessments in all three Principles, although is specialized in Principle 1. Lisa is also a member of the MSC Peer Review College.	

Her qualifications meet the competence criteria defined in Annex PC for the Team-member with expertise in Fish stock assessment and biology:

- She has an appropriate university degree
- She has passed the MSC team member training
- She has passed the RBF training module
- She has over 3 years' experience in stock assessment techniques comparable with techniques used by the fishery under assessment
- She has over 3 years' experience in the biology and population dynamics of the species with similar biology.
- She has no conflicts of interest in relation to the fishery under assessment.
- Full CV is available upon request.

Name	**Jose Peiro**
Role	Principle 2 expert

Qualifications:

Jose is a marine biologist with postgraduate studies in statistics, and international development. He has 15 years' experience working as a fisheries observer, fisheries scientist, aquaculture technician, seafood quality expert, EIA consultant, and independent fisheries and aquaculture consultant. He currently runs his own consultancy, Naunet Fisheries Consultants, based in Norwich (UK), where he has overall responsibility for the planning, design, execution, monitoring and evaluation of all the projects. He works for the fishing industry, government bodies and NGOs conducting fisheries assessments, promoting the sustainable use of marine resources and developing initiatives to improve living conditions in coastal communities.

Jose works as a fisheries expert for several certification and rating programs such as the Global Seafood Sustainable Initiative (GSSI), the Marine Stewardship Council (MSC), the IFFO – Marine ingredients organization, the Monterey Bay Aquarium - Seafood Watch program, the UK Marine Conservation Society, the WWF consumer guide, etc. In recent years, he has assessed more than 300 fisheries for these programs in South America, Europe and Asia.

His qualifications meet the competence criteria defined in Annex PC for the Team-member with expertise in the impact of fisheries on aquatic ecosystems:

- He has an appropriate university degree
- he has passed the MSC team member training
- he has over 3 years' experience in research in the impact of fisheries on aquatic ecosystems
- He has over 3 years' experience as a practising fishery manager and/or fishery/policy analyst
- He has no conflicts of interest in relation to the fishery under assessment.
- Full CV is available upon request.

Name	**Geir Hønneland**
Role	Principle 3 expert

Qualifications:

Geir Hønneland holds a PhD in political science from the University of Oslo and an LL.M. in the law of the sea from the Arctic University of Norway. He has studied international fisheries management (with main emphasis on enforcement and compliance issues), international environmental politics and international relations in Polar regions for more than 25 years. He has been affiliated with the Fridtjof Nansen Institute in Oslo as PhD student and research fellow (1996-2006), research director (2006-2014), director (2015-2019) and now adjunct professor. Among his fisheries-related books are *Making Fishery Agreements Work* (Edward Elgar, 2012; China Ocean Press, 2016), *Coercive and Discursive Compliance Mechanisms in the Management of Natural Resources* (Springer, 2014) and *Blue Governance in the Arctic and Antarctic: Private Certification and the Law of the Sea* (Palgrave Macmillan, 2021). Before embarking on an academic career, Geir worked five years for the Norwegian Coast Guard, where he was trained and certified as a fisheries inspector. He has been involved in MSC assessments since 2009 and has acted as P3 expert in more than 70 full assessments and re-assessments (in many of them as Team Leader as well), and a number of pre-assessments and surveillance audits. His experience from full assessments includes a large number of demersal, pelagic and reduction fisheries in the Northeast Atlantic, the Northwest Atlantic, the North Pacific and the Southern Ocean, including crustaceans, as well as inland, bivalve and enhanced salmon fisheries. He has covered the regional fisheries management organizations (RFMOs) of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the North-East Atlantic Fisheries Commission (NEAFC) and the Northwest Atlantic Fisheries Organization (NAFO), as well as regional fisheries management arrangements (RFMAs) in the Greenland/Iceland/Norwegian Seas, the Barents Sea, the North Sea, Skagerrak, Kattegat and the Baltic Sea, and the

national management regimes in Norway, Sweden, Denmark, Iceland, Faroe Islands, Greenland, Finland, Estonia, Russia, Poland, the UK, the Netherlands and Germany, as well as the EU level.
His qualifications meet the competence criteria defined in Annex PC for the Team-member with expertise in management systems:

- he has an appropriate university degree
- he has passed the MSC team member training
- He has over 3 years' experience as a practising fishery manager and/or fishery/policy analyst
- He has local knowledge of the country, language and local fishery context.
- He has no conflicts of interest in relation to the fishery under assessment.
- Full CV is available upon request.

Geir is also qualified as an MSC Team Leader (Fisheries Standard v2.01, Fisheries Certification Process v2.2) and has passed the ISO 19011-2018 course as Lead Auditor – Management Systems Auditing.

Peer Reviewers

Peer reviewer information to be completed at Public Comment Draft Report stage

Peer reviewers used for this report are:

The Peer reviewers were shortlisted by the MSC Peer Review college and listed on the MSC website. A summary CV for each is available in the Assessment downloads section of the fishery's entry on the MSC website.

4.2 Version details

Table 5 Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	**Version 2.2**
MSC Fisheries Standard	**Version 2.01**
MSC General Certification Requirements	**Version 2.4.1**
Assessment tree – Default MSC Fisheries Standard v 2.01- Annex SA	**Version 2.01**
MSC Reduced Reassessment Reporting Template	**Version 2.2**

5 Unit(s) of Assessment and Unit(s) of Certification and results overview

5.1 Unit(s) of Assessment and Unit(s) of Certification

5.1.1 Unit(s) of Assessment

The fishery is, to the knowledge of the assessment team, within the scope of the MSC Fisheries standard according to the following determinations:

- The target species is an amphibian, reptile, bird or mammal.
- The fishery does not use poisons or explosives.
- The fishery is not conducted under a controversial unilateral exemption to an international agreement.
- The client or client group does not include an entity that has been successfully prosecuted for a forced or child labour violation in the last 2 years.
- The client or client group does not include an entity that has been convicted for a shark finning violation in the last 2 years.
- The fishery has mechanisms for resolving disputes and disputes do not overwhelm the fishery.
- The fishery is not enhanced or based on an introduced species.

The Unit of Assessment defines the full scope of what is being assessed and includes the Unit of Certification and any other eligible fishers.

The Unit of Assessment includes the target stock (s), the fishing method or gear type/s, vessel type/s and/or practices, and the fishing fleets or groups of vessels, or individual fishing operators pursuing that stock, including any other eligible fishers that are outside the Unit of Certification.

The 3 Units of Assessment for this fishery assessment are specified in below.

Table 6 Units of Assessment

UoA 1	Description
Species	Cod
Stock	Cod (Gadus morhua) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Other eligible fishers	Other Faroese or Icelandic vessels which are at present not members of FISF nor ISF, but which may become FISF or ISF members in the future.
Geographical area	**FAO area:** 27 **Common name of the body of water:** Barents Sea **Local fisheries management area:** JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. **Stock region:** ICES I and II
UoA 2	Description
Species	Haddock

Stock	Haddock (Melanogrammus aeglefinus) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Other eligible fishers	Other Faroese or Icelandic vessels which are at present not members of FISF nor ISF, but which may become FISF or ISF members in the future.
Geographical area	**FAO area:** 27 **Common name of the body of water:** Barents Sea **Local fisheries management area:** JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. **Stock region:** ICES I and II
UoA 3	Description
Species	Saithe
Stock	Saithe (Pollachius virens) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Other eligible fishers	Other Faroese or Icelandic vessels which are at present not members of FISF nor ISF, but which may become FISF or ISF members in the future.
Geographical area	**FAO area:** 27 **Common name of the body of water:** Barents Sea **Local fisheries management area:** JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. **Stock region:** ICES I and II

Management	Joint Russian Norwegian Fisheries Commission NEAFC Government of Faroe Islands Government of Iceland Government of Norway (and Svalbard) Government of Russia

5.1.2 Unit(s) of Certification

The Unit of certification is the unit entitled to receive the MSC certificate.
The proposed Unit of Certification includes the target stock (s), the fishing gear type(s) and, if relevant, vessel type(s) and the fishing fleets or groups of vessels or individual fishing operators pursuing that stock including entities initially intended to be covered by the certificate.

The 3 proposed Units of Certification is provided in the Table below.

Table 7 Units of Certification

UoC 1	Description
Species	Cod
Stock	Cod (Gadus morhua) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Geographical area	FAO area: 27 Common name of the body of water: Barents Sea Local fisheries management area: JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. Stock region: ICES I and II
UoC 2	Description
Species	Haddock
Stock	Haddock (Melanogrammus aeglefinus) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Geographical area	FAO area: 27 Common name of the body of water: Barents Sea Local fisheries management area: JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. Stock region: ICES I and II
UoC 3	Description
Species	Saithe
Stock	Saithe (Pollachius virens) in subareas 1 and 2 (Northeast Arctic)
Fishing gear type(s) and, if relevant, vessel type(s)	Demersal rock-hopper trawl
Client group	Faroe Islands Sustainable Fisheries https://www.fisf.fo/en/
Geographical area	FAO area: 27 Common name of the body of water: Barents Sea Local fisheries management area: JRNFC, Russian EEZ, Norwegian (and Svalbard) EEZ and NEAFC International waters. Stock region: ICES I and II

Management	Joint Russian Norwegian Fisheries Commission NEAFC Government of Faroe Islands Government of Iceland Government of Norway (and Svalbard) Government of Russia

5.2 Assessment results overview

5.2.1 Determination, formal conclusion and agreement

To be drafted at Public Comment Draft Report stage

The FISF Faroe Islands NEA cod, haddock and saithe fishery achieved a score of 80 or more for each of the three MSC Principles and did not score under 60 for any of the set MSC criteria.
The fishery has 2 conditions against 2 scoring indicators and 2 recommendations.
Based on the evaluation of the fishery presented in this report the assessment team recommends the certification of the FISF Faroe Islands NEA cod, haddock and saithe fishery for the client FISF.

5.2.2 Principle level scores

To be drafted at Client and Peer Review Draft Report stage

Table 8 Principle level scores

Principle	UoA 1 (cod)	UoA 2 (haddock)	UoA 3 (saithe)
Principle 1 – Target species	**≥80**	**≥80**	**≥80**
Principle 2 – Ecosystem impacts	**≥80**	**≥80**	**≥80**
Principle 3 – Management system	**≥80**	**≥80**	**≥80**

5.2.3 Summary of conditions

To be drafted at Client and Peer Review Draft Report stage

Table 9 Summary of conditions

Condition number	Condition	Performance Indicator (PI)	Deadline	Exceptional circumstances?	Carried over from previous certificate?	Related to previous condition?
				Yes / No	**Yes / No / NA**	**Yes / No / NA**
				Yes / No	**Yes / No / NA**	**Yes / No / NA**
				Yes / No	**Yes / No / NA**	**Yes / No / NA**

5.2.4 Recommendations

To be drafted at Client and Peer Review Draft Report stage

Table 10 Summary of recommendations

Recommendation number	Recommendation	Performance indicator

6 Traceability and eligibility

6.1 Eligibility date

Products from the certified fishery will continue to be eligible to be sold as MSC certified or bear the MSC ecolabel from the eligibility date. The eligibility date is the date of the publication of the Public Comment Draft report. The traceability and segregation systems in the fishery will continue to be implemented by the eligibility date.

6.2 Traceability within the fishery

The assessment team shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and sold as certified by the fishery originate from the certified fishery. As part of the assessment, the assessment team shall also determine the point(s) at which fish and fish products enter further Chains of Custody.

Traceability systems for Faroe Islands and Icelandic UoAs are been scrutinized at the second re-assessment of the fishery and are deemed to be robust. The systems of tracking and tracing in place (incl. control, monitoring and recording systems) ensure that all cod, haddock and saithe products originating from the certified fishery, and sold as certified, could be identified prior or at the point of landing.

Client vessels have permissions to fish in the Norwegian, Svalbard, Russian and in international waters and require a license to fish in all areas issued by the Faroese and Icelandic authorities. In all areas, client vessels have a Vessel Monitoring System (VMS) on board, must complete electronic log books and also comply with the reporting procedures. Log-books and sales notes are regularly inspected and cross-checked by respective country authorities. In addition to that, both Icelandic and Faroese vessels are subject to a routine boarding and inspection at sea and reporting prior to landing. Since 2007, NEAFC port state control requires authorization to land from the vessel flag state to the port state prior to authorizing foreign fishing vessels to land their products in the designated ports.

A catch certification scheme by the European Union (EC no 1224/2009) was implemented in 2010 to ensure full traceability of all marine fishery products traded with the European Community. Fishery products can now only be imported into the European Community when accompanied by a catch certificate, issued by the competent authorities of the flag State certifying that the catches concerned have been made in accordance with applicable laws, regulations and international conservation and management measures. This applies to both directly landed and transshipped product.

Tracking, tracing and segregation systems within the fishery

All information on catches is recorded by skippers and entered in the logbooks on daily basis. At landing the fish is weighed and sales notes are issued which provide information on the type of species, size and weight.

According to Faroese and Icelandic national regulations sales notes and logbooks shall be submitted to authorities no later than one day after landing when landing in Faroese or Icelandic ports and two to three days when landing outside, e.g. Norway. For vessels landing in Norway the same documentation shall be submitted both to Norwegian and Faroese or Icelandic authorities.

All data from logbooks and sales notes are cross-checked by respective national authorities. When the quota limit is being approached, the Faroese and Icelandic respective national fisheries inspection services send a notification to the respective vessel. Due to control and regulation regarding logbooks and sales notes, there is no risk of substitution of non-certified cod, haddock and saithe with the certified species. The risk is also minimized by the fact that all Faroese and Icelandic vessels fishing for cod, haddock and saithe in the Barents Sea are included in the UoA.

Vessels are also subject to an extensive at sea control from Norwegian and Russian authorities incl. boarding by inspectors who control catch, gear used, by-catch composition and registrations made, as well as fish processing activities.

To ensure full traceability, fish products from the UoAs are packed and labelled on board of the vessels. Each **carton** is assigned a label with a unique pack number in addition to data providing information on:

- Producer
- Country of origin
- Catching area
- Product
- Size
- Net weight
- Shelf life
- Vessel
- Production date
- Unique pack number
- Pr. Lot

Cartons are packed on pallets which are also labelled and assigned a bar-code. Labels on the **pallets** provide following data:

- Producer
- Country of origin
- Product
- Size
- Pr. Lot
- Production date
- Shelf life
- Units
- Unique pallet number + bar code

All products are sold unpacked from pallets and not as single cartons. Advanced system of labelling helps to ensure full-traceability and enable their buyers to trace the product back to the date of catch, haul nr, catch area etc.

Overall, there is a sufficiently effective system of tracking, tracing and segregation in the FISF Faroe Islands NEA cod, haddock and saithe fishery so as to ensure that all cod, haddock and saithe products originating from the certified fishery and sold as certified could be identified prior to or at the point of landing.

6.2.1 Risk of fishing outside the unit of certification

Vessels in the Unit of Assessment do not fish outside the geographical area of the Unit of Assessment.

6.2.2 Risk of substitution

Because of the strict system of control, monitoring and enforcement in place, there is neither opportunity nor incentive for the client fleet to substitute certified cod, haddock and saithe products with non-certified material prior to or at the point of landing. All catches taken in the UoAs are properly reported, labelled and recorded.

Vessels have permission to fish in the Svalbard FPZ, in the Norwegian, Russian EEZs and International waters of NEAFC, and they require licenses to fish in all areas covered by national fisheries authorities. Vessels do not fish outside the unit of assessment when they target NEA cod, haddock and saithe. In all areas vessels operate a Vessel Monitoring System (VMS) on board and must complete logbooks. Logbooks and sales notes are inspected regularly and cross-checked by the relevant fishing authorities. In addition, vessels targeting cod, haddock and saithe in NE Arctic are subject to routine boarding and inspection, identification by spotter planes, reporting to checkpoints when crossing international boundaries and reporting prior to landing.

Therefore, the risk of substitution of certified products with non-certified products is negligible. As said before, the risk is also minimized by the fact that all Faroese and Icelandic vessels targeting cod, haddock and saithe in the Barents Sea are included in the UoA.

6.2.3 At-sea processing

All vessels from the Faroese UoA and a share of the vessels from the Icelandic UoA are at sea -processing vessels.

There are no bycatch species taken in the fishery that could be mistaken for cod, haddock and saithe before or after processing. Saithe fillets for example have a different (greyish) colour from cod and haddock fillets. In terms of separating cod, haddock and saithe product, all crew members working in the processing areas are experienced, so the chances of a human error during sorting activities prior to or during processing are negligible. During processing, species are separated and processed by type. Cod, haddock and saithe products are never produced at the same time and on the same production line.

Frozen products from the Faroese and Icelandic vessels are mainly landed in the following product categories:
1 Frozen H&G (Headed and gutted)
2 Frozen Fillet
3 By-products from the processing (heads, liver, roe, tails, milt, cheeks, tongues and stomachs)

All by-products follow the same process as the main products in terms of processing, packing and labelling. Every box/item is labelled according to current legislations for food products.
Vessels are equipped with packaging and labelling equipment. All products are packed in such a way that their packaging cannot be opened without damaging it.

6.2.4 Transhipment

There is no transhipping taking place in this fishery.

6.2.5 Points of landing

The first points of landing for this fishery are presented in Table 11 below. All further activities from the first points of landing will be subject to Chain of Custody certification in accordance with the MSC Certification Requirements.

Table 11 First points of landing for the assessed fleet

UoA	Point of landing
Faroese registered vessels	**Faroe Islands**: At present main points of landing are Klaksvík, Fuglafjørður and Tórshavn, however other Faroese landing points are used at times.
Icelandic registered vessels	**Norway**: designated ports in Norway for further transport to factories in Iceland or directly to the customer. Main ports of landing are Senja, Hopen, Myre and Sortland. **Iceland**: designated ports in Iceland, but catches could be also landed directly to auction houses or processing factories in Iceland (e.g. Dalvik whitefish processing plant Útgerðarfélag Akureyringa (ÚA) processing plant).

The main markets for the products originating from the client vessels are the UK, France, Germany and the USA, but also Faroe Islands, Norway, Portugal and other countries.

Table 12 traceability within the fishery

Factor	Description
Will the fishery use gears that are not part of the Unit of Certification (UoC)? If Yes, please describe: - If this may occur on the same trip, on the same vessels, or during the same season; - How any risks are mitigated.	No, the fishery only uses the gear defined in the UoA.
Will vessels in the UoC also fish outside the UoC geographic area?	No. When targeting NEA cod, haddock and saithe UoA vessels will only fish in the UoA fishing grounds, and sail afterwards to the different landing points.

If Yes, please describe: - If this may occur on the same trip; - How any risks are mitigated.	
Do the fishery client members ever handle certified and non-certified products during any of the activities covered by the fishery certificate? This refers to both at-sea activities and on-land activities. - Transport - Storage - Processing - Landing - Auction If Yes, please describe how any risks are mitigated.	Yes, the vessels handle other species that are not covered by the certificate (non-targeted bycatch species). Targeted cod, haddock and saithe are processed, packed and frozen onboard. Untargeted bycatch is stored separately. There is no risk of mix of no certified and certified species.
Does transhipment occur within the fishery? If Yes, please describe: - If transhipment takes place at-sea, in port, or both; - If the transhipment vessel may handle product from outside the UoC; - How any risks are mitigated.	No, there is no transhipment within the fishery.
Are there any other risks of mixing or substitution between certified and non-certified fish? If Yes, please describe how any risks are mitigated.	No, there are no risks of mixing or substitution between certified and non-certified fish**.**

6.3 Eligibility to enter further chains of custody

To be drafted at Client and Peer Review Draft Report stage

The CAB shall include in the report a determination of whether the seafood product will be eligible to enter certified chains of custody, and whether the seafood product is eligible to be sold as MSC certified or carry the MSC ecolabel.

The CAB shall include in the report a list of parties, or category of parties, eligible to use the fishery certificate, and sell product as MSC certified.

The CAB shall include in the report the point of intended change of ownership of product, a list of eligible landing points, and the point from which subsequent Chain of Custody certification is required.

If the CAB makes a negative determination under FCP v2.2 Section 7.9, the CAB shall state that fish and fish products from the fishery are not eligible to be sold as MSC certified or carry the MSC ecolabel. If the client group includes other entities such as agents, unloaders, or other parties involved with landing or sale of certified fish, this needs to be clearly stated in the report including the point from which Chain of Custody is required.

Reference(s): FCP v2.2 Section 7.9

Chilled and/or frozen at sea cod, haddock, saithe products and by-products (as specified below) originating from UoA vessels covered by this reassessment are eligible to enter the Chain of Custody and carry the MSC logo at the completion of the re-assessment process. Freezing vessels can process the catch on board which is then stored on board as already labelled sales units.
Only members of the FISF (and ISF) client group are eligible to sell certified fish.

The chain of custody will commence at 1st sale or at the points of landing (whichever occurs first), as specified in Section 6.2.5 of this report (processing plant, factory or auction house*). The auction houses are included in the fishery certificate but land-based processing plants as well as cold/freezer stores that perform anything more than movement of product must have separate CoC certification. (It should be noted that it is currently only Icelandic vessels which sell their catches*

through authorised auction houses and only a very small quantity of the catch is sold through auction. Products landed for auction houses change ownership only after landing. These auction houses do not handle the products physically).

Land-based storing facilities (which do not carry out any processing of the fish) do not need to have a CoC certificate.

*Products eligible to enter the chain of custody are, **but not limited to**: h/g frozen at sea, gutted and chilled on ice, and fillets frozen (e.g. skin-on, pin bone in).*

Frozen at sea by-products eligible to enter the chain of custody are heads, tails, liver, roe, milt, cheeks, tongues and stomachs. Fishmeal and other by-products are not covered by this certification. In order to include fishmeal in the certification, a separate CoC certification of the processing operations on board would be required.

*Point of intended change of ownership is **XXXXX***

6.4 Eligibility of Inseparable or Practicably Inseparable (IPI) stock(s) to enter further chains of custody

There are no IPI stocks for the fishery.

6.5 Risk- based methods for data-deficient fishery

The assessment team shall determine whether the fishery may or may not be data-deficient with respect to 1 or more scoring elements within a PI. The criteria in Table 13 should be applied to determine this (Reference FCP v2.2 §7.7.3).

Table 13 RBF methods for data deficient fisheries

Performance Indicator	Criteria	Consideration	Notes
1.1.1 Stock status	Stock status reference points are available, derived either from analytical stock assessment or using empirical approaches.	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.
2.1.1 Primary species outcome and 2.2.1 Secondary species outcome	Biologically based limits are available, derived either from analytical stock assessment or using empirical approaches.	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.
2.3.1 ETP species outcome	Can the impact of the fishery in assessment on ETP species be analytically determined?	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.
2.4.1 Habitats outcome	In line with the MSC Fisheries Standard habitats guidance (GSA3.13.1.1), are both of the following applicable? 1. Information on habitats encountered is available. 2. Information on impact of fishery on habitats encountered is available.	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.
2.5.1 Ecosystem outcome	Is information available to support an analysis of the impact of the fishery on the ecosystem?	Yes	Use default Performance Indicator Scoring Guideposts within default assessment tree for this PI.
		No	Use Annex PF (RBF) for this PI.

RBF will not be used in this assessment.

7 Scoring

7.1 Summary of Performance Indicator level scores

Table 14 Performance Indicator level scores

	Performance Indicator (PI)	UoA 1	UoA 2	UoA 3
1.1.1	Stock status	≥80	≥80	≥80
1.1.2	Stock rebuilding	≥80	≥80	≥80
1.2.1	Harvest strategy	≥80	≥80	≥80
1.2.2	Harvest control rules & tools	≥80	60-79	≥80
1.2.3	Information & monitoring	≥80	≥80	≥80
1.2.4	Assessment of stock status	≥80	≥80	≥80
2.1.1	Outcome	≥80	≥80	≥80
2.1.2	Management strategy	≥80	≥80	≥80
2.1.3	Information/Monitoring	≥80	≥80	≥80
2.2.1	Outcome	≥80	≥80	≥80
2.2.2	Management strategy	≥80	≥80	≥80
2.2.3	Information/Monitoring	≥80	≥80	≥80
2.3.1	Outcome	≥80	≥80	≥80
2.3.2	Management strategy	≥80	≥80	≥80
2.3.3	Information strategy	≥80	≥80	≥80
2.4.1	Outcome	≥80	≥80	≥80
2.4.2	Management strategy	60-79	60-79	60-79
2.4.3	Information	≥80	≥80	≥80
2.5.1	Outcome	≥80	≥80	≥80
2.5.2	Management	≥80	≥80	≥80
2.5.3	Information	≥80	≥80	≥80
3.1.1	Legal &/or customary framework	≥80	≥80	≥80
3.1.2	Consultation, roles & responsibilities	≥80	≥80	≥80
3.1.3	Long term objectives	≥80	≥80	≥80
3.2.1	Fishery specific objectives	≥80	≥80	≥80
3.2.2	Decision making processes	≥80	≥80	≥80
3.2.3	Compliance & enforcement	≥80	≥80	≥80
3.2.4	Monitoring & management performance evaluation	≥80	≥80	≥80

Table 15 Principle level scores

Overall weighted Principle-level scores	UoA 1	UoA 2	UoA 3
Principle 1 - Target species	≥80	≥80	≥80
Principle 2 - Ecosystem	≥80	≥80	≥80
Principle 3 - Management	≥80	≥80	≥80

7.2 Principle 1

7.2.1 Principle 1 background

1. Northeast Artic Cod

Biology

This section is based on the original assessment report (Kiseleva et al., 2017). Cod (*Gadus morhua*) is a benthopelagic species (living at 0 – 600m, but typically 150 – 200m), which is widely distributed in a variety of habitats in Northern temperate waters, from the shoreline down to the continental shelf and from the arctic polar front to a latitude of around 35°N (up to 20°C).

Yaragina et al (2011) reviewed the knowledge of Barents Sea cod biology, including its stock structure, distribution (by life stage) and migrations. In the Barents Sea, two stocks of cod are recognized – Northeast Arctic (NEA) and Norwegian Coastal (NC) cod, the latter inhabiting the fjords along the coast of Norway and only undertaking limited migrations outside of this area. The main spawning grounds of both groups are along the Norwegian coast between 60º and 74º N, implying some level of mixing of the two stocks in the coastal zone during the spawning season. The 0-group of NEA cod drifts from the spawning grounds eastwards and northwards and are observed over wide areas in the Barents Sea with the main feeding areas north of 70ºN. These cod are distributed in the Barents Sea and adjacent waters, mainly in waters above 0C.

Cod are important predators in the ecosystem. Strong trophic relationships exist between cod, capelin and euphausiids (krill), although they are omnivorous. Larvae and post larvae feed on plankton; juveniles mainly feed on small crustaceans, progressively replaced by decapods (e.g. krill) and adults predominantly feed on finfish. The Barents Sea cod populations tend to follow the spawning capelin to the Norwegian coast in the spring, whereas in the summer, they leave the coastal area and disperse, feeding on capelin and herring in the Barents Sea. Aside from these core components of the diet, cod are benthic foragers, feeding on species such as polychaetes and echinoderms. Feeding occurs at dawn and dusk, but small fish (less than 20cm) feed continuously. Cannibalism has been shown to be a very important process in its biology.

Fisheries and Catch profiles

Cod are predominantly taken by an international trawler fleet operating in offshore waters and by vessels using gillnets, longlines, handlines and Danish seine operating both offshore and in the coastal areas. 60-80% of the annual landings are from trawlers (ICES, 2017). Discarding is considered negligible in recent years (below 5%; ICES, 2021a).

Catches have been variable historically since the 40´s but reached their lowest value in 1990 to 212 thousand tonnes, but have since increased to almost 1 million tonnes in 2014, and is since decreasing reaching 692,903 tonnes in 2020 (**Figure 1**, left upper graph; ICES, 2021a).

Stock Status and Assessment

Cod in subareas 1 and 2 is assessed quantitatively by ICES annually using the SAM, an age-based analytical stochastic assessment model (State–space Assessment Model - SAM). The SAM accounts for variable selectivity by age, achieved by assuming that the F vector follows a multivariate random walk with a simple covariance structure described by only one parameter (ρ) (Berg and Nielsen, 2016). Time series smoothing of F allows the fishery selection pattern to evolve over time and therefore will more realistically reflect gradual changes to fishing fleets than models which assume a fixed time invariant selection pattern. The state-space approach means that both observation error and process error can be estimated. The stock assessment is considerably consistent showing little retrospective bias (**Figure 2**). However, the assessment was benchmarked in 2021, where input data and assessment model settings were changed, and stock abundance was revised downwards (ICES, 2021b).

Stock biomass has been variable mostly below B_{MGT} (B_{pa}= 460,000 tonnes) until 2005, increasing afterwards to a peak in 2013 (2,262,649 tonnes) but has been decreasing since reaching 1,013,636 tonnes in 2020. Fishing mortality has reduced twice in 1991 (0.41) and again in 2010/2012 (0.29) since its maximum values above F_{lim} (0.74) in the late 70s, 80s and 90s. F has been below F_{MSY} (0.4) between 2008 and 2018 and is in 2020 0.44. Recruitment has been variable over the entire time-series, although with lower peaks in recent decades (Figure 1). ICES advises that when the Joint Norwegian–Russian Fisheries Commission (JRNFC) management plan is applied, catches in 2022 should be no more than 708 480 tonnes (ICES, 2021a).

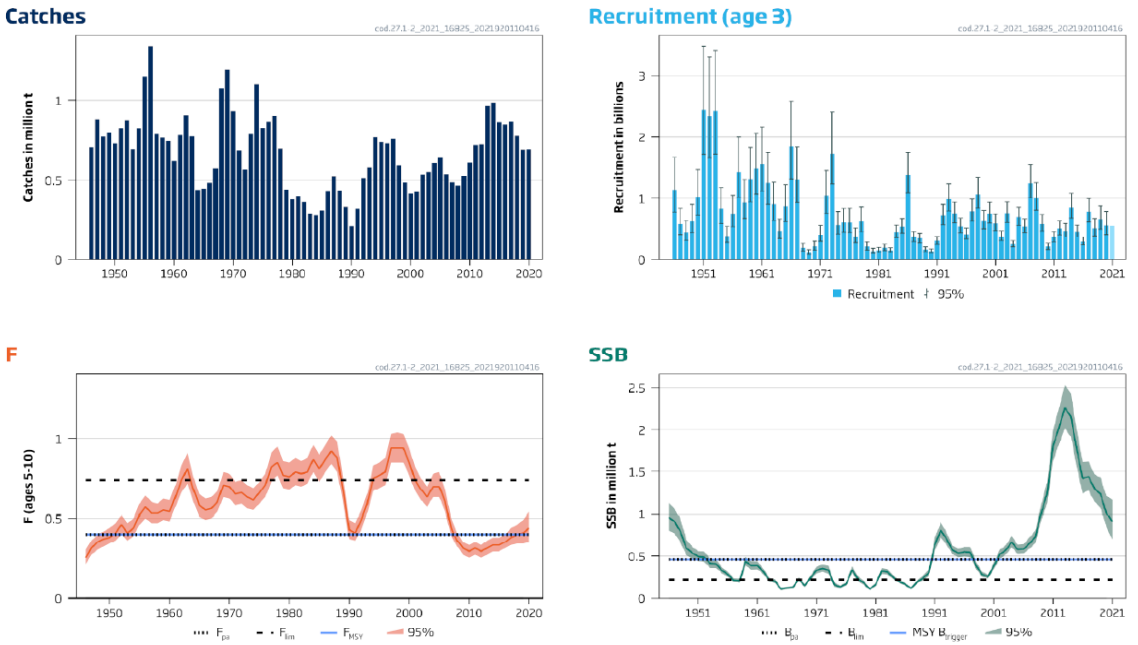

Figure 1. Cod in subareas 1 and 2. Historical development of the stock from the summary of stock assessment. F_{MSY} and F_{MGT} ranges from 0.40 to 0.60, and there are three SSB_{MGT} values (460,000, 920,000 and 1,380,000 tonnes) which are not shown. Assumed recruitment value is shaded in a lighter colour (ICES, 2021c).

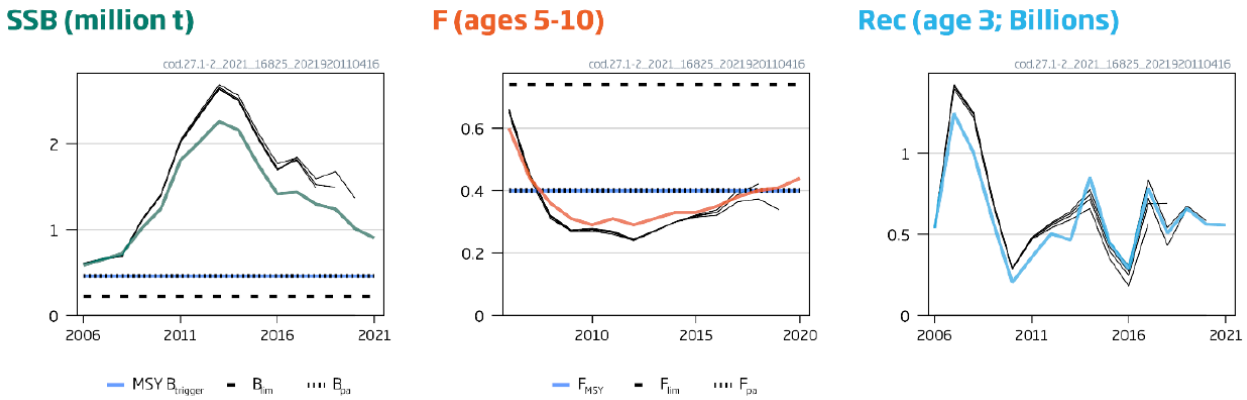

Figure 2. Cod in subareas 1 and 2. Historical assessment results. The stock was benchmarked in 2021 (ICES, 2021c).

Stock management

Cod in subareas 1 and 2 is managed by Norway and Russia under the Joint Norwegian–Russian Fisheries Commission (JNRFC), where the TAC is set in the context of a management plan with an explicit HCR (ICES, 2021a):

- as the average catch predicted for the coming three years, using the target level of exploitation (F_{tr}).
- the target level of exploitation is calculated according to the spawning-stock biomass (SSB) in the first year of the forecast as follows:
  - if SSB < B_{pa}, then F_{tr} = SSB/B_{pa} × F_{MSY};
  - if B_{pa} ≤ SSB ≤ 2×B_{pa}, then F_{tr} = F_{MSY};
  - if 2 × B_{pa} < SSB < 3 × B_{pa}, then F_{tr} = F_{MSY} × (1 + 0.5 × (SSB – 2 × B_{pa})/B_{pa});
  - if SSB ≥ 3 × B_{pa}, then F_{tr} = 1.5 × F_{MSY};
  - where F_{MSY} = 0.40 and B_{pa} = 460,000 tonnes.
- If the SSB in the present year, the previous year, and each of the three years of prediction is above B_{pa}, the TAC should not be changed by more than ±20% compared with the previous year's TAC. In this case, however, F_{tr} should not be below 0.30.

ICES evaluated this harvest control rule in 2016 (ICES, 2016) and 2021 (ICES, 2021b) and concluded that it is precautionary. Additional control measures in operation include mesh size limitations including sorting grids, a minimum size (44 cm), a maximum bycatch of undersized fish (15% by number for cod, haddock and saithe combined), maximum

bycatch of non-target species, closure of areas with high densities of juveniles and by seasonal and area restrictions (ICES, 2017).

2. Northeast Artic Haddock

Biology

This section is based on the original assessment report (Kiseleva et al., 2017). Haddock (*Melanogrammus aeglefinus*) is a demersal, marine species, widely distributed in temperate northern waters within the 10- 450m depth range (79°N - 35°N, 76°W -52°E). Adults are most commonly found from 80 to 200m, over rock, sand, gravel or shells, usually at temperatures between 4° and 10°C.

Relatively little is known about haddock migration patterns, although it has been shown that young haddock in the Barents Sea tend to remain within the Barents Sea, whilst larger fish undertake extensive migrations, moving to their spawning grounds in winter. The main spawning grounds are located along the Norwegian coast (between 70°30' and 73°N) and along the continental slope at a depth of 50 to 200 metres, spawning lasts from about January to June. Female haddock produce between 0.1 and 2.0 million eggs. The planktonic eggs are slightly larger than one millimetre. Larvae hatch after one to two weeks and at a length of 5.5mm, begin hunting for small crustaceans and other zooplankton species. During this phase, haddock remain in the open sea, near the surface, often seeking protection beneath the umbrellas of large medusae (jellyfish). When haddock have reached about 10cm, they leave the pelagic habitat and become demersal.

The maximum age of the haddock is about 20 years. Recruitment to the adult population varies, with good year-classes often following bad and vice versa. The reasons for this are poorly understood although it has been associated with the changes in the influx of Atlantic waters to the Barents Sea; water temperature at the first and second years of the haddock life can serve as an indicator of year-class strength with a steep rise or fall in water temperature resulting in a marked effect on year-class abundance.

Juvenile and adult haddock feed mainly on small bottom-living organisms including crustaceans, molluscs, echinoderms, worms and fishes although they can vary their diet and act as both predator and plankton-eater or benthos-eater. For example, during the spawning migration of capelin, haddock prey on capelin, but when the capelin abundance is low or when their areas do not overlap, haddock can compensate for the lack of capelin with other species, i.e. young herring, krill and benthos, which are common in the haddock diet throughout a year. Similar to cod, annual consumption of haddock by marine mammals, mostly seals and whales, depends on the stock size of capelin which is their main prey. In years when the capelin stock is large, the importance of haddock in the diet of marine mammals is minimal, while under a reduced capelin stock, a considerable increase in the consumption of haddock by marine mammals is observed.

Russkikh and Dingsor (2011) reviewed the knowledge of Barents Sea haddock biology, including its stock structure, distribution (by life stage) and migration. While coastal stocks are recognized, there are thought to be minor and provide little contribution to the main offshore Barents Sea stock. As with cod, the main feeding grounds are north of 70º N.

Fisheries and Catch profiles

Haddock are predominantly taken by Norwegian and Russian fisheries throughout the year. In years when the commercial stock is low, they are mostly caught as bycatch in cod trawl fishery; when the commercial stock abundance and biomass are high, haddock are also harvested in a targeted fishery. On average approximately 65% of the catch is taken by trawl while 35% of the catch is taken mostly by Norwegian longlines. Part of the longline catches are from a directed fishery (ICES, 2020a). Discarding is unknown, but assumed to be negligible (ICES, 2021c).

Catches have peaked in 1973 to 322,226 tonnes but decreased rapidly to its lowest in 1984 (20,945 tonnes) and again in 1990 (27,182 tonnes) but increased afterwards peaking again in 2012 to 315,627 tonnes. Catches have since been variable around 200 thousand tonnes (Figure 3, left upper graph; ICES, 2021c).

Stock Status and Assessment

Haddock in subareas 1 and 2 is assessed quantitatively by ICES annually using the SAM model. The stock assessment is considerably consistent showing little retrospective bias (Figure 4) even considering that the assessment was benchmarked in 2020 (ICES, 2020b).

Stock biomass has been variable mostly above B_{MGT} (B_{pa}= 80,000 tonnes) until 2006, increasing afterwards to a peak in 2013 (524,196 tonnes) but has been decreasing since, reaching 199,478 tonnes in 2021. Fishing mortality has been variable throughout the time-series, although with a decreasing trend to its lowest point in 2013 (0.148). Since then,

fishing mortality has increased, being above F_{MSY} (0.35) since 2018, and is in 2020 0.44. Recruitment has been variable over the entire time-series (Figure 3). ICES advises that when the Joint Norwegian–Russian Fisheries Commission (JNRFC) management plan is applied, catches in 2022 should be no more than 178,532 tonnes (ICES, 2021c).

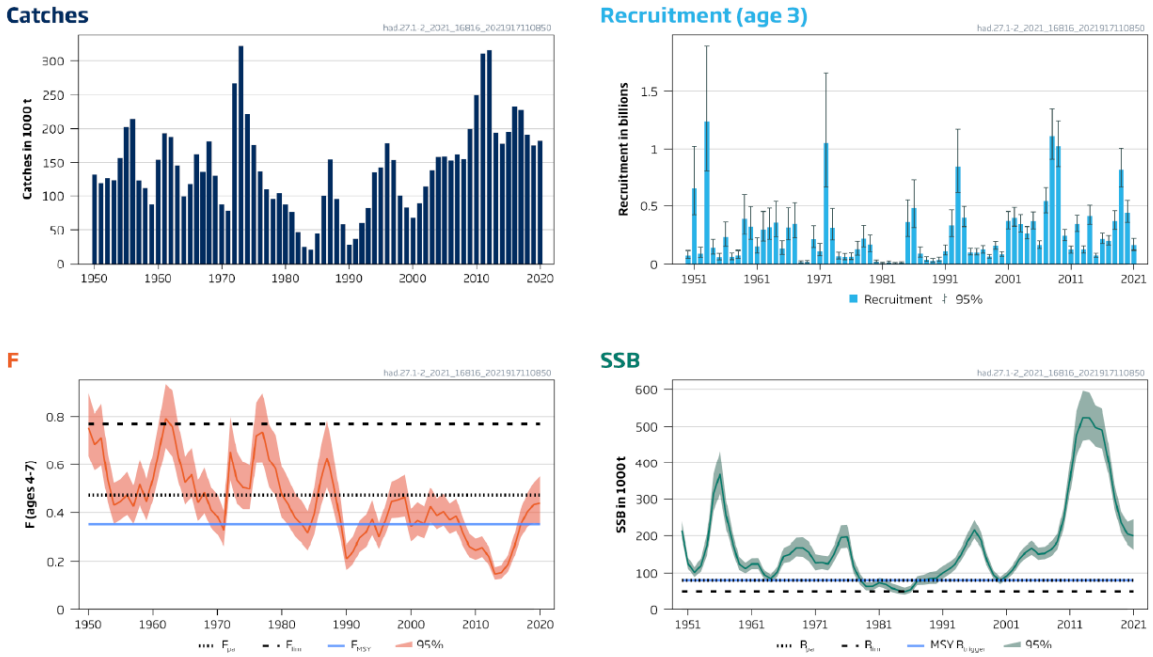

Figure 3. Haddock in subareas 1 and 2. Historical development of the stock from the summary of stock assessment (ICES, 2021c).

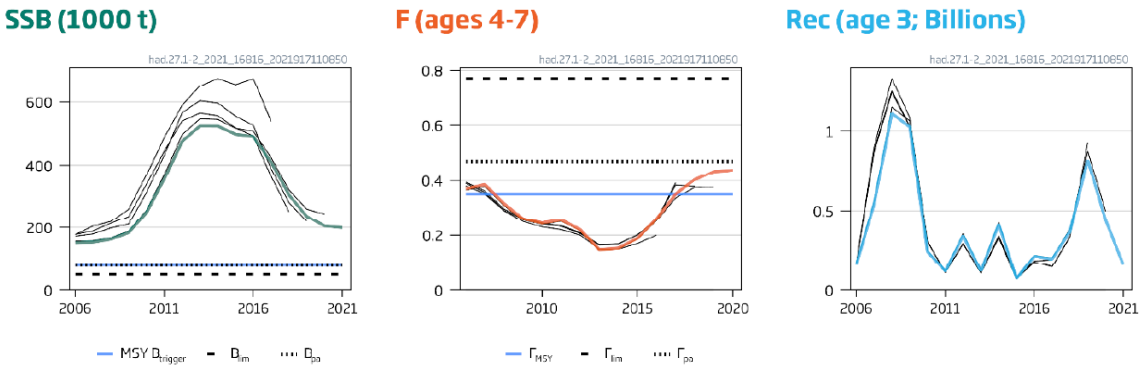

Figure 4. Haddock in subareas 1 and 2. Historical assessment results. For the 2016 assessment, the fishing mortality plot shows F + M2 (natural mortality due to predation by cod), instead of only F. The stock was benchmarked in 2020 (ICES, 2020), and only last two years' assessments should be compared (ICES, 2021c).

Stock management

Haddock in subareas 1 and 2 is managed by Norway and Russia under the Joint Norwegian–Russian Fisheries Commission, where the TAC is set in the context of a management plan with an explicit HCR (ICES, 2021c):

- TAC for the next year will be set at level corresponding to F_{MSY}.
- the TAC should not be changed by more than ±25% compared with the previous year TAC.
- if SSB < B_{pa}, then F_{TAC} = SSB/B_{pa} × F_{MSY};
- if SSB < B_{pa} in any of the operational years (current year and a year ahead) there should be no limitations on the year-to-year variations in TAC.

ICES evaluated this HCR in 2016 and rechecked it in 2020 (ICES, 2020b). ICES concluded that the HCR is precautionary (ICES, 2021c). Additional control measures in operation include a minimum size (40 cm), a minimum codend mesh size (130 mm) and sorting grids in trawls and minimum mesh size in Danish seine, a maximum bycatch of undersized fish (15% by number for cod, haddock and saithe combined), closure of areas with high density/catches of juveniles and other seasonal and areal restrictions (ICES, 2020a).

3. Northeast Artic Saithe

Biology

This section is based on the original assessment report (Kiseleva et al., 2017). Saithe (*Pollachius virens*) is an active gregarious fish and is only found in the North Atlantic. Mehl et al (2011) reviewed the knowledge of Barents Sea saithe biology, including its stock structure, distribution (by life stage) and migration. After winter-spring spawning in the Barents Sea, in April-June, the 0-group saithe drift from the spawning grounds to inshore waters; in summer and autumn large numbers of juvenile saithe occupy the coastal zone. Age 2-4 saithe then gradually move to deeper waters, and by ages 3-6 are found on typical saithe grounds. Saithe start to mature at age 5-7 and in early winter start to migrate towards the spawning grounds further out and south. Juveniles start to resemble adults when they are 25-30 mm long. Once reaching 20 – 30 cm length, they settle in the littoral zone by the following autumn. After relatively rapid growth during the first years, growth gradually slows when the fish becomes mature, which may start as early as age four and by the age of nine, all fish are sexually mature. Northeast Arctic saithe can grow to 20 kg and 130 cm and live for at least 30 years.

The stock boundary of 62º N is more for management purposes than a biological basis for stock separation. Tagging experiments show a regular annual migration of mature fish from the North-Norwegian coast to the spawning areas off the west coast of Norway and also to a lesser extent to the northern North Sea. There is also migration of immature saithe to the North Sea from the Norwegian coast between 62º and 66º N. In some years, there are examples of migration from northern Norway to Iceland and to a lesser extent to the Faroe Islands. For saithe, the Barents Sea, apart from the nursery areas on the coast, is merely a feeding area. In summer (June-August), mature saithe from the Norwegian coastal banks spread far into the north-western and central Barents Sea, where they remain to spawning the next season.

The main prey items for young saithe are copepods, krill and other crustaceans, while older fish prey on capelin, herring, sprat, young haddock, Norway pout and blue whiting. The importance of fish in the diet is highest in the north (herring, haddock and blue whiting with cod occurring only sporadically), while further south the importance of crustacean species increases. During the fourth quarter of the year, krill is the single most important prey species, followed by Norway pout, herring, blue whiting and haddock.

Fisheries and Catch profiles

Saithe are predominantly taken by Norwegian fisheries, accounting for 87% of total catches. Over the last ten years, about 38% of the Norwegian catch originates from bottom trawl, 27% from purse seine, 20% from gill net and 14% from other conventional gears (long line, Danish seine and hand line). The gillnet fishery is most intense during winter, purse seine in the summer months while the trawl fishery takes place more evenly all year around. Discarding is considered negligible (ICES, 2018a).

Catches peaked above 200 thousand tonnes in the mid-70s, reached their lowest value in 1986 to 67 thousand tonnes, but have since increased and have been variable around 150 thousand tonnes (**Figure 5**, left upper graph; ICES, 2021c).

Stock Status and Assessment

Saithe in subareas 1 and 2 is assessed quantitatively by ICES annually using the SAM model. The stock assessment is considerably consistent showing little retrospective bias (**Figure 6**).

Stock biomass has been variable above B_{MGT} (B_{pa}= 220,000 tonnes) since 1994, showing a peak in 2005 (597,772 tonnes) and has been increasing since 2011 reaching 557,582 tonnes in 2020. Fishing mortality has reduced since its maximum values above F_{lim} around 80s and beginning of 90s, to be below F_{MP} (0.32) since 1997, and only being above F_{MP} between 2008-2012, decreasing since to 0.22 in 2020. ICES advises that when the Norwegian management plan is applied, catches in 2022 should be no more than 197,212 tonnes (ICES, 2021d).

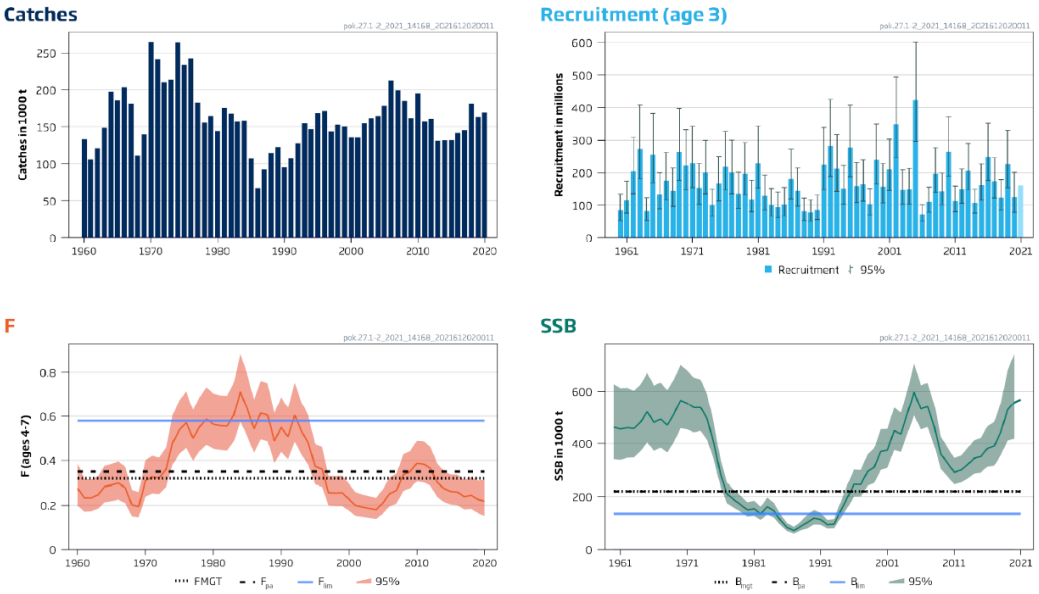

Figure 5. Saithe in subareas 1 and 2. Historical development of the stock from the summary of stock assessment. Assumed recruitment value is shaded in a lighter colour (ICES, 2021d).

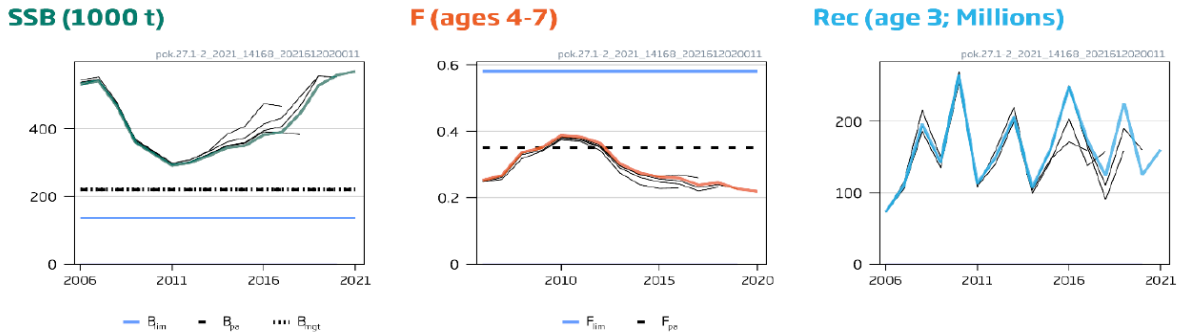

Figure 6. Saithe in subareas 1 and 2. Historical assessment results (final-year recruitment estimates included, (ICES, 2021d).

Stock management

Saithe in subareas 1 and 2 is managed by Norway, where the TAC is set in the context of a management plan with an explicit HCR: *"Estimate the average TAC level for the coming 3 years based on F_{MP} = 0.32. TAC for the next year will be set to this level as a starting value for the 3-year period. The year after, the TAC calculation for the next 3 years is repeated based on the updated information about the stock development. However, the TAC should not be changed by more than +/− 15% compared with the previous year's TAC. If the spawning-stock biomass (SSB) in the beginning of the year for which the quota is set (first year of prediction), is below B_{pa}, the procedure for establishing TAC should be based on a fishing mortality that is linearly reduced from F_{MP} at SSB = B_{pa} to 0 at SSB equal to zero. At SSB levels below B_{pa} in any of the operational years (current year and 3 years of prediction) there should be no limitations on the year-to year variations in TAC*" (ICES, 2021d).

Additional control measures in operation include a minimum size of 45 cm for trawl and conventional gears, 42 cm (north of Lofoten) and 40 cm (between 62°N and Lofoten) for purse seine, with an exception for the first 3000 t purse seine catch between 62°N and 66°33' 30 N, where the minimum size still is 35 cm (ICES, 2018).

7.2.2 Total Allowable Catch (TAC) and catch data

Table 16 Total Allowable Catch (TAC) and catch data for NE Artic cod

TAC	Year	**2022**	708,480	**tonnes**
UoA share of TAC	Year	**2022**	Amount	%
UoA share of total TAC	Year	**2022**	Amount	**%**
Total green weight catch by UoC	Year (most recent)	**2021**	Amount	**Tonnes**
Total green weight catch by UoC	Year (second most recent)	**2020**	Amount	**Tonnes**

Table 17 Total Allowable Catch (TAC) and catch data for NE Artic haddock

TAC	Year	**2022**	178,532	**tonnes**
UoA share of TAC	Year	**2022**	Amount	%
UoA share of total TAC	Year	**2022**	Amount	**%**
Total green weight catch by UoC	Year (most recent)	**2021**	Amount	**Tonnes**
Total green weight catch by UoC	Year (second most recent)	**2020**	Amount	**Tonnes**

Table 18 Total Allowable Catch (TAC) and catch data for NE Artic saithe

TAC	Year	**2022**	197,212	**tonnes**
UoA share of TAC	Year	**2022**	Amount	%
UoA share of total TAC	Year	**2022**	Amount	**%**
Total green weight catch by UoC	Year (most recent)	**2021**	Amount	**Tonnes**
Total green weight catch by UoC	Year (second most recent)	**2020**	Amount	**Tonnes**

7.2.3 Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock status of Northeast Artic cod (subareas 1 and 2)

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guide post	It is **likely** that the stock is above the point where recruitment would be impaired (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree of certainty** that the stock is above the PRI.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Cod in subareas 1 and 2 stock biomass is assessed to be in 2020 at 1,013,636 tonnes (between 843,651 and 1,217,870 tonnes), which is more than 4 times above the estimated B_{lim} (between 3.83 and 5.54) and 2.20 times above B_{pa}. Considering that by definition B_{pa} is where there is less than 5% chance of biomass being below B_{lim}, then there is a high degree of certainty that the stock is above PRI and **SG60, SG80 and SG100 are met**.

b	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
	Guide post		The stock is at or fluctuating around a level consistent with MSY.	There is **a high degree of certainty** that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**Yes**	**No**
Rationale				

Stock biomass has been variable mostly below B_{MGT} (B_{pa}= 460,000 tonnes) until 2005, increasing afterwards to a peak in 2013 (2,262,649 tonnes) but has been decreasing since reaching 1,013,636 tonnes in 2020. Assuming B_{MSY} around the double of B_{pa} (at around 920,000 tonnes) stock biomass is still above it (1.1 times) and **SG80 is reached**. The 95% CI of the 2020 stock biomass lower boundary (843,000 tonnes) is 0.91 below twice B_{pa}. While the biomass projected for 2021 is to continue decreasing. Therefore it cannot be stated that there is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY over recent years and and **SG100 is not reached**.

References

(ICES, 2021a)

Stock status relative to reference points			
	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	*B_{lim}*	*220,000 tonnes*	*B_{2020}/B_{lim} = 4.61 (between 3.83 and 5.54 95% CI)*
Reference point used in scoring stock relative to MSY (SIb)	*B_{MGT}= B_{pa}=$MSYB_{trigger}$* *F_{MP}=F_{MSY}* *F_{pa}*	*460,000 tonnes* *0.40-0.60* *0.40*	*B_{2020}/B_{MGT} = 2.20 (between 1.83 and 2.65 95% CI)* *F_{2020}/F_{MP} = 1.1-0.73 (between 0.88-0.58 and 1.35-0.9)*

Draft scoring range and information gap indicator added at Announcement Comment Draft Report stage

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.1.1 – Stock status of Northeast Artic haddock (subareas 1 and 2)

PI 1.1.1		**The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing**		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guide post	It is **likely** that the stock is above the point where recruitment would be impaired (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree of certainty** that the stock is above the PRI.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Haddock in subareas 1 and 2 stock biomass is assessed to be in 2021 at 199,478 tonnes (between 162,620 and 244,689 tonnes), which is almost 4 times above the estimated B_{lim} (between 3.25 and 4.89) and 2.49 times above B_{pa}. Considering that by definition B_{pa} is where there is less than 5% chance of biomass being below B_{lim}, then there is a high degree of certainty that the stock is above PRI and **SG60, SG80 and SG100 are met.**

b	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
	Guide post		The stock is at or fluctuating around a level consistent with MSY.	There is **a high degree of certainty** that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**Yes**	**Yes**
Rationale				

Stock biomass has been variable mostly above B_{MGT} (B_{pa}= 80,000 tonnes) until 2006, increasing afterwards to a peak in 2013 (524,196 tonnes) but has been decreasing since, reaching 199,478 tonnes in 2021. Assuming B_{MSY} around the double of B_{pa} (at around 160,000 tonnes) stock biomass is still above 1.25 times. The 95% CI of the 2021 stock biomass lower boundary (162,620 tonnes) is at B_{pa}. For all these reasons there is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY over recent years and both **SG80 and SG100 are reached**.

References

(ICES, 2021b)

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	B_{lim}	*50,000 tonnes*	B_{2021}/B_{lim} *= 3.99 (between 3.25 and 4.89 95% CI)*
Reference point used in scoring stock relative to MSY (SIb)	$B_{MGT} = B_{pa} = MSYB_{trigger}$ $F_{MP} = F_{MSY}$ F_{pa}	*80,000 tonnes* *0.35* *0.45*	B_{2021}/B_{MGT} *= 2.49 (between 2.03 and 3.06 95% CI)* F_{2020}/F_{MSY} *= 1.26 (between 1 and 1.57)*

Draft scoring range and information gap indicator added at Announcement Comment Draft Report stage

Draft scoring range	**≥80**

Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.1.1 – Stock status of Northeast Artic saithe (subareas 1 and 2)

PI 1.1.1		**The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing**		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guide post	It is **likely** that the stock is above the point where recruitment would be impaired (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree of certainty** that the stock is above the PRI.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Saithe in subareas 1 and 2 stock biomass is assessed to be in 2020 at 557,582 tonnes (between 418,771 and 742,403 tonnes), which is 4 times above the estimated B_{lim} (between 3.08 and 5.46) and 2.53 times above B_{pa}. Considering that by definition B_{pa} is where there is less than 5% chance of biomass being below B_{lim}, then there is a high degree of certainty that the stock is above PRI and **SG60, SG80 and SG100 are met**.

b	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
	Guide post		The stock is at or fluctuating around a level consistent with MSY.	There is **a high degree of certainty** that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**Yes**	**Yes**
Rationale				

Stock biomass has been variable above B_{MGT} (B_{pa}= 220,000 tonnes) since 1996, showing a peak in 2005 (597,772 tonnes) and has been increasing since 2011 reaching 557,582 tonnes in 2020. Assuming B_{MSY} around the double of B_{pa} (at around 440,000 tonnes) stock biomass is still above 1.27. The 95% CI of the 2020 stock biomass lower boundary (418,771 tonnes) is just below twice B_{pa}. For all these reasons there is a high degree of certainty that the stock has been fluctuating around a level consistent with MSY over recent years and both **SG80 and SG100 are reached**.

References

(ICES, 2021d)

Stock status relative to reference points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	*B_{lim}*	*136,000 tonnes*	*B_{2020}/B_{lim} = 4.10 (between 3.08 and 5.46 95% CI)*
Reference point used in scoring stock relative to MSY (SIb)	*B_{MGT}= B_{pa}* *F_{MP}* *F_{pa}*	*220,000 tonnes* *0.32* *0.35*	*B_{2020}/B_{MGT} = 2.53 (between 1.90 and 3.37 95% CI)* *F_{2020}/F_{MP} = 0.69 (between 0.48 and 0.97)*

Draft scoring range and information gap indicator added at Announcement Comment Draft Report stage

Draft scoring range	**≥80**

Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guide Post	The harvest strategy is **expected** to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy **work together** towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is **designed** to achieve stock management objectives reflected in PI 1.1.1 SG80.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

Cod and haddock in subareas 1 and 2 are managed jointly by Norway and Russia under the JNRFC, while saithe is subareas 1 and 2 is managed solely by Norway. There are precautionary and MSY objectives in the JNRFC and in Norway policies, a licensing scheme exists, a set of specific management measures can be adopted (including TACs, minimum size and gear specifications) and minimum monitoring requirements need to be reached. There are also management plans with a specific HCRs and management limit and target reference points, that have been assessed to be precautionary and are used to set TACs for this stock. Therefore, the assessment team concludes that the harvest strategy is responsive to the state of the stocks and is also designed to achieve stock management objectives and all **SG60, SG80 and SG100 are met for the three stocks**.

b	Harvest strategy evaluation			
	Guide post	The harvest strategy is **likely** to work based on prior experience or plausible argument.	The harvest strategy may not have been fully **tested** but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been **fully evaluated** and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

For cod, haddock and saithe in subareas 1 and 2, the stocks are either at or fluctuating around a level consistent with MSY, while the performance of the harvest strategy has been fully evaluated by ICES (cod in 2016 and 2021, haddock in 2016 and 2020, saithe in 2011 and 2014) and considered to be precautionary and thus **SG60, SG80 and SG100 are reached for the 3 stocks.**

c	Harvest strategy monitoring			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		

	UoA 1 (cod)	**Yes**		
	UoA 2 (haddock)	**Yes**		
	UoA 3 (saithe)	**Yes**		

Rationale

There is a monitoring scheme in place for all the three stocks and the fisheries. There is a self-sampling programme based on a reference fleet, a group of commercial fishing boats using different fishing gears which collects biological data from the catches for IMR, and fishery-independent abundance surveys (joint Norwegian-Russian, Russian survey, Norwegian acoustic survey). There was in the past a port sampling scheme in Norway (replaced by the reference fleet). Discards are not routinely sampled in Norwegian or Russian vessels although are known to occur. Nevertheless, all these data collected are used to inform the stock assessment on stock status, which allows for an evaluation of the harvest strategy and therefore **SG60 is reached by all stocks.**

d	Harvest strategy review			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	UoA 1 (cod)			**Yes**
	UoA 2 (haddock)			**Yes**
	UoA 3 (saithe)			**Yes**

Rationale

The Norwegian and the JNRFC fisheries management is reviewed periodically, for example the management plan target for saithe was reduced in 2013 and subsequently evaluated by ICES, while each HCR has been evaluated by ICES several times. The Norwegian data collection system is also periodically reviewed, the latest in 2000 when the self-sampling scheme with the use of a reference fleet started. Finally, ICES stock assessments are also reviewed bi-annually and benchmarked regularly (cod in 2016 and 2021, haddock in 2016 and 2020, saithe in 2005, 2011, 2014). Therefore, all components of the harvest strategy, namely the management system and its ability to control fishing mortality and respond to stock status, the stock assessment and monitoring systems are periodically reviewed so **SG100 is met by all UoAs.**

e	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**

Rationale

The fishery does not target a shark species. The scoring is not applicable

f	Review of alternative measures			
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**

Rationale

For cod, haddock and saithe in subareas 1 and 2 discards are negligible and therefore the scoring is not applicable.

References

(Clegg and Williams, 2020; ICES, 2021a,b,c,d, 2020a,b, 2017, 2018)

Draft scoring range UoA 1	**≥80**
Draft scoring range UoA 2	**≥80**
Draft scoring range UoA 3	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a	HCRs design and application			
	Guide post	**Generally understood** HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	**Well defined** HCRs are **in place** that **ensure** that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock **fluctuating around** a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock **fluctuating at or above** a target level consistent with MSY, or another more appropriate level taking into account the ecological role of the stock, **most** of the time.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

The Norwegian and the JNRFC management strategy has explicit HCRs for all three species in subareas 1 and 2, (see P1 background sections for details). The HCRs has been consistently applied to set TACs and the stocks are at or fluctuating around MSY levels and thus **SG60, SG80 and SG100 are all met for all UoAs**.

b	HCRs robustness to uncertainty			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.
	UoA 1 (cod)		**Yes**	**Yes**
	UoA 2 (haddock)		**Yes**	**Yes**
	UoA 3 (saithe)		**Yes**	**No**
Rationale				

The HCRs have all been evaluated by ICES in different occasions and have been considered precautionary, that included rebuilding scenarios and implementation errors in simulations, and therefore there is evidence that the HCRs are robust to the main uncertainties. **So SG80 is reached for all UoAs**. For cod and haddock, predation and cannibalism are taken into account in natural mortality value used in the assessment, and thus **SG100 is reached for UoA 1 and UoA 2.** However, for saithe the HCR does not take account of the ecological role of the stock and for this reason **SG100 is not met for UoA 3**.

c	HCRs evaluation			
	Guide post	There is **some evidence** that tools used **or available** to implement HCRs are appropriate and effective in controlling exploitation.	**Available evidence indicates** that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	**Evidence clearly shows** that the tools in use are effective in achieving the exploitation levels required under the HCRs.

	UoA 1 (cod)	**Yes**	**Yes**	**No**
	UoA 2 (haddock)	**Yes**	**No**	**No**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**

Rationale

For cod: stock biomass has been variable mostly below B_{MGT} (B_{pa}= 460,000 tonnes) until 2005, increasing afterwards to a peak in 2013 (2,262,649 tonnes) but has been decreasing since reaching 1,013,636 tonnes in 2020. Fishing mortality has reduced twice in 1991 (0.41) and again in 2010/2012 (0.29) since its maximum values above F_{lim} (0.74) in the late 70s, 80s and 90s. F has been below F_{MSY} (0.4) between 2008 and 2018, and is in 2020 0.44. In summary, fishing mortality has been below the management target recently and in the last year is still very close, while stock biomass is fluctuating at or around MSY levels. **Thus, SG60 and SG80 are met for UoA 1,** but there is no clear evidence the tools in use are effective in achieving the exploitation levels and **SG100 is not met for UoA 1**.

For haddock: stock biomass has been variable mostly above B_{MGT} (B_{pa}= 80,000 tonnes) until 2006, increasing afterwards to a peak in 2013 (524,196 tonnes) but has been decreasing since, reaching 199,478 tonnes in 2021. Fishing mortality has been variable throughout the time-series, although with a decreasing trend to its lowest point in 2013 (0.148). Since then fishing mortality has increased, being above F_{MSY} (0.35) since 2018, and is in 2020 0.44. Thus, only **SG60 is met for UoA 2**, as there is only some evidence the HCR has been effective in controlling fishing mortality in the past and is stabilising presently. **SG80 and SG100 are not met for UoA 2**.

For saithe: stock biomass has been above BMGT (Bpa= 220,000 tonnes) since 1994 and is increasing since 2011 reaching 568,972 tonnes in 2021. Fishing mortality has reduced since its maximum values above Flim around 80s and beginning of 90s, to be below FMP (0.32) since 1997, and only being above FMP between 2008-2012, decreasing since to 0.22 in 2020. For saithe in subareas 1 and 2 fishing mortality is below the management target and stock biomass is fluctuating around MSY levels. Thus **SG60, SG80, and SG100 are all met for UoA 3**.

References

(ICES, 2021a,b,c,d, 2020a,b, 2018, 2017)

Draft scoring range UoA 1	**≥80**
Draft scoring range UoA 2	**60-79**
Draft scoring range UoA 3	**≥80**
Information gap indicator	**Information sufficient to score PI.**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	Range of information			
	Guide post	**Some** relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	**Sufficient** relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A **comprehensive range** of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

Information on catch and effort, length and age structure, growth, maturity, stock abundance and fleet composition are all available for the stock in ICES databases (https://www.ices.dk/data/dataset-collections/Pages/default.aspx). The majority of catches, area of occurrence, and area of operation of the fishery are sampled on a regular basis and data are sufficient to support the harvest strategy – both **SG60 and SG80 are reached by all UoAs**. There has been genetic research on stock differentiation and dynamics between the North Atlantic stocks, and also for saithe new surveys (hydro-acoustic) to study spawning season and areas. Therefore, a comprehensive range of information is available to support the harvest strategy and **SG100 is also met by all UoAs**.

b	Monitoring			
	Guide post	Stock abundance and UoA removals are monitored and **at least one indicator** is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are **regularly monitored at a level of accuracy and coverage consistent with the harvest control rule**, and **one or more indicators** are available and monitored with sufficient frequency to support the harvest control rule.	**All information** required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent **uncertainties** in the information [data] and the robustness of assessment and management to this uncertainty.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

Catch per unit of effort is available from all fisheries, covering the majority of landings, although some of these are finally not used in the assessment due to changes in fishing patterns. There are fishery-independent abundance surveys that is used in the assessments. Age and maturity estimates are derived mainly from samples collected by the Norwegian reference fleet and by the Russian port sampling scheme. So all information required by a harvest control rule is regularly monitored with high frequency and thus **SG60 and SG80 are met by all UoAs**. The stock assessment benchmarks did

not show significant changes in stock perception, while the assessment is consistent and does not have a retrospective bias. Thus, **SG100 is also reached by all UoAs.**

	Comprehensiveness of information			
c	Guide post		There is good information on all other fishery removals from the stock.	
	UoA 1 (cod)		**Yes**	
	UoA 2 (haddock)		**Yes**	
	UoA 3 (saithe)		**Yes**	
Rationale				

Discards are negligible and recreational fisheries, which may not be sampled in as frequently as commercial catches, are less than 10% of total catches and thus **SG 80 is reached by all UoAs**.

References
(ICES, 2021a,b,c,d)

Draft scoring range UoA 1	**≥80**
Draft scoring range UoA 2	**≥80**
Draft scoring range UoAc3	**≥80**
Information gap indicator	**Information sufficient to score PI.**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post		The assessment is appropriate for the stock and for the harvest control rule.	The assessment takes into account the major features relevant to the biology of the species and the nature of the UoA.
	UoA 1 (cod)		**Yes**	**Yes**
	UoA 2 (haddock)		**Yes**	**Yes**
	UoA 3 (saithe)		**Yes**	**Yes**
Rationale				

All three stocks are assessed by ICES based on an age-based analytical stochastic assessment model (State–space Assessment Model – SAM) that uses catches in the model and in the forecast and one fishery-independent survey. The model considers the stock age composition, maturity, growth, natural mortality and fishery selectivity. Different recruitment assumptions have also been considered in the assessments. Therefore, major features of the biology of saithe are taken into account in the assessments – **SG80 and SG100 are reached by all UoAs.**

b	Assessment approach			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	UoA 1 (cod)	**Yes**	**Yes**	
	UoA 2 (haddock)	**Yes**	**Yes**	
	UoA 3 (saithe)	**Yes**	**Yes**	
Rationale				

The assessments carried out by ICES using SAM model estimates stock status relative to reference points, namely Bpa, Blim, FMP, Fpa and therefore **SG60 and SG80 are reached by all UoAs**. MSY reference points have also been defined for cod and haddock stocks.

c	Uncertainty in the assessment			
	Guide post	The assessment **identifies major sources** of uncertainty.	The assessment **takes uncertainty into account**.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a **probabilistic** way.
	UoA 1 (cod)	**Yes**	**Yes**	**Yes**
	UoA 2 (haddock)	**Yes**	**Yes**	**Yes**
	UoA 3 (saithe)	**Yes**	**Yes**	**Yes**
Rationale				

The assessment takes uncertainty into account in the catch data and in measurement error and it does estimate stock status in a probabilistic way relative to reference points as biomass and fishing mortality are estimated with 95% CI. Also, different recruitment assumptions have been considered in the assessment. Therefore **SG60, SG80 and SG100 are all reached by all UoAs.**

	Evaluation of assessment			
d	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	UoA 1 (cod)			**Yes**
	UoA 2 (haddock)			**Yes**
	UoA 3 (saithe)			**Yes**

Rationale

The SAM stock assessments for all three species have been re-evaluated in different benchmarks and did not show significant differences, while testing with different abundance indices, a rebuilding scenario and implementation error simulations. Also, the SAM stock assessments continue to be consistent between years, not showing a retrospective bias. Thus, **SG100 is reached by all UoAs**.

	Peer review of assessment			
e	Guide post		The assessment of stock status is subject to peer review.	The assessment has been **internally and externally** peer reviewed.
	UoA 1 (cod)		**Yes**	**Yes**
	UoA 2 (haddock)		**Yes**	**Yes**
	UoA 3 (saithe)		**Yes**	**Yes**

Rationale

Stock assessments are reviewed internally through the normal advisory process of ICES by-annually, in benchmarks exercises, and in specific methodological working groups (e.g. WKREF1 and 2). The assessments are also externally peer reviewed with the participation of invited experts at ICES working groups and benchmark exercises that review, among other issues, the assessment data, models and assumptions used. **SG80 and SG100 are met by all UoAs.**

References

(ICES, 2021a,b,c,d, 2020a,b, 2017, 2018S, 2020c, 2018a)

Draft scoring range UoA 1	**≥80**
Draft scoring range UoA 2	**≥80**
Draft scoring range UoA 3	**≥80**
Information gap indicator	**Information sufficient to score PI.**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

7.3 Principle 2

7.3.1 Principle 2 background

The MSC Fisheries Standard v2.01 indicates for Principle 2:

"Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends".

Therefore, in this Principle 2, the MSC standard and criteria assesses the impact of the fishery on the following five (5) components: primary (Performance Indicator 2.1) and secondary (Performance Indicator 2.2) species, Endangered, Threatened and Protected (ETP) species (Performance Indicator 2.3), marine habitats (Performance Indicator 2.4) and the ecosystem (Performance Indicator 2.5). These five components are considered to cover the range of potential ecosystem elements that may be impacted by a fishery.

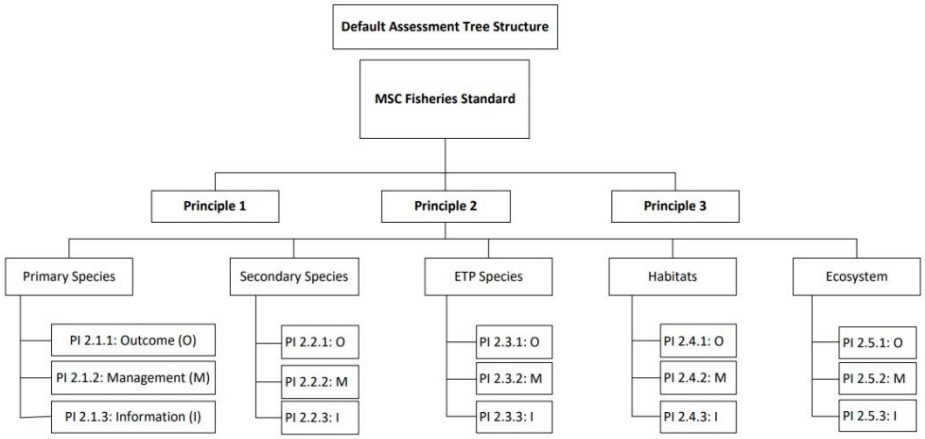

Figure 7 Assessment Tree Structure showing the components assessed under Principle 2 of the MSC standards and criteria. Source: https://www.msc.org

Table GSA2 of the MSC FCP v2.2 has been used to define these components: primary, secondary and ETP species, habitat and ecosystem:

Table 19 (table GSA2: Components of Principle 2) (Source: MSC FCR v2.2)

Component	Intent
Primary Species	Managed, in-scope (e.g., fish and shellfish) species. Primary species will usually be species of commercial value to either the UoA or fisheries outside the UoA, with management tools controlling exploitation as well as known reference points in place. In addition, the institution or arrangement that manages the species (or its local stock, see below) will usually have some overlap in jurisdiction with the fishery in the UoA.
Secondary Species	Secondary species include fish and shellfish species that are not managed according to reference points and birds/mammals/reptiles/amphibians (all species that are out of scope of the standard) that are not ETP species. These types of species could in some cases be landed intentionally to be used either as bait or as food for the crew or for other subsistence uses, but may also in some cases represent incidental catches that are undesired but somewhat unavoidable in the fishery. Given the often unmanaged status of these species, there are unlikely to be reference points for biomass or fishing mortality in place, as well as a general lack of data availability.
ETP Species	Endangered, Threatened or Protected Species
Habitats	The chemical and bio-physical environment, including biogenic structures, where fishing takes place.
Ecosystem	Broader ecosystem elements such as trophic structure and function, community composition, and biological diversity.

Primary and secondary main/minor species

As seen in Table 19 above, primary species are therefore those managed by tools controlling exploitation as well as with known reference points in place. Whereas Secondary species are not managed according to reference points or are out of the scope of the standard and no ETPs.

Clause SA3.4.1 of the MSC Fisheries Standard v2.2 indicates: "The team shall determine and justify which primary species are considered 'main' and which are not".

- A species shall be considered 'main' if the catch of a species by the UoA comprises 5% or more by weight of the total catch of all species by the UoA; or the species is classified as 'Less resilient' and the catch of the species by the UoA comprises 2% or more by weight of the total catch of all species by the UoA.

If a primary or secondary species is not considered main, it is minor. Main and minor species are evaluated under different Performance Indicators (PIs) in P2.

ETP Species

The MSC standard indicates in clause SA3.1.5 that the team shall assign ETP (endangered, threatened or protected) species as follows:

SA3.1.5.1 Species that are recognised by national ETP legislation;

SA3.1.5.2 Species listed in the binding international agreements given below:

a. Appendix 1 of the Convention on International Trade in Endangered Species (CITES), unless it can be shown that the particular stock of the CITES listed species impacted by the UoA under assessment is not endangered.
b. Binding agreements concluded under the Convention on Migratory Species (CMS), including:

i. Annex 1 of the Agreement on Conservation of Albatross and Petrels (ACAP);
ii. Table 1 Column A of the African-Eurasian Migratory Waterbird Agreement (AEWA);
iii. Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS);
iv. Annex 1, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS);
v. Wadden Sea Seals Agreement;
vi. Any other binding agreements that list relevant ETP species concluded under this Convention.

SA3.1.5.3 Species classified as 'out-of scope' (amphibians, reptiles, birds and mammals) that are listed in the IUCN Redlist as vulnerable (VU), endangered (EN) or critically endangered (CE).

This section focuses therefore on the ecosystem of the FISF Faroe Islands Northeast Arctic cod, haddock and saithe fishery depends on and the environmental impacts of the fishery. The information included in the following sections is used as background and to support the rationale set out for the performance indicators for these components.

Overview of species classification

Logbook data of the Faroese fishery provided by the client for the period 2016 - 2020 (for this last year, the period covered is from 01.01.2020 to 01.09.2020) has been used for defining primary, secondary and ETP species (see Table 20 below). Overall, the target species (cod, haddock and saithe, assessed under Principle 1) account for around 99% of the total catch in that period.

Table 20 Retained species for the Faroese fishery for the period 2016-2020 is shown in the table below. Source: logbook data provided by the client. TS: Target species; Pm: Primary minor; Sm: Secondary minor.

Common name	Scientific name	2016		2017		2018		2019		2020 (up to Sept)		2016-2020		
		Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	MSC definition
Cod	*Gadus morhua*	9,403	85.00%	11,932	84.79%	16,397	85.31%	15,990	87.79%	7,309	85.03%	12,206	86.05%	**TS**

Haddock	*Melanogrammus aeglefinus*	1,008	9.11%	1,472	10.46%	1,894	9.85%	969	5.32%	544	6.33%	1,177	8.30%	**TS**
Saithe	*Pollachius virens*	479	4.33%	316	2.25%	550	2.86%	563	3.09%	563	6.55%	494	3.48%	**TS**
Redfish	*Sebastes spp.*	70	0.63%	71	0.50%	173	0.90%	250	1.37%	147	1.71%	142	1.00%	Pm
Greenland halibut	*Reinhardtius hippoglossoides*	31	0.28%	80	0.57%	61	0.32%	68	0.37%	10	0.12%	50	0.35%	Pm
Catfish	*Anarchias sp.*	4	0.04%	3	0.02%	0	0.00%	0	0.00%	0	0.00%	1	0.01%	Sm
Spotted catfish	*Anarhichas minor*	0	0.00%	0	0.00%	106	0.55%	95	0.52%	19	0.22%	44	0.31%	Sm
Northern wolffish	*Anarhichas denticulatus*	0	0.00%	0	0.00%	6	0.03%	31	0.17%	0	0.00%	7	0.05%	Sm
Atlantic catfish	*Anarhichas lupus*	0	0.00%	0	0.00%	3	0.02%	231	1.27%	0	0.00%	47	0.33%	Sm
Common dab	*Limanda limanda*	0	0.00%	0	0.00%	8	0.04%	5	0.03%	0	0.00%	3	0.02%	Sm
Ling	*Molva molva*	6	0.05%	10	0.07%	4	0.02%	2	0.01%	2	0.02%	5	0.03%	Sm
European plaice	*Pleuronectes platessa*	3	0.02%	3	0.02%	12	0.06%	1	0.01%	0	0.00%	4	0.03%	Sm
American plaice	*Hippoglossoides platessoides*	0	0.00%	0	0.00%	3	0.02%	4	0.02%	1	0.01%	2	0.01%	Sm
Skate	*Dipturus batis*	0	0.00%	0	0.00%	3	0.02%	4	0.02%	1	0.01%	2	0.01%	ETP
Herring	*Clupea harengus*	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	Pm
Tusk	*Brosme brosme*	0	0.00%	7	0.05%	0	0.00%	0	0.00%	0	0.00%	1	0.01%	Sm
Silver smelt	*Argentina silus*	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	Sm
Blueling	*Molva dypterigia*	5	0.05%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	0.01%	Sm
Whiting	*Merlangius merlangus*	0	0.00%	50	0.36%	0	0.00%	0	0.00%	0	0.00%	10	0.07%	Sm
Others		54	0.49%	130	0.92%	0	0.00%	0	0.00%	0	0.00%	37	0.26%	
Total		**11,063**	**100.00%**	**14,073**	**100.00%**	**19,220**	**100.00%**	**18,213**	0.00%	**8,596**	**100.00%**	**14,185**	**100.00%**	

Logbook data for the period 2015-2019 (2018 data was not available at the time of preparing this report) provided by the client for the Icelandic fishery is also included here.

Table 21 Retained species for the Icelandic fishery for the period 2015-2019 is shown in the table below (Source: logbook data provided by the client (data for 2018 was not available)). TS: Target species; Pm: Primary minor; Sm: Secondary minor.

Common name	Scientific name	2015		2016		2017		2018		2019		2015-2019		
		Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)	%	MSC definition
Cod	*Gadus morhua*	16,122	84.39%	16,031	80.77 %	11,889	88.57 %	NA	NA	11,106	90.45 %	13,787	85.30 %	**TS**
Haddock	*Melanogrammus aeglefinus*	2,483	13.00%	1,854	9.34%	478	3.56%	NA	NA	708	5.77%	1,318	8.54%	**TS**
Saithe	*Pollachius virens*	245	1.28%	707	3.56%	560	4.17%	NA	NA	338	2.75%	463	2.86%	**TS**
Redfish	*Sebastes spp.*	39	0.20%	79	0.40%	NA	NA	NA	NA	87	0.71%	51	0.32%	Pm
Deepwater redfish	*Sebastes mentella*	NA	NA	NA	NA	3	0.02%	NA	NA	0	0.00%	1	0.00%	Pm
Golden redfis	*Sebastes norvegicus*	NA	NA	NA	NA	65	0.48%	NA	NA	0	0.00%	16	0.10%	Pm
Greenland halibut	*Reinhardtius hippoglossoides*	53	0.28%	42	0.21%	10	0.07%	NA	NA	8	0.07%	28	0.17%	Pm
Spotted catfish	*Anarhichas minor*	58	0.30%	51	0.26%	32	0.24%	NA	NA	12	0.10%	38	0.24%	Sm
Northern wolfish	*Anashichas denticulatus*	0	0.00%	457	2.30%	5	0.04%	NA	NA	0	0.00%	116	0.71%	Sm
Atlantic catfish	*Anarhichas lupus*	45	0.24%	27	0.14%	13	0.10%	NA	NA	3	0.02%	22	0.14%	Sm
Common dab	*Limanda limanda*	0	0.00%	0	0.00%	0	0.00%	NA	NA	0	0.00%	0	0.00%	Sm
American plaice	*Hipoglossoides platessoides*		0.00%	270	1.36%	291	2.17%	NA	NA	16	0.13%	144	0.89%	Sm
Ling	*Molva molva*	5	0.03%	9	0.05%	15	0.11%	NA	NA	0	0.00%	7	0.04%	Sm
European plaice	*Pleuronectes platessa*	13	0.07%	3	0.02%	2	0.01%	NA	NA	0	0.00%	5	0.03%	Sm
American plaice	*Hippoglossoides platessoides*	31	0.16%	94	0.47%	40	0.30%	NA	NA	0	0.00%	41	0.26%	Sm
Starry ray	*Amblyraja radiata*	7	0.04%	16	0.08%	11	0.08%	NA	NA	0	0.00%	9	0.05%	Sm
Tusk	*Brosme brosme*	1	0.01%	3	0.02%	6	0.04%	NA	NA	0	0.00%	3	0.02%	Sm
Lumpfish	*Cyclopterus lumpus*	0	0.00%	172	0.87%	1	0.01%	NA	NA	0	0.00%	43	0.27%	Sm

Atlantic halibut	*Hippoglossus hippoglossus*	3	0.02%	6	0.03%	2	0.01%	NA	NA	0	0.00%	3	0.02%	Sm
Whiting	*Merlangius merlangus*	0	0.00%	0	0.00%	1	0.01%	NA	NA	0	0.00%	0	0.00%	Sm
Arctic skate	*Amblyraja hyperborea*	0	0.00%	1	0.01%	0	0.00%	NA	NA	0	0.00%	0	0.00%	Sm
Others		0	0.00%	26	0.13%	0	0.00%	NA	NA	0	0.00%	7	0.04%	
Total		**19,105**	**100.00%**	**19,848**	**1**	**13,424**	**1**	**0**	**0**	**12,278**	**1**	**16,164**	**100.00 %**	

Bycatch data collected by the Institute of Marine Research (IMR) in collaboration with the Norwegian fishing fleets in the Norwegian Reference Fleet for the period 2015-2018 was used to validate the information provided by the client (in this case, bycatch data provided by the client was compared to the trawl bottom fleet operating in the High-Seas, north of 62°N latitude) (IMR 2020). As seen in **Table 20** and **Table 21** above, and **Table 22** below, catch profiles are very similar from both sources. However, only species interacting with the client's fishery have been included in this assessment.

Table 22 List of the most common species registered tin total catches by the High-seas Reference Fleet, north of 62°N latitude. Species are listed in descending order with the most regular occurring species in the top row (Source: IMR 2020)

Gillnet bottom-set	Hook longline	Seine demersal	Seine purse	Trawl bottom	Trawl industrial	Trawl pelagic	Trawl shrimp
Atlantic cod	Atlantic cod	Atlantic cod	Saithe	Atlantic cod	Blue whiting	Saithe	Deep sea shrimp
Saithe	Haddock	Saithe	Atlantic herring	Haddock	Greater argentine	Atlantic herring	Long rough dab
Haddock	Starry skate	Haddock	Atlantic cod	Golden redfish	Saithe	Redfishes	Deepwater redfish
Ling	Spotted catfish	Ling	Haddock	Saithe	Atlantic herring	Blue whiting	Capelin
Golden redfish	Northern wolffish	Tusk	Mackerel	Deepwater redfish	Redfishes	Greater argentine	Polar cod
Tusk	Long rough dab	Atlantic halibut	Capelin	Starry skate	Haddock	Spurdog	Sclerocrangon
Pollack	Tusk	Golden redfish	Bluefin tuna	Greenland halibut	Argentines	Atlantic cod	Spotted snake blenny
Long rough dab	Atlantic catfish	Atlantic catfish	Gulls	Spotted catfish	Mackerel	Haddock	Atlantic hookear sculpin
Atlantic halibut	Golden redfish	Anglerfish (monk)	Tusk	Long rough dab	Golden redfish		Snakeblenny
Greenland halibut	Greenland halibut	Lumpsucker	Anglerfish (monk)	Atlantic catfish	Lanternfishes		Atlantic cod
Rabbitfish	Round skate	European plaice	Atlantic halibut	Lumpsucker	Porbeagle shark		Atlantic poacher
Blackmouthed dogfish	Atlantic halibut	Long rough dab	Blue whiting	Northern wolffish	Velvet belly		Lycodes
Starry skate	Ling	Redfishes	Ling	Atlantic halibut	European hake		Sea tadpole
European hake	Saithe	Greater argentine	Lumpsucker	Tusk	Ling		Greenland halibut
Atlantic herring	Deepwater redfish	European hake	Red king crab	Flounder	Silvery pout		Snailfishes
Anglerfish (monk)	Rough rattail	Lemon sole	Salmons	Greater argentine	Anglerfish (monk)		Shrimps
Spurdog	Spinytail skate	Spotted catfish		Ling	Atlantic cod		Haddock
Whiting	Rabbitfish	Whiting		Blue whiting	Blackmouthed dogfish		Prawns
European plaice	Greater forkbeard	Deepwater redfish		Round skate	Dealfish		Spotted catfish
Greater forkbeard	Esmark's eelpout	Flatfishes		Whiting	Deepwater redfish		Threespot eelpout
Spotted catfish	Blackmouthed dogfish	Starry skate		Spinytail skate	Greater forkbeard		White barracudina
Deepwater redfish	Arctic skate	Rabbitfish		Norway redfish	Long rough dab		Eelpouts
Northern wolffish	Velvet belly	Grey gurnard		Greater forkbeard	Norway pout		Glacial eelpout

Primary species

As indicated previously, primary species are those not defined by the client as the target, with management tools controlling exploitation as well as known reference points in place. Main and minor species are separated using the ≥ 5% threshold (main representing more than 5% of the catch). If the species is considered less resilient and it is ≥ 2% of the catch, then it is considered Main, otherwise it is considered Minor.

MSC SA 3.1.3.1 requires that, where there is more than one target species treated as a UoA for a fishery, each species is considered in the Principle 2 assessment of the other UoAs. In the case of the client fishery, this means that saithe and haddock are assessed as main primary species in scoring UoA 1 (cod), that cod and saithe are main primary species in scoring UoA 2 (haddock) and cod and haddock are assessed as main primary species for UoA 3 (saithe). However, these three species have been assessed here as P1 species (see Principle 1).

As seen in Table 20 and Table 21 above, there are no other main species primary species in the catch. In the particular case of redfish, two different species are found in the area of the assessment: beaked redfish (*Sebastes mentella*) or golden redfish (*Sebastes norvegicus*). These species are not separated in the catch as they are difficult to distinguish when appear in the same area, particularly for juvenile specimens (ICES 2020b).

Golden redfish is considered to be depleted and is listed in the Norwegian red list of species, but as this enlisting has no associated management measures the species is considered as a primary species. Other minor primary species identified in the catch are: beaked redfish, Greenland halibut and herring. Information about the status of these species regarding biomass and fishing mortality reference points are included in the relevant performance Indicator scores and rationales section (PI 2.1.1).

Secondary species

As indicated above, secondary species include fish and shellfish species that are not managed according to reference points. Secondary species are also considered to be all species that are out of the scope of the standard (birds/ mammals/ reptiles/amphibians) and that are not ETP species.

As in the case of primary species, main and minor species are separate using the ≥5% threshold (≥2% for vulnerable/less resilient species).

As seen in Table 20 and Table 21 above, no species represents more than ≥ 5% of the catch (or ≥ 2% of the catch in the case of less resilient species) and no main secondary species are identified in this fishery. Minor secondary species include catfishes (spotted catfish, northern wolffish, Atlantic catfish), common dab, European plaice, American plaice, silver smelt, blue ling, Atlantic halibut, lumpfish and whiting. Starry ray and arctic skate are not reported by the Faroese fishery, but they are reported by the Icelandic fishery and seem to be a relatively (un)common bycatch in the area (ICES fisheries overview 2021). Therefore, they have been also included here.

Fisheries management (primary and secondary species)

The Barents Sea ecoregion includes all or parts of the EEZs of Russia and Norway, as well as most of the Fisheries Protection Zone around Svalbard. Management is conducted in accordance with the fisheries policies of Russia and Norway and catch opportunities for stocks in the area are agreed during meetings of the Joint Norwegian–Russian Fisheries Commission. National authorities manage activities in coastal waters (i.e. within 12 nautical miles of the coast) of Russia and Norway. The status of Svalbard waters is partly unresolved, but Norway monitors and regulates the zone. Located centrally in the Barents Sea is a small area beyond national jurisdiction; this area of high seas is called “the Loophole” (ICES Division 1.a) and the fishing there is managed based on agreements by the North East Atlantic Fisheries Commission (NEAFC) and by coastal states (ICES 2021a).

Total allowable catch (TAC), introduced for most stocks, is the main fishery management tool in the ecoregion, together with several technical measures. For example, it is mandatory in all groundfish trawl fisheries to use a sorting grid to avoid catching undersized fish (there are two exceptions: an area open for targeting redfish, and an area in the southwestern part of the ecoregion, where trawling without sorting grids is permitted to catch haddock from 1 January to 30 April). From 2011 onwards, the minimum mesh size for bottom-trawl fisheries for cod and haddock is 130 mm for the entire Barents Sea; previously the minimum mesh size was 135 mm in the Norwegian EEZ and 125 mm in the Russian EEZ. It is still mandatory to use sorting grids. At the same time, a change/harmonization of the minimum legal catch size for cod from 47 cm (Norway) and 42 cm (Russia) to 44 cm, and for haddock from 44 cm (Norway) and 39 cm (Russia) to 40 cm, took place (www.barentsportal.com) (ICES 2021a).

To improve exploitation patterns and reduce the problem of discards in the fisheries, Norway has over the years established a suite of regulations and management measures. The main objective has been to promote an exploitation pattern where fish below minimum legal size is spared, and where unwanted bycatch can be minimised. This has been achieved through several interconnected measures, which can be referred to as the “Discard Ban Package” (Gulladson et al., 2015).

A landing obligation has also been in place in the area since 2009, which means that all the catch needs to be landed. Other technical measures to control fishing effort through general licenses or catching licenses for particular species such as ling, tusk, etc (ICES 2021f) are also in place in the area where the fishery occurs.

Spatial management also occurs, both for fisheries and ecosystem reasons, with permanent and temporary closed areas to protect e.g. juvenile fish and deep-water coral reefs (see Figure 8 below). The Norwegian government has also implemented an “Integrated Management Plan for the Marine Environment of the Barents Sea–Lofoten Area”, which is a framework for the sustainable use of natural resources in the area, including fishing (ICES 2021a). A nursery area that is permanently closed for bottom trawling year-round is the 20 nautical mile zone around Bear Island, established in 1978 (Gullandson et al., 2015).

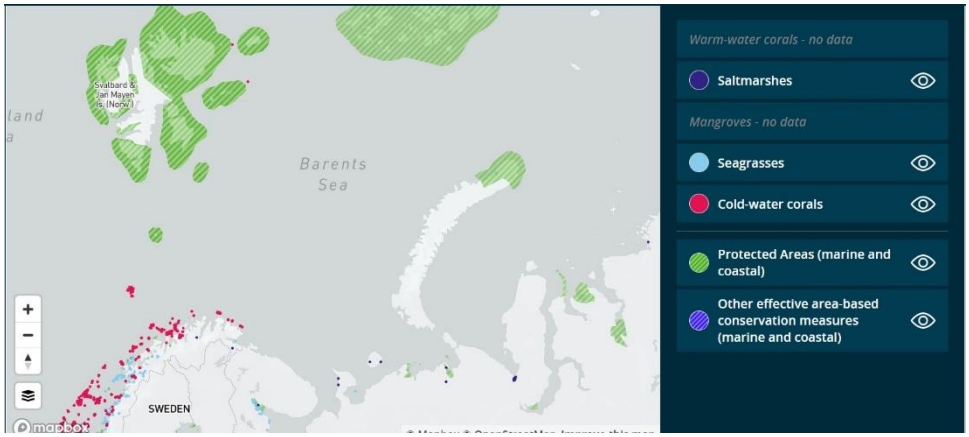

Figure 8 Habitats and protected areas in the Barents Sea (Source: https://habitats.oceanplus.org/).

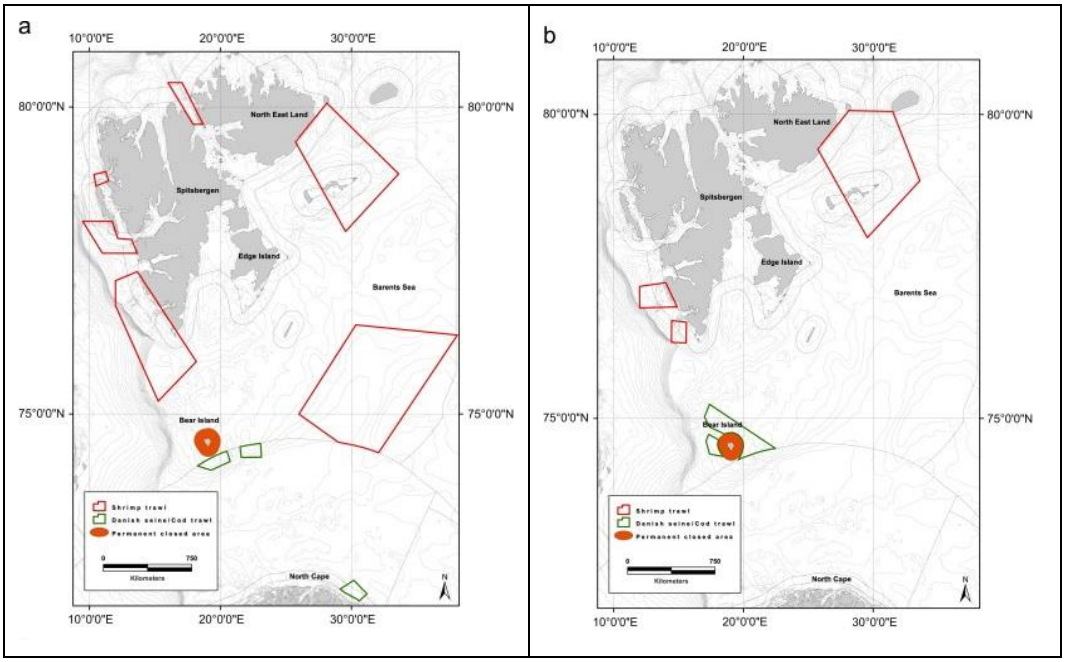

Figure 9 (A) Closed areas in March/April 2005. (B) Closed areas in October 2005. Solid orange area: the permanent closed area around the Bear Island. Open red and green areas: Real-time closures (Source: Gullandson et al., 2015).

Endangered Threatened and Protected (ETP) species

Faroese and Icelandic vessels fishing in Norwegian and Russian zones are subject to regulations in place in those zones. Russia and Norway are signatories to a number of conventions on species protection and management, notably the Convention on Biological Diversity and the Convention on International Trade in Endangered Species (CITES). Species listed under Appendix I of CITES are considered ETP species for the purposes of the MSC assessment.

In Russia, rare and endangered animal species are listed in the Red Book of the Russian Federation and protected in accordance with Federal Laws No. 52 “On Fauna” (the Russian Red Data Book). There is also a Norwegian red list of endangered species which demands the protection of these species in the Norwegian territory. The OSPAR list of threatened species in the Barents Sea has been used as a guidance of the status of the different species and habitats, although species in these lists do not necessarily fulfil the MSC requirements to be considered ETP species. These lists are used in parallel with the IUCN data list to select the list of ETP species in the fishery (See Table 23 below).

Table 23 List of ETP species in the Barents Sea and protection framework (Source: prepared by the assessment team from several sources).

Common name	Scientific name	Norwegian Red-List	Russian Red Data book	CITES Appendix I	OSPAR Region 1	IUCN Red-List
Invertebrates						
Ocean quahog	*Artica islandica*	N/A	N/A	No	Yes	N/A
Dog whelk	*Nucella lapillus*	LC	N/A	No	Yes	N/A
Marine mammals						
Bowhead whale	*Balaena mysticetus*	CE	N/A	Yes	Yes	LC
Minke whale	*Balaenoptera acutorostrata*	LC	No	Yes	N/A	LC
Sei whale	*Balaenoptera borealis*	N/A	No	Yes	N/A	EN
Blue whale	*Balaenoptera musculus*	VU	No	Yes	Yes	EN
Fin whale	*Balaenoptera physalus*	LC	No	Yes	N/A	EN
Hooded seal	*Cystophora cristata*	EN	N/A	No	N/A	VU
Beluga whale	*Delphinapterus leucas*	DD	No	No	N/A	LC
Short-beaked dolphin	*Delphinus delphis*	N/A	N/A	No	N/A	LC
Northern right whale	*Eubalaena glacialis*	Regionally extinct	N/A	Yes	Yes	EN
Gray whale	*Eschrichtius robustus*	LC	N/A	Yes	N/A	LC
Long-finned pilot whale	*Globicephala melas*	LC	N/A	No	N/A	DD
Risso’s dolphin	*Grampus griseus*	N/A	N/A	No	N/A	LC
Grey seal	*Halichoerus gripus*	LC	No	No	N/A	LC
Northern bottlenose whale	*Hyperoodon ampullatus*	LC	No	Yes	N/A	DD
Pygmy sperm whale	*Kogia breviceps*	N/A	N/A	No	N/A	LC
Atlantic whiteside dolphin	*Lagenorhynchus acutus*	LC	N/A	No	N/A	LC
White beaked dolphin	*Lagenorhynchus albirostris*	LC	N/A	No	N/A	LC
Humpback whale	*Megapteranovae angliae*	LC	No	Yes	N/A	LC
Sowerby's beaked whale	*Mesoplodon bidens*	DD	N/A	No	N/A	No
Narwhal	*Monodon monoceros*	EN	No	No	N/A	LC
Walrus	*Odobenus rosmarus*	VU	Yes	No	N/A	VU
Killer whale	*Orcinus orca*	LC	N/A	No	N/A	DD
Ringed seal	*Phoca (Pusa) hispida*	VU	No	No	N/A	LC
Harbour/Common seal	*Phoca vitulina*	VU	Yes	No	N/A	LC

Common name	Scientific name	Norwegian Red-List	Russian Red Data book	CITES Appendix I	OSPAR Region 1	IUCN Red-List
Harbour porpoise	*Phocoena phocoena*	LC	No	No	Yes	LC
Sperm whale	*Physeterma crocephalus*	N/A	No	Yes	N/A	VU
Striped dolphin	*Stenella coeruleoalba*	N/A	N/A	No	N/A	LC
Bottlenose dolphin	*Tursiops truncatus*	N/A	N/A	No	N/A	LC
Polar bear	*Ursus maritimus*	VU	Yes	No	N/A	VU
Seabirds						
Pale-bellied brant	*Branta bericla hrota*	N/A	Yes	No	No	N/A
Barnacle goose	*Branta leucopsis*	N/A	Yes	No	No	LC
Razorbill	*Alca torda*	EN	N/A	No	No	NT
Atlantic puffin	*Fratercula arctica*	VU	N/A	No	N/A	VU
Fulmar	*Fulmarus glacialis*	EN	N/A	No	No	LC
Lesser black backed gull	*Larus fuscus*	LC	N/A	No	Yes	LC
Ivory gull	*Pagophila eburnea*	VU	N/A	No	Yes	NT
Steller's eider	*Polysticta stelleri*	VU	N/A	No	Yes	VU
Black-legged kittiwake	*Rissa tridactyla*	EN	N/A	No	Yes	LC
Common guillemot	*Uria aalge*	CE	Yes	No	No	LC
Thick-billed murre/ murre/Brünnich's guillemot	*Uria lomvia*	CE	Yes	No	Yes	LC
Fish and elasmobranch						
Sturgeon	*Acipenser sturio*	N/A	N/A	Yes	Yes	CE
Allis shad	*Alosa alosa*	N/A	N/A	No	Yes	LC
Golden redfish	*Sebastes marinus*	EN	N/A			
European eel	*Anguilla anguilla*	VU	N/A	No	Yes	CE
Silky shark	*Carcharhinus falciformis*	N/A	N/A	No	No	DD (Europe)
Basking shark	*Cetorhinus maximus*	EN	N/A	No	Yes	EN
Lavaret	*Coregonus lavaretus*	LC	N/A	No	Yes	VU
Common skate	*Dipturus batis*	CE	N/A	No	Yes	CE
Porbeagle	*Lamna nasus*	VU	N/A	No	Yes	CE (Europe)
Sea lamprey	*Petromyzon marinus*	NT	N/A	No	Yes	LC
Thornback ray	*Raja clavata*	LC	N/A	No	Yes	NT
Salmon	*Salmo salar*	LC	N/A	No	Yes	LC
Spurdog	*Squalus acanthias*	EN	N/A	No	Yes	VU

Logbook data provided by the client have been used to determine the extent of interaction between the assessed fishery and ETP species. ETP species for the FISF Faroe Islands Northeast Arctic cod, haddock and saithe fishery only includes one species: common skate (*Dipturus batis*).

As explained in previous sections, golden redfish is listed in the Norwegian red list of species, but as this enlisting has no associated management measures the species has been considered as a primary species.

Background information about extent and status of ETP species in the Barents Sea is provided below.

Marine mammals

The Barents Sea is a productive ecosystem and an important feeding ground for marine mammals during summer and autumn. It is inhabited by 21 different species of marine mammals, including large whales, such as fin whale (Balaenoptera physalus), minke whale (*Balaenoptera acutorostrata*), humpback whale (*Megaptera novaeangliae*), and sperm whale (*Physeter macrocephalus*).

Surveys to study the frequency and distribution of marine mammals in the Barents Sea (the Barents Sea Ecosystem Survey (BESS)) are conducted every year between August and October. It covers open sea and thus 90% of observations of all marine mammals' observations belongs to Cetacea.

In 2020, 4,159 individuals of twelve species of marine mammals were sighted during the BESS 2020. The baleen whales had aggregated distributions East of Bear Island area and west, north and east of Hopen in the area between 76°N and 78°N. Of these 169 individuals were not identified to species level. The observations are presented in Table 24 below and distributions shown in Figure 10 (toothed whales) and Figure 11 (baleen whales).

Table 24. Numbers of marine mammal individuals by species observed during BESS 2020.

Order/suborder	Name of species	Total	%
Cetacea/ Baleen whales	Fin whale	315	7.6
	Humpback whale	308	7.4
	Minke whale	235	5.6
	Unidentified whale	37	0.9
Cetacea/ Toothed whales	White-beaked dolphin	1071	25.7
	Harbour porpoise	5	0.12
	Killer whale	7	0.17
	Sperm whale	7	0.17
	White whale	2000	48.1
	Unidentified dolphin	132	3.2
Pinnipedia	Harp seal	34	0.8
Ursidae	Walrus	1	0.02
	Ringed seal	2	0.05
	Polar bear	5	0.13
Total sum		**4159**	**100**

As in previous years, the white-beaked dolphin (*Lagenorhynchus albirostris*) was one of the most abundant and widely distributed species with 26% of all individual registrations. More dolphins were recorded north of 74°N compared to the previous year. Besides white-beaked dolphin other toothed whales observed included sperm whale (*Physeter macrocephalus*), harbour porpoise (*Phocoena phocoena*), killer whale (*Orcinus orca*) and white whale (*Delphinapterus leucas*). Sperm whales were observed in the western areas (west of 35°E) of the Barents Sea and at deeper waters at the continental slope. The harbour porpoises were recorded in the southern coastal parts of the research area.

A large wintering aggregation (about 2,000 individuals with density about 200-300 ind./km) of white whale was observed south of Franz Josef Land (78° 46´N, 45° 39´E) on 08 October 2020. A similar aggregation of these animals was observed by PINRO during an aerial survey in September 2004. However, the aggregation in 2020 was situated further southeast than the earlier observation. Killer whales were recorded close to the white whale aggregation.

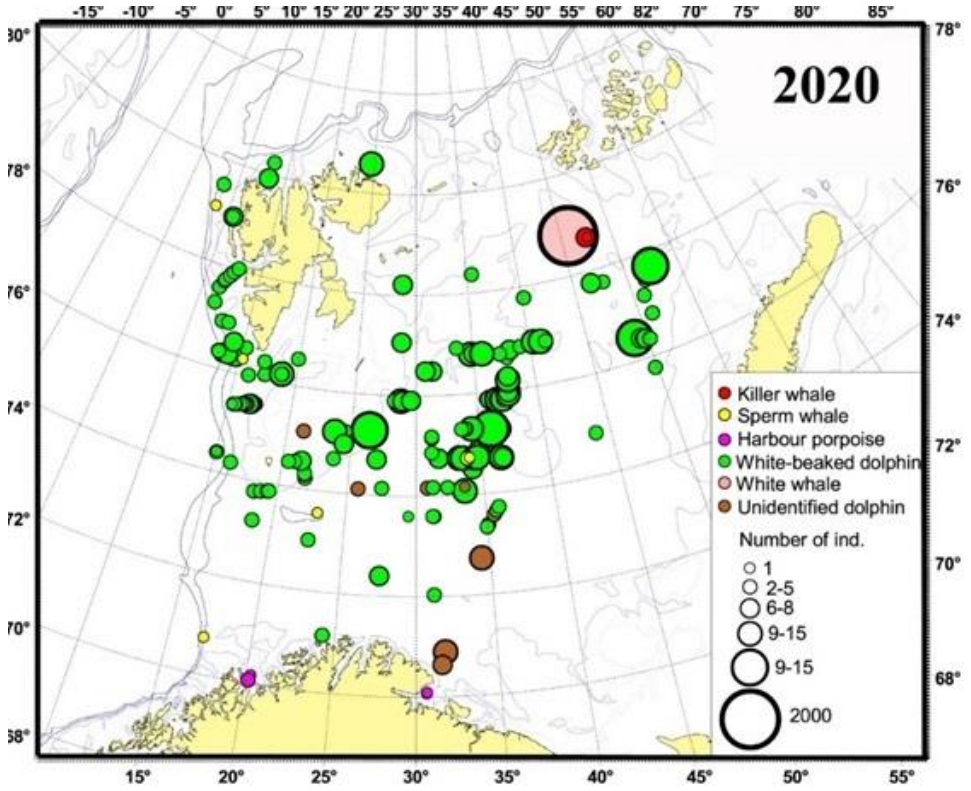

Figure 10. Distribution of toothed whales in August-October 2020.

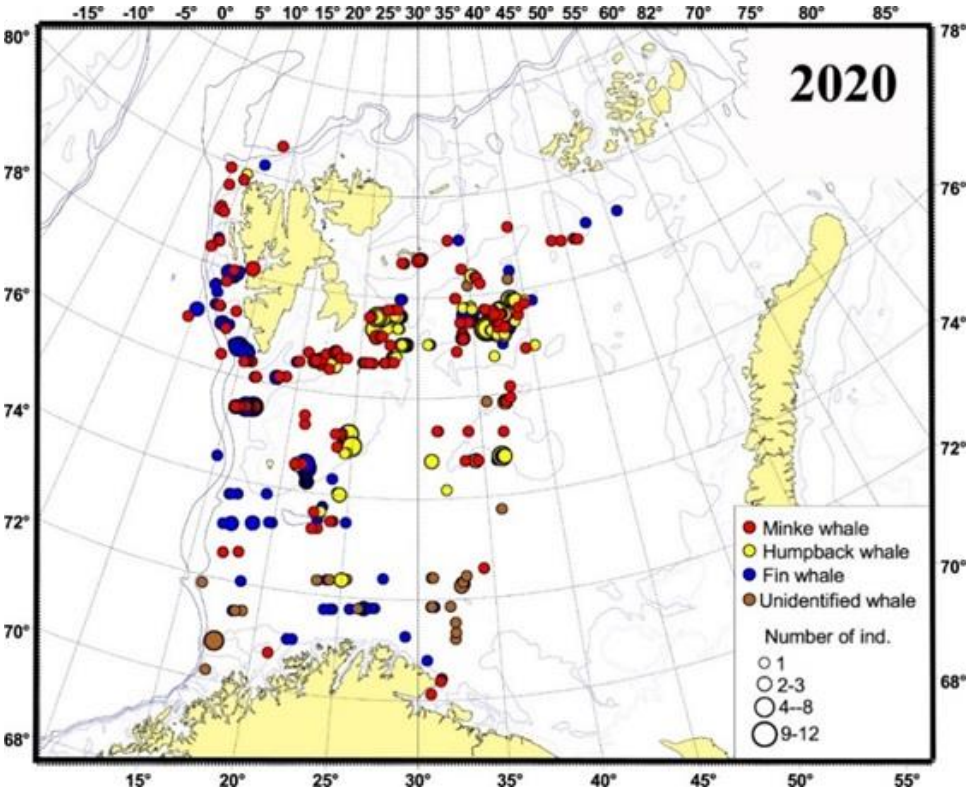

Figure 11 Distribution of baleen whales in August-October 2020.

The baleen whale species minke (*Balaenoptera acutorostrata*), humpback (*Megaptera novaeangliae*) and fin (*Balaenoptera physalus*) whales were also abundant in the Barents Sea survey in 2020. The first species was widely distributed in the western research area. The densest aggregations of minke whale were overlapping with capelin and polar cod concentration in the central areas of the Barents Sea.

As in the previous year, the humpback whale was recorded mainly in the western area, and southeast and east of the Svalbard Archipelago. In 2020, the distribution of this species was wider and humpback whales were also found in the central areas. The higher densities of humpback whales were recorded in areas of high aggregations of mature capelin, and often together with fin and minke whales.

In 2020, the distribution of fin whale in the western areas was similar to the previous year. In the northeastern regions, this species was recorded eastwards to about 50°E.

During the survey, the pinnipeds harp seal (Phoca groenlandica), ringed seal (Phoca hispida) and walrus (Odobenus rosmarus) were observed. The main concentrations of harp seals were found in the area of newly formed ice (northwards of 81°N). Walrus and ringed seal were observed north of 80°N.

During the BESS survey, the Barents Sea were divided in to four (western, Svalbard or Spitsbergen, south-eastern and north-eastern) regions and Frequency of Observations were calculated for each region (see Figure 12 below for the period 2004-2019). The FISF Faroe Islands Northeast Arctic cod, haddock and saithe fishery mainly operates in the areas close to the Svalbard archipelago and the south-eastern area of the Barents Sea close to New Zembla:

- The Svalbard area is located between 76°N and 82°N and between 5 °E and 35 °E. During the BESS, the highest number of marine mammals and the highest frequency of occurrence (14 species and 42.4% of all observations respectively) were observed in the area. That area, especially east of Svalbard is a main capelin area, which is an important prey for many of marine mammals. Overlap between marine mammals and main mature capelin observations has been observed most likely link to important feeding ground (for capelin, but also euphausiids). Most frequently observed in the area were representatives of baleen whales (Mysticeti): minke whale, fin whale and humpback whale.

- The south-eastern area is located between 74 N the Russian coast and between 35 °E and 70 °E. During BESS, the lowest numbers of marine mammals' observations (6.5% of all observations) were observed in the area. However, 10 different species were recorded. The most frequent species were white-beaked dolphin, minke whale, harbour porpoise and fin whale. That area is dominated by species such as polar cod, cod and herring.

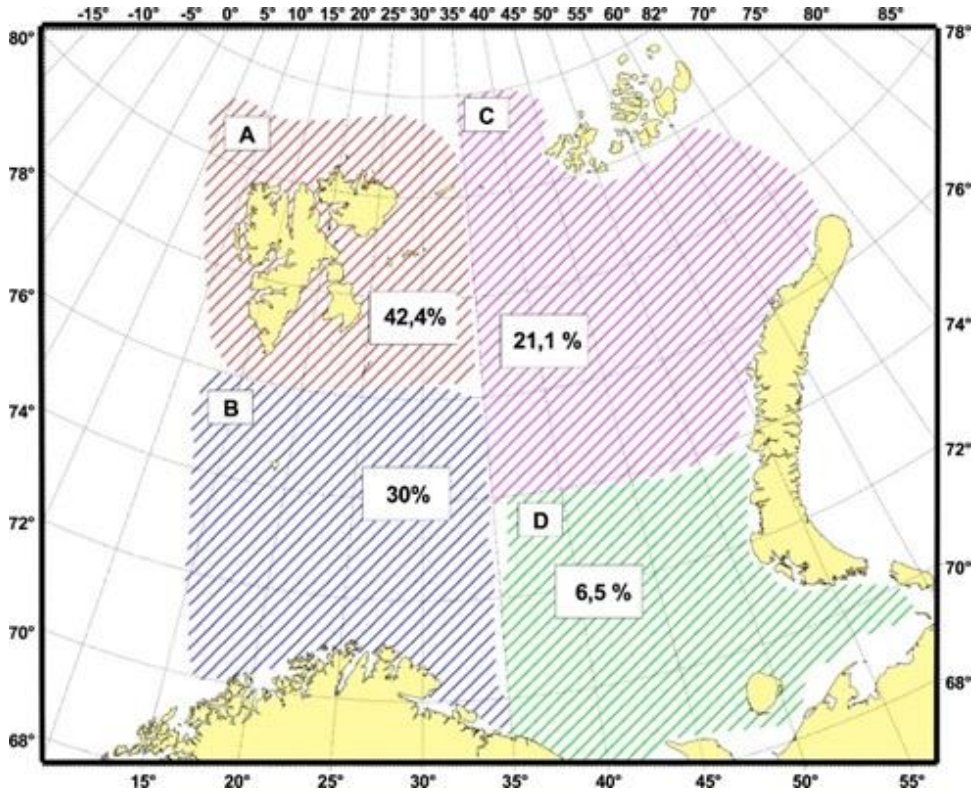

Figure 12. Frequency of occurrence of marine mammals (%) in the four regions in Barents Sea during BESS in 2004-2019: A – Svalbard/Spitsbergen, B – Western, C – North-eastern, D – South-eastern.

The frequency of occurrence and species composition varied between these four areas of the Barents Sea. In the Svalbard area observations increased from 2004 to 2019 (see Figure 13 below). During the last three years marine mammals were observed more than 400 times in that area. Three peaks of frequency of observation of marine mammals were observed during the surveys in 2007, 2010 and 2017-2019. Note however, that the lack of full coverage in some years and areas of the Barents Sea may influence the result of the survey.

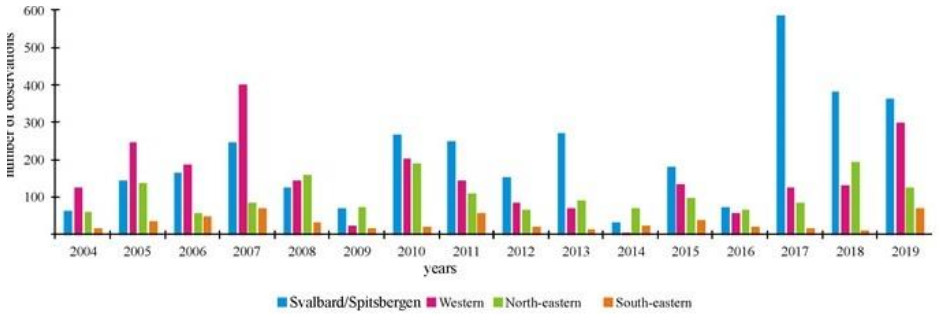

Figure 13 Frequency of occurrence of marine mammals in four areas of the Barents Sea during 2004-2019. Ice associated marine mammals

Seabirds (information compiled from http://www.barentsportal.com)

About six million pairs from 36 seabird species breed regularly in the Barents Sea (Barrett et al. (2002). Allowing for immature birds and non-breeders, the total number of seabirds in the area during spring and summer is about 20 million individuals. The commonest species are Brünnich's guillemot (*Uria lomvia*), the black-legged kittiwake (*Rissa tridactyla*) and probably the little auk (*Alle alle*) although colonies of this species are very difficult to count.

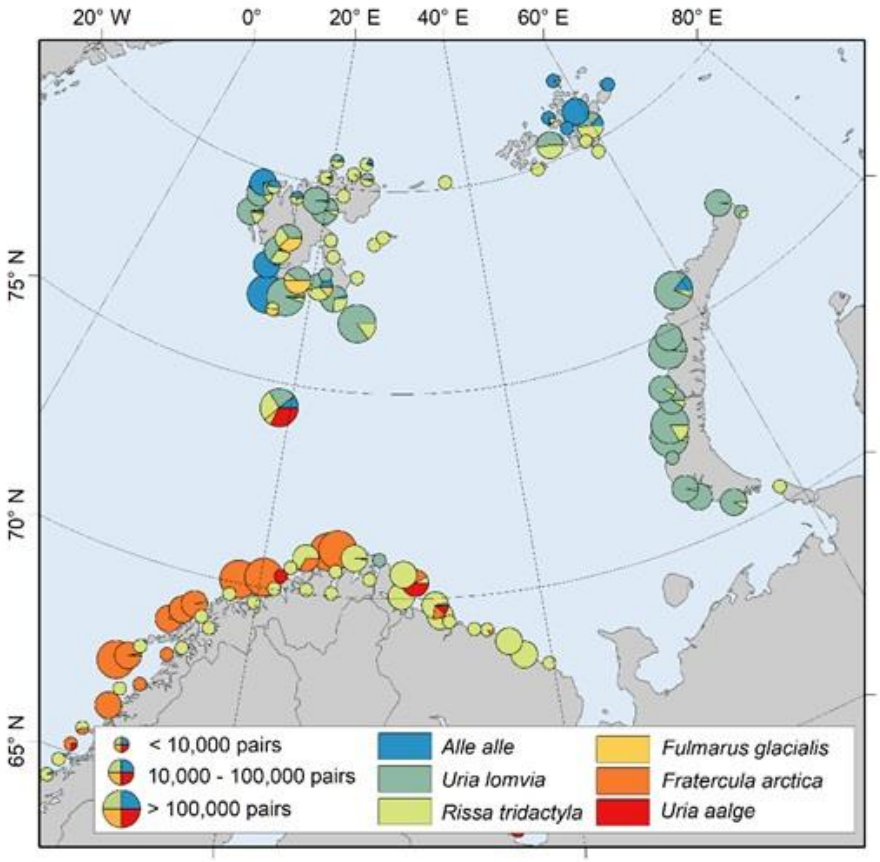

Figure 14 Major seabird colonies in the Barents Sea. Data compiled from SEAPOP (Error! Hyperlink reference not valid.**), Fauchald et al. (2015) and The Seabird Colony Registry of the Barents and White Seas (Source: http://www.barentsportal.com)**

Population monitoring in Norway and Svalbard has revealed a downward trend for several populations the last 30 years, including black-legged kittiwakes and Atlantic puffin on the Norwegian mainland and Brünnich's guillemots on Svalbard. The population of common guillemot was decimated in the 1980s mainly due to a collapse in the capelin stock combined with low abundance of alternative prey. The populations on Bjørnøya and some colonies on the Norwegian mainland have increased since then. The status and trends of the populations of seabirds in the Eastern Barents Sea is less known.

In addition of being an important breeding area for seabirds, data from recent tracking studies (Fauchald et al. 2019) show that the Barents Sea is an important feeding area for seabirds in early autumn. Accordingly, the number of pelagic seabirds reaches a maximum of approximately 10 million individuals in August, just after breeding. This peak is mainly due to Atlantic puffins, Northern fulmars, common guillemots and black-legged kittiwakes migrating from colonies around the Norwegian Sea into the Barents Sea to feed. This period, from August to September, is also the period when the auk species moult and become flightless for several weeks. After the feeding period, large parts of the populations of Atlantic puffin, Brünnich's guillemot, black-legged kittiwakes, Northern fulmar and little auks leave the Barents Sea. Thus, the number of birds reaches a minimum in the darkest period from December to January with about 5 million birds. In general, populations from the western colonies leave the Barents Sea earlier (September-October) and return later (March-April) than birds from the eastern colonies, and a larger proportion of the eastern populations tend to stay in the Barents Sea throughout the winter. Migrating birds overwinter in large ocean areas in the northwest and north-central part of the North Atlantic, including the coastal areas off southern and western Greenland, around Iceland, in the Denmark Strait and in the Irminger and Labrador Seas. Common guillemots from Bjørnøya, Murman and Finnmark stay in the southern Barents Sea throughout the non-breeding period. The seabirds return gradually to the colonies and adjacent areas in early spring from February to April.

Broadly, the spatial distribution of seabirds during the ecosystem survey in September reflects the climatic gradient from a boreal Atlantic climate with common guillemots, puffins, herring and black-backed gull in the south and west, to an Arctic climate with little auks, Brünnich's guillemots and kittiwakes in the north and east. Seabirds have been surveyed uninterruptedly on Norwegian vessels in the western part of the Barents Sea since 2004, however, the first years did not cover the northern areas. Based on the minimum annual survey extent from 2009 an onward, the abundance of different species and the centre of gravity of the spatial distribution was calculated for each year.

Abundance estimates indicate relatively large fluctuations in the number of seabirds at-sea. Northern fulmar, black-legged kittiwake and herring gull have decreased significantly in abundance the last ten years. These changes do not necessarily reflect the observed population trends from the colonies since the at-sea abundances also are influenced by annual differences in migration pattern. Note that the ship-followers are attracted to the ship from the surrounding areas and individual birds are therefore likely to be counted several times. Accordingly, the estimated numbers of ship-followers are probably grossly over-estimated. Analyses of the centres of gravity show a northward displacement for several species the last ten years. The centres of gravity of little auks, Brünnich's guillemot, glaucous gull, black-legged kittiwake, northern fulmar and black-backed gull have moved from 150 to 500 km northward from 2008 to 2019, suggesting that seabirds have been displaced toward the north following a period of warming. Although longer time series might be warranted, this result could be an early signal of a "borealization" (Fossheim et al. 2015) of the seabird communities in the Barents Sea.

Documentation of the scale of seabird bycatch in the ecoregion is incomplete. Unusual incidents, like the bycatch of large numbers of guillemots during spring cod fisheries, have been documented. Gillnet fishing primarily affects coastal and pelagic diving seabirds, while the surface-feeding species will be most affected by longline fishing. The effect of fishing on the bird population will vary with the time of year, the status of the affected population, and the sex and age structure of the birds killed. Even a low bycatch may be a threat to red-listed species such as common guillemot, white-billed diver, and Steller's eider. Several bird-scaring devices have been tested for longlining, and there is evidence that the bird-scaring line reduces bird bycatch. Estimates suggest that fulmars, cormorants, puffins, black guillemot, and razorbills were particularly impacted by fishing; for some local populations of black guillemot and fulmars, however, the loss was concluded to be a small fraction of the populations (ICES fisheries overview).

Although bycatch of seabirds has been reported in some fisheries in the area, the highest level of bycatch occurs in gillnet and longlines fisheries (ICES SWGBIRD 2021). Bærum et al. (2018) showed that coastal fisheries might represent a more general threat to a wider range of seabird species, as opposed to longline fisheries (Fangel et al. 2017). Interactions with seabirds have not been reported by the assessed fishery.

Elasmobranch species

The ecology of the Barents Sea ecosystem (ICES Subarea 1, extending into the eastern parts of Subarea 2) has been described comprehensively by Jakobsen and Ozhigin (2012).

Lynghammar et al. (2013) reviewed the occurrence of chondrichthyan fish in the Barents Sea ecoregion. The skate species reported to be inhabiting offshore areas of this ecoregion included thorny skate (*A. radiata*), Arctic skate (A. *hyperborean*), round skate (*Rajella fyllae*), spinytail skate (*Bathyraja spinicauda*), common skate complex (*Dipturus batis and/or D. intermedius*), sailray (*Rajella lintea*), long-nose skate (*Dipturus oxyrinchus*), shagreen ray (Leucoraja fullonica) and thornback ray (*Raja clavata*) (Dolgov, 2000; Dolgov et al., 2005a; Wienerroither et al., 2011; Knutsen et al., 2017 WD). *Amblyraja radiata* is the dominant species, comprising 96% by number and about 92% by biomass of skates caught in surveys or as bycatch. *A. hyperborea and R. fyllae* are second and third (3% and 2% by number, respectively), and the remaining species are scarce (Dolgov et al., 2005a; Drevetnyak et al., 2005).

The spatial distribution of chondrichthyan fishes in the Barents Sea, as observed in recent surveys, has been described by Wienerroither et al. (2011, 2013). However, stock boundaries are not known for the skates in this area. Neither are the potential movements of species between the coastal and offshore areas. Further investigations are necessary to determine potential migrations or interactions of elasmobranch populations within this ecoregion and adjacent areas (ICS 2021g).

In terms of other elasmobranchs, sharks known to occur in the Barents Sea include spurdog, velvet belly lanternshark, porbeagle shark, Greenland shark and, in the southern part of the area, blackmouth catshark. One chimaeroid (*Chimaera monstrosa*) also occurs.

All skate species in the ecoregion may be taken as bycatch in demersal fisheries, but there are at present no fisheries targeting skates in the Barents Sea. Detailed data on catches of skates from the Barents Sea are only available from bycatch records and surveys from 1996–2001 and 1998–2001, respectively (provided by Dolgov et al., 2005a; 2005b). Bottom-trawl fisheries targeting cod and haddock, and longline fisheries targeting cod, catfish and Greenland halibut have a skate by-catch, which is generally discarded (ICES 2021g).

Dolgov et al. (2005b) estimated the total catch of skates taken by the Russian fishing fleet operating in the Barents Sea and adjacent waters in 1996–2001 and found that it ranged from 723 to 1,891 tonnes (average of 1,250 tonnes per year*). A. radiata* accounted for 90–95% of the total skate bycatch. A. radiata is also the predominant skate in catches of the Norwegian Reference Fleet operating in ICES Subarea 1, and accounts for around 90% of the catches (Albert et al., 2016) (ICES 2021g).

Common/blue skate (*Dipturus batis*)

The Common Blue Skate (Dipturus batis) is a medium-sized (to at least 143 cm total length) skate that was once an abundant constituent of the demersal fish community of northwestern Europe (Ellis et al., 2021). The species is currently known to extend from Iceland, the Rockall Bank and the western Isles of Scotland in the north, the shelf edge, and to the Celtic Sea and to the Bay of Biscay in the south, at depths of 10-600 m.

Two species are included in the 'common skate complex' (Common Blue Skate and Flapper Skate, *D. intermedius*) and their distribution is not precisely known, but available data indicate a large region of overlap from northern Scotland to the Celtic Sea, including west of Ireland (Griffiths et al. 2010, ICES 2012). Whilst 'common skate complex' has been reported in the Norwegian Sea and Barents Sea, as far east as the Murmansk coast (Andriyashev 1954, Williams 2008), it is uncertain whether these records refer to Common Blue Skate and/or Flapper Skate, or another skate species (e.g., another Dipturus spp. or Bathyraja spp.). Survey data suggests that *D. batis* is rarely if at all encountered in the Barents Sea, reflecting the natural distribution of the species as being further to the South (Barents Sea Ecosystem survey - IMR-PINRO joint report series 2 2019).

The species is targeted and caught as bycatch in multispecies trawl and tangle net fisheries, which cover much of its shelf and upper slope habitat. Fisheries data indicate their populations underwent an extremely high level of depletion in the central part of their range around the British Isles and Ireland since the early 20th century (within the suspected three generation period of 60 years) (Ellis et al., 2021).

Demersal elasmobranchs are assessed in the Barents Sea as well as the adjoining Norwegian Sea as part of ICES Working Group on Elasmobranchs, where Common/Blue skate is considered as part of the common skate *Dipturus batis* complex. However, ICES does not provide advice on the status of skate stocks in this ecoregion and there are no TACs for any of the skate species in this ecoregion. Norway has a general ban on discarding. Since 2010, all dead or dying skates and other fish in the catches should be landed, whereas live specimens can be released (discarded) (ICES 2021g).

Management of ETP species

Both Norway and Russia, the countries where the fishery operates, are signatory to the Convention on Biological Diversity and the Convention on International Trade in Endangered Species (CITES) and the NAMMCO (the North Atlantic Marine Mammal Commission) - an international body for cooperation on the conservation, management and study of marine mammals in the north Atlantic- which along with IWC advocate measures to reduce bycatch of marine mammals.

Norway and Russia share responsibilities for monitoring and managing populations of all marine mammals in the Barents Sea. And both countries have developed “red lists” of threatened species which are recognized by the national legislations.

The Norwegian Marine Resources Act and associated regulations, through the precautionary approach principle, provide a strategy for managing fishery interactions with ETP species, ensuring that management actions are taken to avoid red list species, including the closure of areas as deemed necessary. There is also provision in the act to require all vessels to record and retain all non-fish bycatch if necessary. Besides, Norwegian Regulation No. 1507 specifically protects basking sharks, spurdogs, portbeagle and silky sharks. Should any fishing vessel catch these species when fishing shall return them in the sea.

The Faroe Islands and Iceland are also signatories to a range of international conventions for the conservation and protection of marine biota, their habitats and environment, (i.e. Bern, Bonn, NAMMCO, OSPAR, Ramsar, Rio conventions).

NAMMCO has recommended that member countries should monitor and report bycatch of marine mammals and seabirds. If issues relating to ETP species are identified (by NAMMCO for example), various mechanisms have been developed to detect and reduce their effects. These include biodiversity action plans for the protection of key and threatened species and habitats, and the OSPAR North East Atlantic Environment Strategy 2030 (NEAES 2030). The strategic objective 5 aims to protect and conserve marine biodiversity, ecosystems and their services to achieve good status of species and habitats, and thereby maintain and strengthen ecosystem resilience) (OSPAR 2021)

The integrated management plan for the Barents Sea, facilitate important cooperation among the International Maritime Organization (IMO), the Arctic Council, the Convention for the Protection of the Marine Environment in the North-East Atlantic (the OSPAR Convention), the North East Atlantic Fisheries Commission (NEAFC) and the bilateral environmental cooperation and fisheries cooperation between Norway and Russia (Meld 2015). The plan identifies appropriate mitigation measures as necessary. In general, where Norway [or Russia] identifies a need for strategies to be introduced, appropriate action is taken, including monitoring of potential interactions with ETP species.

An analysis of marine mammal interactions within a variety of Faeroese fisheries (including foreign fishing vessels) including demersal trawl fisheries for cod haddock and saithe in the Northern Norwegian Sea over a number of years concluded that marine mammal bycatch was largely limited to gillnet fisheries, especially shallow water set nets, with some bycatch in driftnets, dropnets, purse seining and pelagic/midwater trawling of pelagic shoaling fish, and little or no marine mammal catch observed for the demersal trawls (Mikkelsen 2016). With the introduction of the electronic logbook it is now obligatory to record the presence or absence of marine mammals in the catch.

In general, trawl fisheries in the Barents Sea are considered to have a relatively low risk for bycatches of marine mammals and seabird species (ICES WGBYC 2021). Interactions with marine mammals or seabirds have not been reported by the fishery in recent years. Only one ETP species, D. batis have been identified in the catch but in very low numbers (average catch in the period 2016-2020 is 2 tonnes, which represents 0.0000321% of the total catch).

Habitats

The MSC requirement for this element is (v2.01, GSA3.13) that changes caused by the UoA does not produce a serious or irreversible harm to “structure or function” of the habitats impacted by the fishery. That is a reduction in habitat structure, biological diversity, abundance and function such that the habitat would be unable to recover to at least 80% of its unimpacted structure, biological diversity and function within 5-20 years, if fishing were to cease entirely.

Particular considerations are made for commonly encountered habitats and vulnerable marine ecosystems (VME). VMEs are generally habitats with slow recovery rates that are unlikely to be able to recover within 5-20 years from a state below 80% of their unimpacted level. For this reason and due to the fact that VMEs are afforded specific consideration in international and customary law (the UNGA resolutions and FAO Guidelines), VMEs should not be reduced to a state below 80% of the un-impacted level.

For the purposes of scoring this element, benthic habitats are identified in two main sub-groups;

a. commonly encountered habitat, SA3.13.3.1 indicates: “A commonly encountered habitat shall be defined as a habitat that regularly comes into contact with a gear used by the UoA, considering the spatial (geographical) overlap of fishing effort with the habitat’s range within the management area(s) covered by the governance body(s) relevant to the UoA”.
b. VME (vulnerable marine ecosystem). SA3.13.3.2 A VME shall be defined as is done in paragraph 42 subparagraphs (i)-(v) of the FAO Guidelines (definition provided in GSA3.13.3.2). This definition shall be applied both inside and outside EEZs and irrespective of depth.

a. Commonly encountered habitats

The Barents Sea area is about 1,600,000 km2 (Carmack et al. 2006). This estimation includes the surface of the different islands in the area (i.e., Svalbard, Franz Joseph Land and the Novaya Zemlya archipelagos and other small islands), which account for more than 81 200 km2 (Terziev 1990).

First investigations on Barents Sea benthic species were made more than 200 years ago (Jakobsen T., Ozhigin V., 2011). Since then, monitoring of the marine environment throughout the Barents Sea is carried out through ongoing research programmes, both individually by IMR and PINRO and jointly through the Joint Russian-Norwegian ecosystem survey which is carried out annually using five research vessels and bottom trawlers. (Prokhorova, 2013). These surveys serve to gather information regarding the abundance of different fish species but also information on hydrographic conditions, endangered species or planktonic or benthic species. These support the integrated Barents Sea and Norwegian Sea Ecosystem Programme that, amongst other outputs, provides advice to the Norwegian Government in support of an integrated management plan for the Barents Sea (IMR 2009). These programmes include monitoring the effects of trawling on sensitive marine habitats and developing protection measures where appropriate (Kiseleva et al., 2017).

Information on the area can be found in the maps below (MAREANO programme; Joint Russian Norwegian Ecosystem Assessment – Barents Portal). The area is dominated by soft sediments such as sandy mud or also by muddy sands, with occasional patches of gravels. No hard sediments are found in the area.

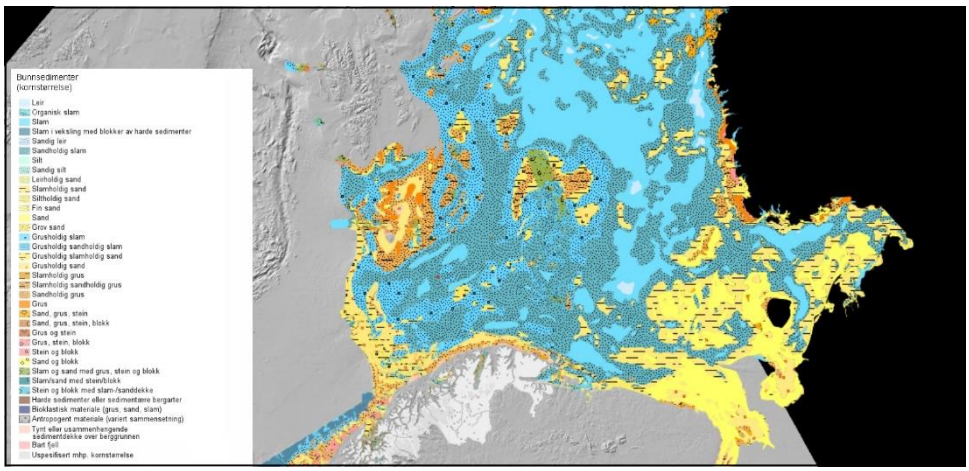

Figure 15 Overview of seabed sediments in the Barents Sea (Source: http://geo.ngu.no/)

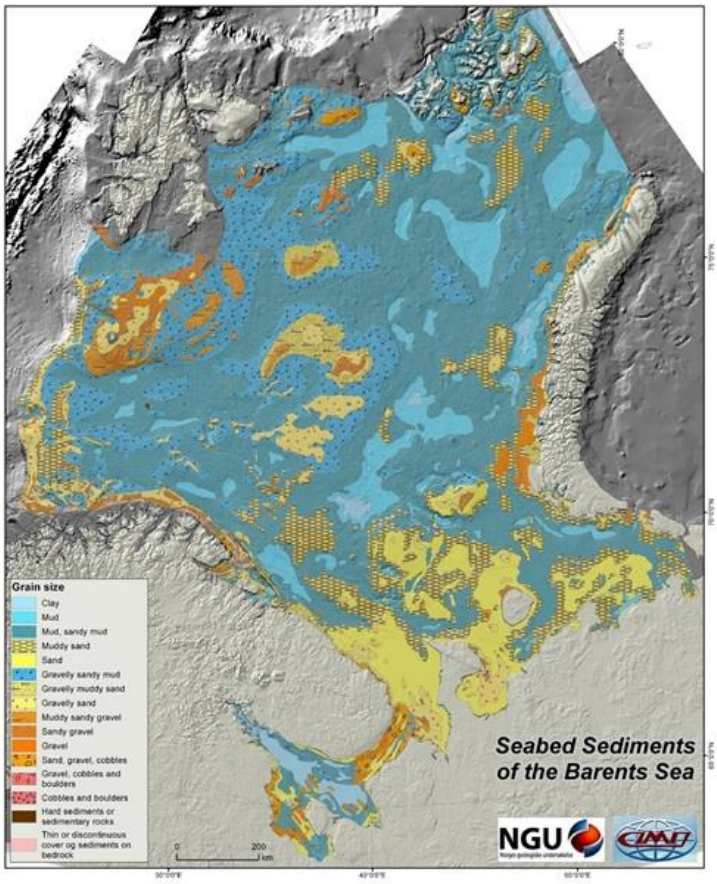

Figure 16 Seabed sediments of the Barents Sea (Source: Lepland Aivo, Rybalko Aleksandr & Lepland Aave 2014: Seabed Sediments of the Barents Sea. Scale 1:3 000 000. Geological Survey of Norway (Trondheim) and SEVMORGEO (St. Petersburg)).

Location of fisheries activities for the assessed fleet was provided by the client during the 2nd SA (see VMS map below). The fishery mainly operates in three zones of the Barents Sea: to the south of the Norwegian Svalbard archipelago, the Norwegian zone and the Russian zone, to the east of New Zembla.

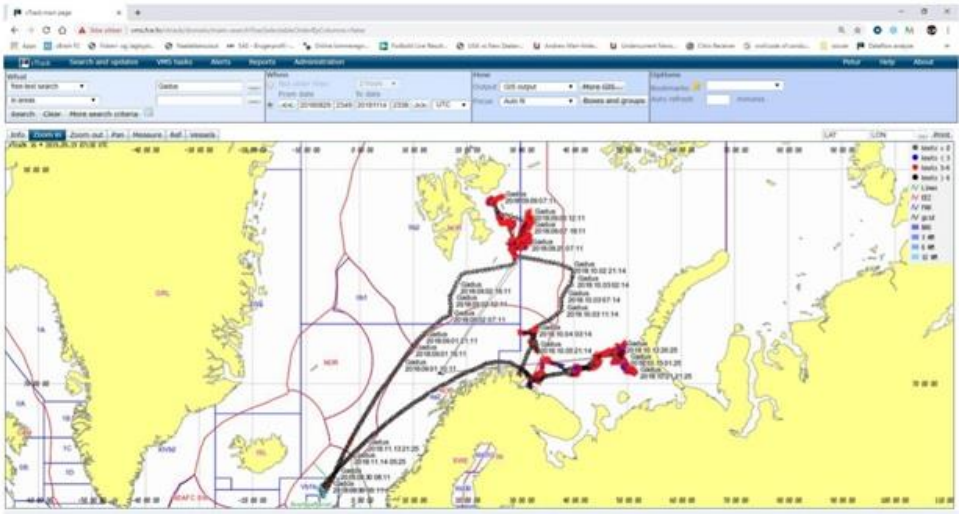

Figure 17 Example of VMS map presented to the assessment team during the 2nd SA demonstrating the fishing grounds where the fishery operates.

Fishing activity in the Barents Sea is tracked by the VMS. Figure 18 and Figure 19 below show fishing activity in the period 2017-2020 based on Norwegian and Russian data (www.barentsportal.com). The most widespread gear used in the Barents Sea is bottom trawl; but longlines, gillnets, Danish seines, and handlines are also used in demersal fisheries. This gear is mainly deployed in the same areas where the fishery assessed operates.

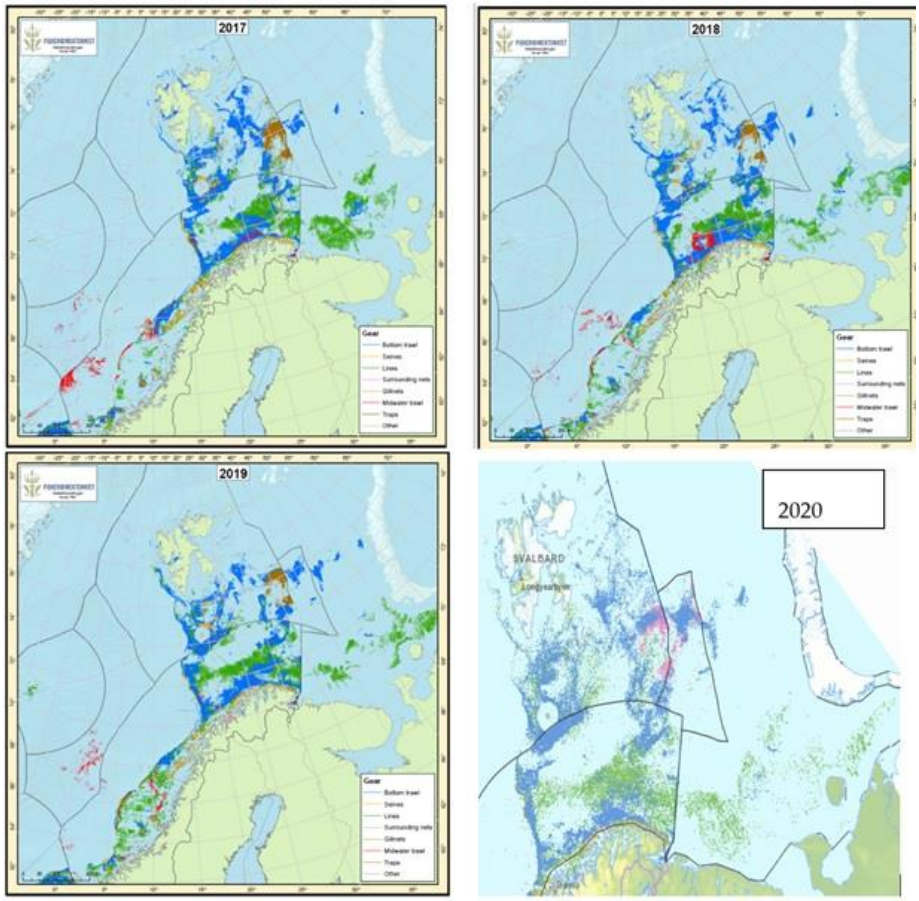

Figure 18 Location of Norwegian and foreign fishing activity from commercial fleets (larger than 15 m) and fishing vessels used for research purposes in 2017-2020 as reported (VMS) to Norwegian authorities. These are VMS data linked with logbook data. Surrounding nets = Danish seine (source: Norwegian Directorate of Fisheries). Fishery tracking (not AIS) linked to landing.

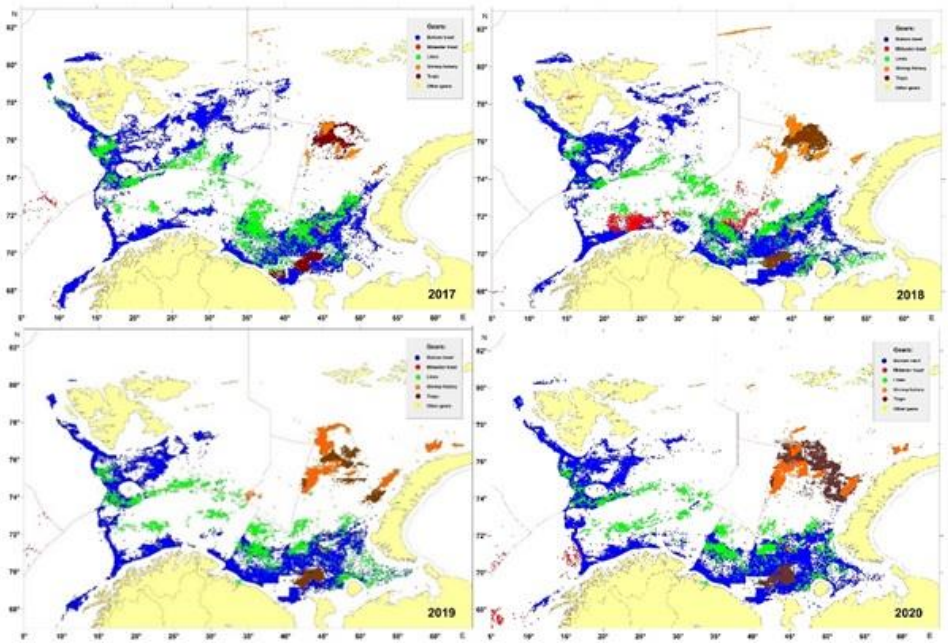

Figure 19 Location of Russian and foreign fishing activity from commercial fleets and fishing vessels used for research purposes in 2017 - 2020 as reported (VMS) to Russian authorities. These are VMS data linked with logbook data (source: PINRO Fishery statistics database).

Based on the information provided, the main seabed bottoms found in the areas of operation of the FISF Faroe Island fishery are: mud, sandy mud and muddy sand and gravelly sandy mud. These are considered as the commonly encountered habitats for the purposes of this assessment.

c. VMEs habitats

The MSC Fisheries Standard v2.01 in GSA3.13.3.2 defines VMEs as having one or more of the following characteristics, as defined in paragraph 42 of the FAO Guidelines:

- Uniqueness or rarity – an area or ecosystem that is unique or that contains rare species whose loss could not be compensated for by similar areas or ecosystems
- Functional significance of the habitat – discrete areas or habitats that are necessary for survival, function, spawning/reproduction, or recovery of fish stocks; for particular lifehistory stages (e.g., nursery grounds, rearing areas); or for ETP species
- Fragility – an ecosystem that is highly susceptible to degradation by anthropogenic activities
- Life-history traits of component species that make recovery difficult – ecosystems that are characterised by populations or assemblages of species that are slow growing, are slow maturing, have low or unpredictable recruitment, and/or are long lived
- Structural complexity – an ecosystem that is characterised by complex physical structures created by significant concentrations of biotic and abiotic feature

The FAO Guidelines' Annex identifies the following species groups, communities, and habitat-forming species that may form VMEs and may be indicative of the occurrence of VMEs:

- Certain coldwater corals and hydroids (e.g., reef builders and coral forest, such as stony corals, alcyonaceans, gorgonians, black corals, and hydrocorals)
- Some types of sponge-dominated communities
- Communities composed of dense emergent fauna where large sessile protozoans and invertebrates (e.g., hydroids and bryozoans) form an important structural component of habitat
- Seep and vent communities comprised of invertebrate and microbial species found nowhere else (i.e., endemic)

The FAO Guidelines' Annex also lists various geographical features that are often associated with these communities. According to ICES advice, there are certain habitats in the Barents Sea (and in the Northeast Atlantic) which are considered as a threatened or in a declining situation. These are considered Vulnerable marine ecosystems for MSC purposes. These habitats include:

1. Coral gardens
2. Cymodocea meadows
3. Deep-sea sponge aggregations
4. Intertidal mudflats
5. Lophelia pertusa reefs
6. Modiolus modiolus beds
7. Ostrea edulis beds
8. Seamounts
9. Zostera beds.

NEAFC Recommendation 09/2015 lists which species should be considered as VME indicators when encountered in large fields. These species are listed based on traits related to functional significance, fragility, and the life-history traits of components that show slow recovery to disturbance. NEAFC VME habitat types include the following taxa:

1 - Cold water coral reef:

- Lophelia pertusa reef
- Solenosmilia variabilis reef

2 - Coral garden:

- Hard-bottom coral garden o Hard-bottom gorgonian and black coral gardens: Anthothelidae, Chrysogorgiidae, Isididae, Keratoisidinae, Plexauridae, Acanthogorgiidae, Coralliidae, Paragorgiidae, Primnoidae, Schizopathidae. o Colonial scleractinians on rocky outcrops: Lophelia pertusa, Solenosmilia variabilis. o Non-reefal scleractinian aggregations: Enallopsammia rostrate, Madrepora oculata
- Soft bottom coral gardens o Soft-bottom gorgonian and black Chrysogorgiidae coral gardens o Cup-coral fields Caryophylliidae, Flabellidae o Cauliflower coral fields Nephtheidae

3 - Deep sea sponge aggregations:

- Other sponge aggregations: Geodiidae, Ancorinidae, Pachastrellidae.
- Hard-bottom sponge gardens: Axinellidae. Mycalidae

- Glass sponge communities Rossellidae, Pheronematidae

4 - Seapen fields: Anthoptilidae, Pennatulidae, Funiculinidae, Halipteridae, Kophobelemnidae, Protoptilidae, Umbellulidae, and Vigulariidae
5 - Tube dwelling anemone patches: Cerianthidae
6 - Mud and sand emergent fauna: Bourget crinidae, Antedontidae, Hyocrinidae, Xenophyophora, Syringamminidae.
7 - Bryozoan patches

The biotope map, covering the entire Barents Sea, shown below has been compiled in collaboration between the Geological Survey of Norway, the Norwegian Institute of Marine Research (IMR) and the Russian Polar Research Institute of Marine Fisheries and Oceanography (PINRO) in the frame of the Norwegian-Russian Environmental Commission Workplan for 2011-2013 and 2013-2015 (Dolan et al., 2015). Biotopes are characteristic combinations of species and environment and are one component of seabed habitat mapping. Biological sampling stations across the Barents Sea have been surveyed annually by IMR and PINRO on the joint Norwegian-Russian Ecosystem Survey. Benthic fauna biomass data from bottom-trawl samples are arranged into faunal groups and a set of these groups used as the basis for the biotope classes in predictive modelling. The relationship of these biotope classes to the physical environment is analysed and selected full coverage physical data (sediment grain size, bathymetry and oceanographic parameters) used to create a model and to predict the distribution of biotopes across the entire study area (Donlan et al., 2015).

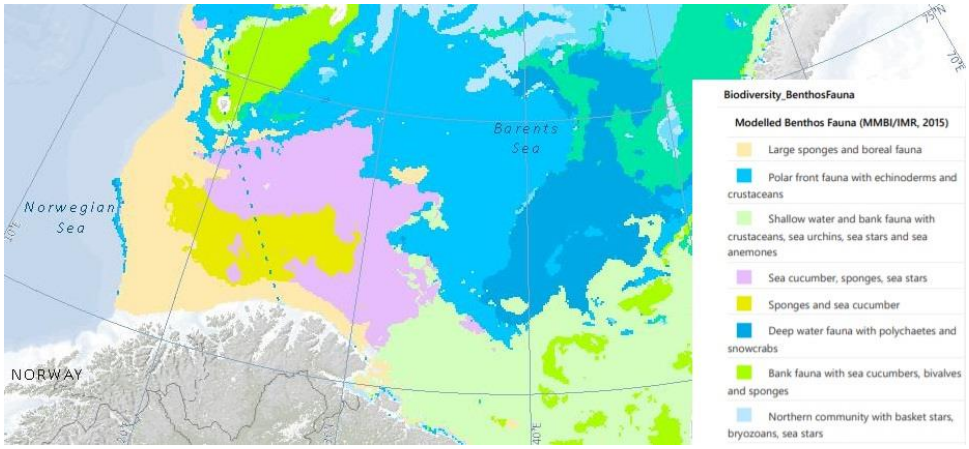

Figure 20 Map showing the different biotopes in the Barents Sea (Source: Dolan et al., 2015).

Dominant sediments, depth range and main physical and biological characteristics are given in **Table 25** below (Donlan et al., 2015).

Table 25 Biotope class descriptive summary based on biological observations and values of environmental variables extracted at sampling stations. Most common sediment types are indicated by SOSI code (Statens kartverk, 2006). Only the core (interquartile) range of depth and oceanographic data values at sampling stations is given therefore values outside this range may occur across the study area both at and between biotope points (Source: Donlan et al., 2015).

Biotope	PHYSICAL CHARACTERISTICS				BIOLOGICAL CHARACTERISTICS	
	Dominant sediments	Core water depth range	Core oceanographic characteristics	Physical summary in map legend	General fauna description	Typical taxa
1	Sandy sediments (80; 100; 115; 130).	180-400 m	Bottom temperature between -0.2 and 7.7°C with typical annual range 4.5 – 6 °C. Salinity ~ 35 psu. Maximum bottom currents 0.26 – 0.41 m/s.	Warmer waters with average salinity in moderate-deep areas. Mixed, often sandy sediments and stronger currents.	Large sponges and boreal fauna	Geodia spp Munida sp *Paralithodes camtschaticus* and sea stars (*Solaster endeca*)
2	Mixed sediments (40; 115; 130; 150)	165 – 290 m.	Bottom temperature between -1.8 and 3.2 °C with typical annual range 2.4 - 3.9 °C. Salinity 34.6 – 35 psu with higher values in deeper areas, and lower values on banks and in northern areas.	Colder waters at moderate depths with moderate variation in salinity Mixed sediments.	Polar front fauna with echinoderms and crustaceans	*Sabinea septemcarinata* *Ctenodiscus crispatus/Molpadia borealis* or *Strongylocentrotus* sp/*Gorgonocephalus* sp).
3	Mixed muddy/ sandy sediments (40; 80; 100; 115)	75 – 200 m.	Bottom temperature between -1.8 and 6 °C with typical annual range 3.6 – 6.5 °C. Salinity between 34.3 and 35.2 psu. High fraction of coastal water with below average salinity. Large seasonal variations especially in shallow coastal regions.	Variable temperature and salinity waters at shallow-moderate depths. Muddy and sandy sediments.	Shallow water and bank fauna with crustaceans, sea urchins, sea stars and sea anemones	*Sabinea septemcarinata* *Sclerocrangon ferox* *Hippasteria phrygiana Icasterias sp* *Urasterias sp* *Hormathia* sp *Chionoecetes opilio*
4	Mixed muddy/sandy sediments (40; 80; 115)	290 -430 m.	Bottom temperature between 1.1 and 5 °C with typical annual range 2.3 -3.2 °C. Salinity ~ 35 psu. Area dominated by warm and saline Atlantic Water. Lower end of temperature range found in deepest parts. Remaining areas mostly above 3°C.	Warmer deep waters with average salinity. Mixed muddy/sandy sediments.	Sea cucumber, sponges, sea stars	*M. Borealis* *C. crispatus*
5	Mixed muddy sediments (40; 115)	270-355 m.	Bottom temperature between 1.7 and 6.3 °C with annual range 2.2 - 4.6 °C. Salinity ~ 35 psu. Low end of temperature range found in deepest parts. Remaining areas mostly above 3°C.	Moderate-deep areas with warmer waters of average salinity. Mixed muddy sediments.	Sponges and sea cucumber	*Parastichopus tremulus*
6	Muddy sediments (20; 40)	320 – 255m.	Bottom temperature between -1.2 and 3 °C with annual range 1.7 -3.4 °C. Salinity ~ 35psu. Area dominated by warm and saline Atlantic Water. Lower end of temperature range associated with proximity to shallow banks.	Colder waters at moderate depths with average salinity. Muddy sediments.	Deep water fauna with polychaetes and snowcrabs	*Spiochaetopterus* sp, *Chionoecetes opilio*
7	Mixed sandy sediments (80; 100; 115; 130)	60 – 110 m.	Bottom temperature between -1.9 and 4.7 °C with typical annual range 4.7 - 6.3 °C.	Shallow areas with variable temperatures. Large seasonal variations. Mixed, often sandy sediments.	Bank fauna with sea cucumbers, bivalves and sponges	*Cucumaria frondosa*, *Chlamys* sp
8	Mixed muddy sediments (40; 115)	190-250 m.	Bottom temperature between -1.9 and 4.5°C with typical annual range 2.1 – 3.3 °C. Lower than average salinity 34.55 – 34.94 psu. Temperature over 3°C occurs only occasionally in southwestern part.	Colder waters at moderate depths with lower than average salinity. Mixed muddy sediments.	Northern community with basket stars, bryozoans, sea stars	Gorgonocephalus spp *C. crispatus*
9	Mixed muddy/sandy sediments (20; 40; 80;115)	150 – 255.	Bottom temperature between -1.9 and 2.1 °C. Typical annual range 2.9 – 3.8 °C. Salinity range 34.8-35.3 psu.	Colder, variable temperature waters with variable but occasionally high salinity in conjunction with temperature at freezing point. Moderate depths. Mixed muddy sediments.	Northern community with sponges, sea urchins, snow crabs	Sponges Strongylocentrotus spp) *Chionoecetes opilio*
10	Mixed sediments (20; 40; 80; 115; 160).	225 -325 m.	Bottom temperature between -1.8 and 0.8 °C with annual range 1.6 – 2.5 °C. Salinity range 33-35 psu (highest in south, below 34 psu in north except in troughs).	Coldest waters with below average salinity at moderate depths. Mixed, often muddy sediments.	Arctic community with sponges, brittle stars and basket stars.	*Ophiacantha bidentata, Ophiopleura borealis*

There is an extensive set of sources with information on VMES in the Nordic Seas (Norway, Iceland, Faroe Islands), including data from the Benthic Invertebrates of Icelandic waters (BIOICE) and the Marine Benthic Fauna of the Faroe Islands (BIOFAR) projects, and the Institute of Marine Research (IMR) coral database. Also unpublished data from habitat mapping surveys by the Marine and Freshwater Research Institute (MFRI) in Iceland (Ólafsdóttir and Burgos, 2012) and the MAREANO project in Norway (Buhl-Mortensen et al., 2015b), and recent video observations carried out in the Faroe Islands (Buhl-Mortensen et al., 2019). Also, data from the ICES VME database (Morato et al., 2018), and the Ocean Biogeographic Information System (OBIS, Grassle, 2000). Information from these databases, together with data from other sources, such as published data from the early expeditions in the area, and the more recent work by Copley et al. (1996), Klitgaard and Tendal (2004), Mortensen et al. (1995, 2001), Cárdenas and Rapp (2015), and Hestetun et al. (2017) and by-catch data from the Joint Annual Norwegian-Russian Ecosystem Surveys in the Barents Sea (Jørgensen et al., 2015), and from the MFRI autumn surveys was used by Burgos et al., (2020) to predict the distribution of 44 VME indicator taxa including 20 sponges, 17 cold-water corals, and 7 seapens in the Nordic Seas based on data compiled and models developed by the NovasArc project (2016–2018) (Burgos et al., 2020).

Table 26 List of the 44 VME indicator taxa selected for modelling using SDMs (Source: Burgos et al., 2020).

VME type and subtype	Indicator taxa	Number of records
Soft bottom sponge aggregations	*Geodia atlantica*	527
	Geodia barretti	3,265
	Geodia macandrewi	432
	Geodia phlegraei	92
	Geodia hentscheli	79
	Geodia parva	50
	Strypnhus sp., *S. fortis*, *S. ponderosus*	601
	Stelletta sp., *S. normani*, *S. rhaphidiophora*	889
Hard bottom sponge aggregations	*Axinella* sp., *A. infundibuliformis*	1,755
	Phakelia sp., *P. robusta*, *P. ventilabrum*	3,997
	Anto (Antho) dichotoma	793
	Tethya sp., *T. aurantium*, *T. cintrina*	480
	Mycale (Mycale) lingua	2,133
	Polymastia sp., *Polymastia cf. uberrima*	841
	Craniella sp., *C. cranium*, *C. zetlandia*, *Tetilla* sp.	646
Deep arctic sponge aggregations	*Caulophacus (Caulophacus) arcticus*	119
	Cladorhiza sp., *C. abyssicola*, *C. corticocancellata*, *C. gelida*, *C. oxeata*	88
	Chondrocladia (Chondrocladia) grandis	205
	Asconema sp.	237
	Lycopodina sp., *L. tendali*, *L.pressiformis*	45
Scleractinean reefs and colonies	*Lophelia pertusa*	6,725
	Madrepora oculata	364
	Solenosmilia variabilis	47
Soft bottom gorgonian gardens	*Radicipes* sp., *R. gracilis*	707
	Acanella arbuscula	339
	Isidella lofotensis	162
Cup coral fields	*Flabellum* sp., *F. (Ulocyathus) alabastrum*, *F. (Ulocyathus) angulare*, *F. (Ulocyathus) macadrewi*	281
	Caryophylla (Caryophyllia) smithii	2,849
Hard bottom gorgonian gardens	*Paragorgia arborea*	1,169
	Paramuricea sp., *P. placomus*	420
	Primnoa resedaeformis	682
	Anthomastus sp., *A. grandiflorus*, *A. purpureus*	149
	Anthothela grandiflora	59
Stylasterid corals on hard bottom	Stylasteridae, *Stylaster* sp., *S. norvegicus*, *S. gemmascens*	398
Cauliflower coral fields	*Drifa glomerata*	1,418
	Duva florida	300
	Gersemia sp., *G. fruticosa*, *G. rubiformis*	1,085
Shallow sea pen communities	*Funiculina sp.*, *Funiculina quadrangularis*	976
	Virgularia sp., *V. glacialis*, *V. mirabilis*, *V. tuberculata*	2,543
	Kophobelemnon sp., *Kophobelemnon stelliferum*	2,580
	Pennatula sp., *P. phosphorea*	2,259
	Halipteris sp.	315
Deep-sea sea pen communities	*Anthoptilum* sp., *A. murrayi*, *A. grandiflorum*	66
	Umbellula sp., *U. ecrinus*	516

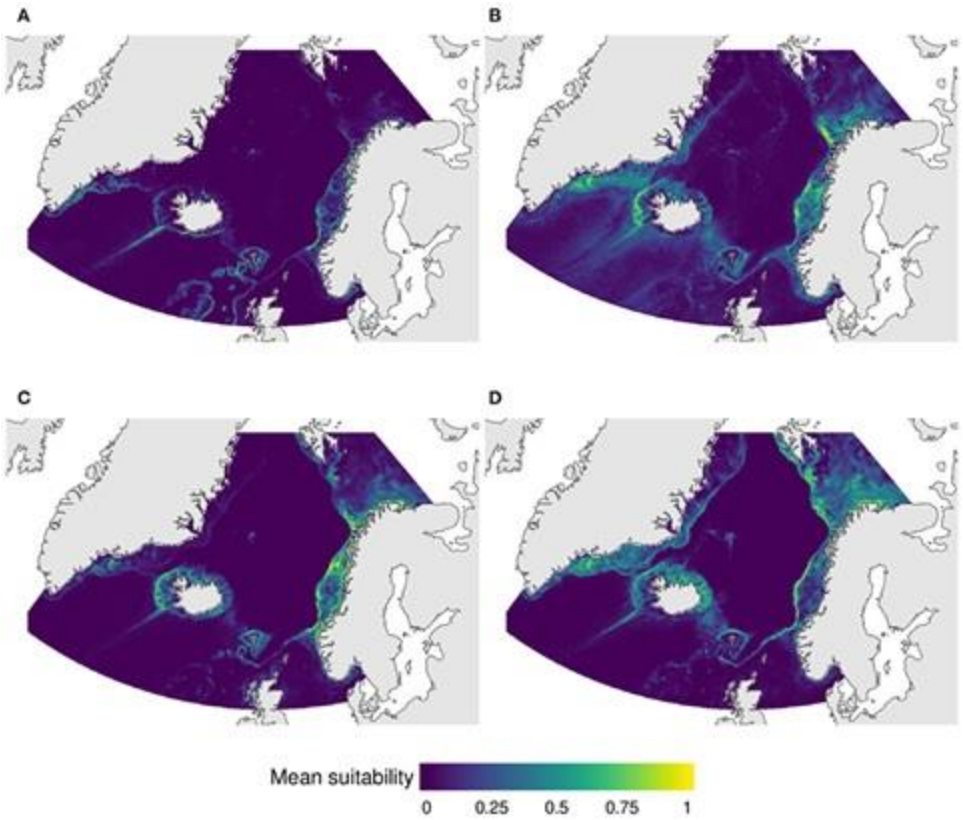

Figure 21 Predicted distribution of VMEs based on stacked species distribution model (SSMD) of (A) the reef-forming corals *Lophelia pertusa and Madrepora oculata*, the gorgonians *Paragorgia arborea, Primnoa resedaeformis, and Paramuricea sp., and Stylasterid* corals, (B) sponges of the taxa *Geodia atlantica, G. macandrewi, G. phlegraei, Stryphnus sp., and Stelletta sp.*, (C) sponges of the taxa *Mycale sp., Axinellidae, Phakellia, and Antho (Antho) dichotoma, and (D)* sponges of the taxa *Thethya sp., Geodia baretti, Polymastia sp., and Tetillidae* (Burgos et al., 2020).

Predicted distribution of VMEs in the NEAFC regulatory area based on the ICES VME Index is shown in **Figure 22**.

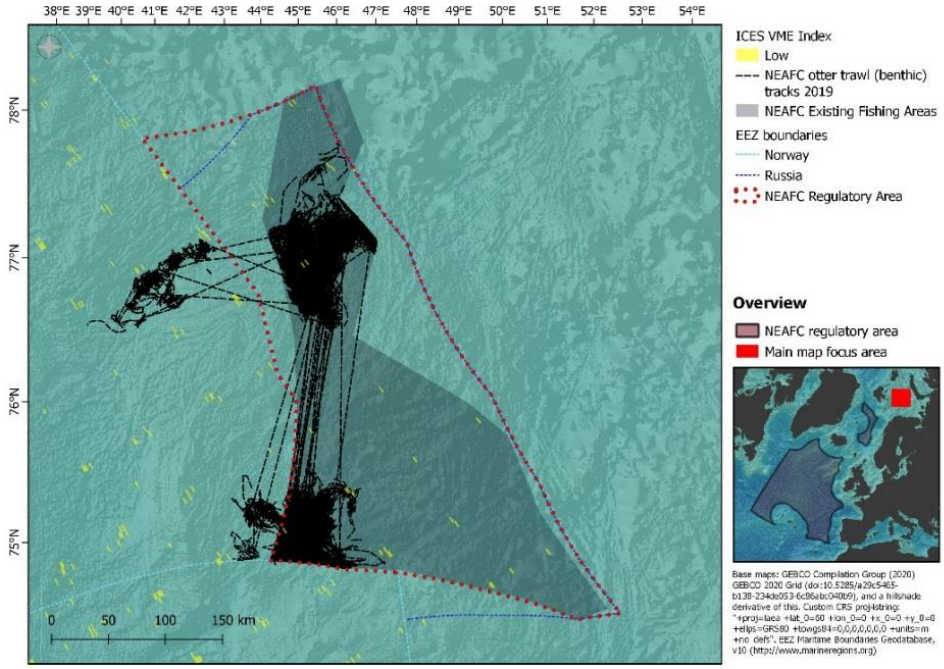

Figure 22 Bottom-contacting otter-trawl tow tracks in the Barents Sea, overlain with the ICES VME index (based on all records for the area) and the likelihood of encountering a VME within each grid cell (ranging from low to high) (ICES 2020X).

In the deep waters of the Nordic Seas and adjacent areas, the following benthic habitats have been classified as vulnerable marine ecosystems (VMEs), due to their uniqueness, limited spatial extent, physical fragility, and slow recovery rate, including (extracted from Burgos et al., 2015):

- Soft Bottom Sponge Aggregations. In the Nordic Seas, demosponges of the order Tetractinellida form dense aggregations commonly known as “ostur” or “cheese bottom.” These species can occur at depths between 150 and 1,700 m, on gravel and coarse-sand bottoms (Klitgaard and Tendal, 2004; Murillo et al., 2012; Maldonado et al., 2015). Two main types of ostur assemblages were recognized by Klitgaard and Tendal (2004): the boreal “ostur” and the cold water “ostur.” The boreal “ostur” characterized by Geodia barretti, G. macandrewii, G. phlegraei, G. atlantica, Stelletta normaini, and Strypnhus ponderosus (or S. fortis) (Cárdenas and Rapp, 2015; Maldonado et al., 2015), which is observed on some areas of the western Barents Sea, the Norwegian shelf (Kutti et al., 2013; Gonzalez-Mirelis and Buhl-Mortensen, 2015) and Faroese shelf (Klitgaard et al., 1997; Davison et al., 2019), and off southern Iceland (Klitgaard and Tendal, 2004). The cold water “ostur” is characterized by G. hentscheli, G. parva, and Stelletta raphidiophora, and it is found off northern Iceland, the Denmark Strait, off East Greenland, and north of Spitzbergen (Klitgaard and Tendal, 2004).
- Hard Bottom Sponge Aggregations. A range of medium- to large-sized sponges occur on hard substrates including bedrock, lithified crust, and rocks. These include various axinellid sponges from the genera Axinella and Phakellia, and the demosponges Antho dichotoma and Mycale lingua. Off northern Norway, hard bottom demospongiae represents a single community (Gonzalez-Mirelis and Buhl-Mortensen, 2015). In addition to these four taxa, the ICES WGDEC (ICES, 2016) considered the family Tetillidae (genera Crainella and Tetilla), as well as sponges of the genera Polymastia and Tethya also to be indicators of hard bottom sponge aggregations, and these are frequently recorded in the Nordic seas (Buhl-Mortensen et al., 2012, 2015b).
- Deep Arctic Sponge Aggregations. Several species of hexactinellid sponges are found in relatively high densities in deep cold (<0 °C) waters. One of the most common species in the Norwegian Sea is Caulophacus arcticus, which is generally found on hard bottoms at the lower part of the continental slope (Tendal and Barthel, 1993; Buhl-Mortensen et al., 2015b), and has been observed on the base of the Schultz Massif Seamount, at depths below 1,400 m (Roberts et al., 2018). Hexactinellid sponges of the genus Asconema can also constitute sponge grounds, although in restricted geographical settings (ICES, 2008). Asconema foliata has been observed on seamounts (Roberts et al., 2018), and is considered as a main habitat builder associated to cold water “ostur” habitats (Maldonado et al., 2015). In addition, poecilosclerid demosponges of the family Cladorhizidae become numerous at depths below 400 m, and at greater depths they constitute a large fraction of the sponge fauna (Hestetun et al., 2017). Several species of these carnivorous sponges of the genera Chrondocladia, Cladorhiza, and Lycopodina have been reported in the Nordic Seas (Hestetun et al., 2017). They are usually found in low densities, although aggregations of Chondrocladia grandis and Cladorhiza sp. have been observed off northern Iceland.

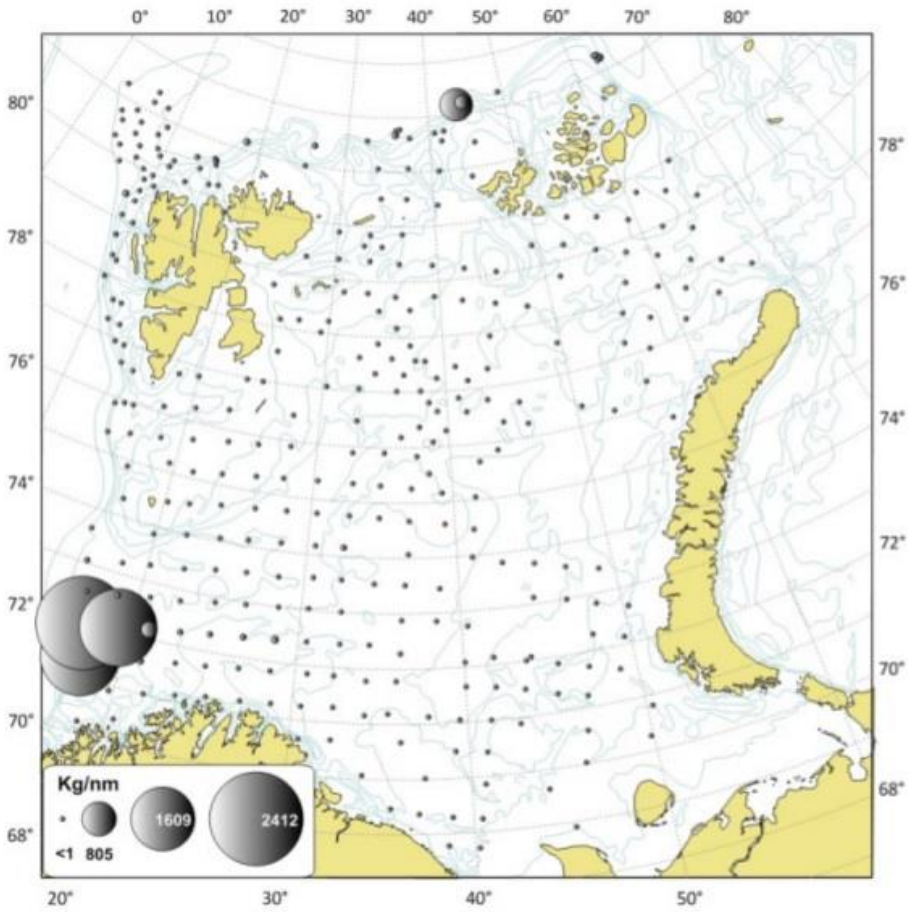

Figure 23 Biomass (kg/nm) distribution of sponges within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2021)

- Soft Bottom Coral Gardens. The term “coral garden” refers to relatively dense aggregations of colonies or individuals of one or several coral species (OSPAR, 2010a). They can be classified by substrate type (soft and hard bottoms) and the main representative taxa (ICES, 2016). Soft bottom coral gardens can be comprised by gorgonians of the families Isididae and Chrysogorgiidae, which can form dense aggregations on sandy mud (Buhl-Mortensen et al., 2015d). Among these, Isidella lofotensis is found almost exclusively off Norway (Buhl-Mortensen et al., 2015c), although it has been reported off east Greenland (Mayer and Piepenburg, 1996). Radicipes sp. aggregations have been observed off Norway only on the area known as the Bjørnøya slide, but it seems to be more widely distributed south of Iceland (Buhl-Mortensen et al., 2015c). In the warmer waters off southern Iceland the bamboo coral Acanella arbuscula is also relatively common. Soft-bottom coral gardens can also be comprised of solitary scleractinean corals of the genus Caryophyllia and Flabellum aggregated in relatively high densities forming what is known as “cup coral fields” (Baker et al., 2012; Buhl-Mortensen et al., 2015d). Models were produced for six indicator taxa of this VME.

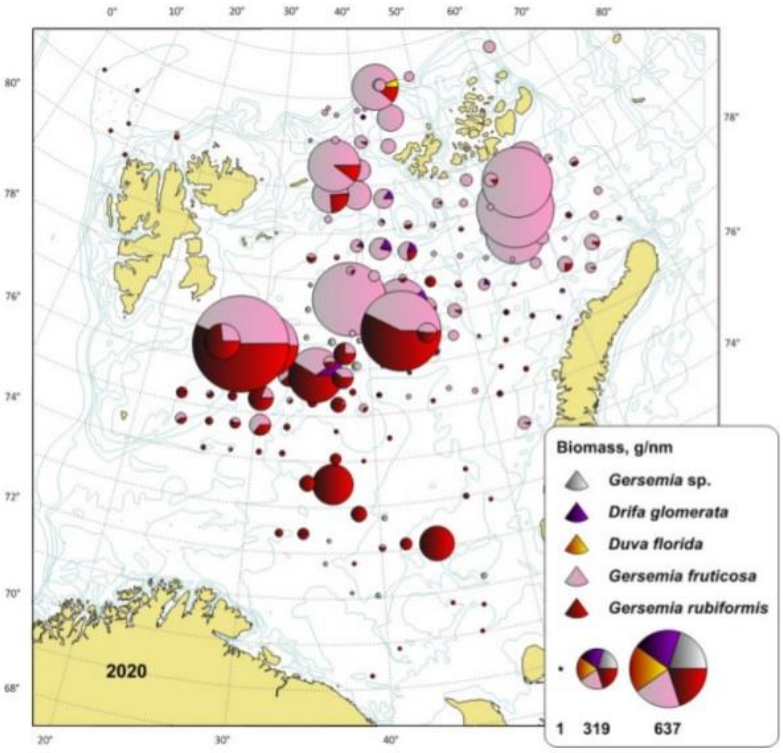

Figure 24 Biomass (g/nm) distribution of soft corals (*Drifa glomerata, Duva florida, Gersemia fruticosa, and G. rubiformis*) within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2020).

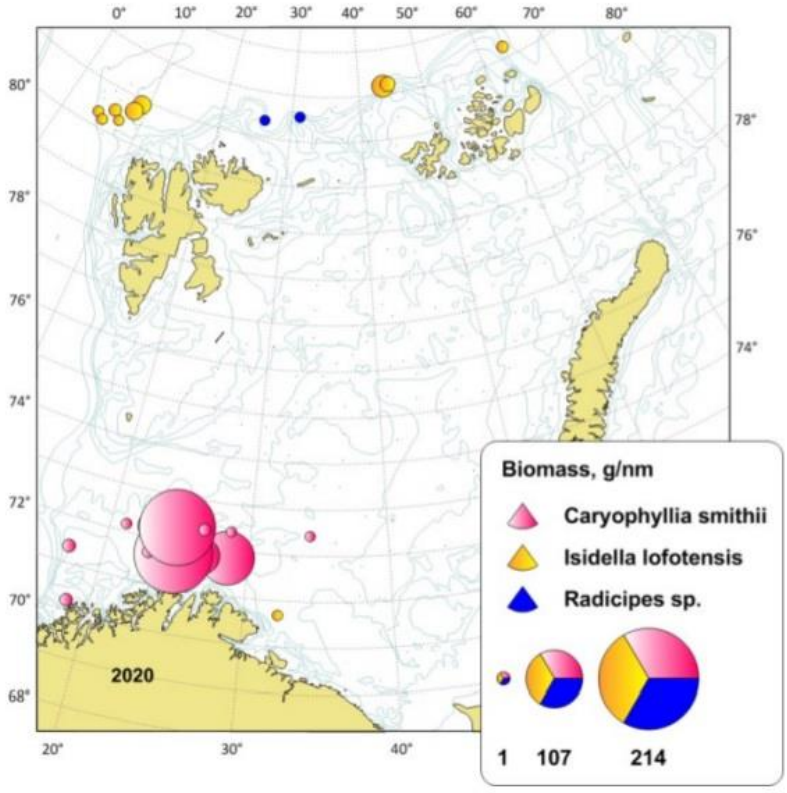

Figure 25 Biomass (g/nm) distribution of corals *Caryophillia smithii, Isidella lofotensis, and Radicipes sp*. within the Barents Sea shelf according to BESS-2020 (Source: WGIBAR 2021).

- Hard Bottom Coral Gardens. Hard-bottom coral gardens often occur in locations with strong currents. In the study area three of the subtypes from the ICES VME classification (ICES, 2016) are relevant: hard bottom gorgonian gardens, stylasterid corals on hard bottom, and cauliflower coral fields. In the Nordic Seas, the main

indicator taxa of gorgonian gardens are Paragorgia arborea, Paramuricea sp., and Primnoa resedaeformis. In addition, Anthomastus sp. is also frequent south of Iceland. Hydrocorals from the family Stylasteridae are not commonly observed in large aggregations but form part of mixed coral communities. Cauliflower corals of the family Nephtheidae (Duva florida, Drifa glomerata, and Gersemia sp.) are widely distributed and dense aggregations have been observed in video surveys off NW and SE of Iceland at 500–600 m (Buhl-Mortensen et al., 2019), and off northern Norway (ICES, 2011).

- Reef-Forming Scleractineans. In Nordic waters only three species of scleractinean corals are reef building: Lophelia pertussa, Madrepora oculata, and Solenosmilia variabilis. Among them, L. pertusa is the most common and has been recorded frequently on the Norwegian shelf, around the Faroe Islands and off southern Iceland. M. oculata is less abundant, has a more limited framework-building capacity, and it often co-occurs with L. pertusa (Roberts et al., 2009). In our study area, S. variabilis has been observed deep on the Reykjanes Ridge south of Iceland (Copley et al., 1996). Reef forming scleractineans do not always form reefs. For example, on vertical solid substrates coral debris cannot aggregate and reefs do not develop (Buhl-Mortensen et al., 2015d). In the North Atlantic reef-forming scleractineans can also form densely-packed “thickets,” as part of hard bottom coral gardens, or as isolated colonies (Mortensen and Buhl-Mortensen, 2004, 2005; Davies et al., 2017). These growth forms are usually considered to represent different habitats. For example, the ICES VME classification distinguishes between cold-water coral reefs, non-reefal scleractineans, and colonial scleractineans on rocky outcrops (ICES, 2016). Because the growth form is seldom known or reported all observations of each taxon were grouped under a single VME type.
- Shallow Sea Pen Communities. Sea pen communities are usually defined as areas of bioturbated fine sediments with relatively high densities of sea pens. In OSPAR's list of threatened and/or declining habitats, this biotope is termed “sea-pens and burrowing megafauna communities” (Curd, 2010). This biotope is found in the relatively warm Atlantic water shallower than 700 m. The most common sea pen species are *Funiculina quadrangularis, Virgularia mirabilis, Pennatula phosphorea, and Kophobelemnon stelliferum*.

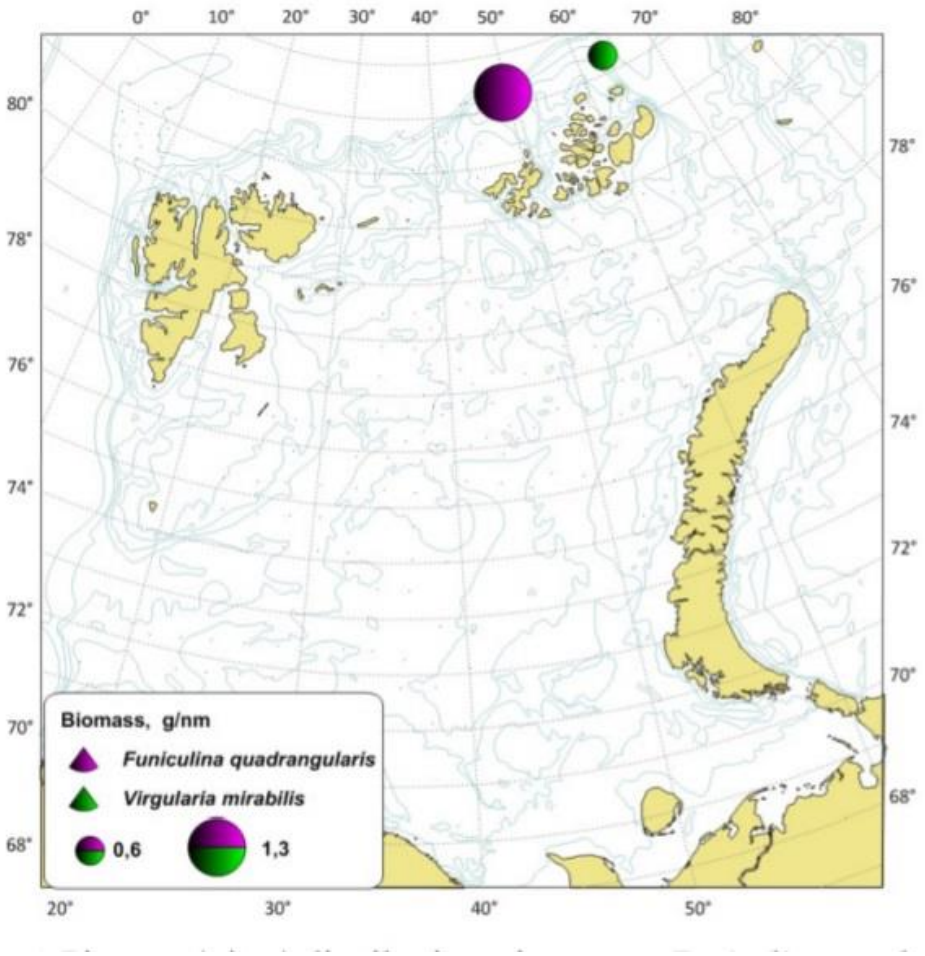

Figure 26 Biomass (g/nm) distribution of sea pens *Funiculina quadrangularis* and *Virgularia mirabilis* within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2021).

- Deep-Sea Sea Pen Communities. The sea pen species Umbellula spp. and Anthoptilum spp. occur in deep waters (below 700 m) in an environment with colder temperatures and less anthropogenic activities than shallow water sea pens, and therefore should be regarded as a separate sea pen VME or at least a distinct sub-type

(Buhl-Mortensen et al., 2019). High densities of *Umbellula encrinus* are found in deep waters north of Iceland and on the Norwegian slope, at depths below 800 m in the Norwegian Sea-Arctic Intermediate water. This large sea pen can reach a height of three meters. Off southern Iceland, sea pens of the genus Anthoptilum are also found in deep, albeit warmer waters.

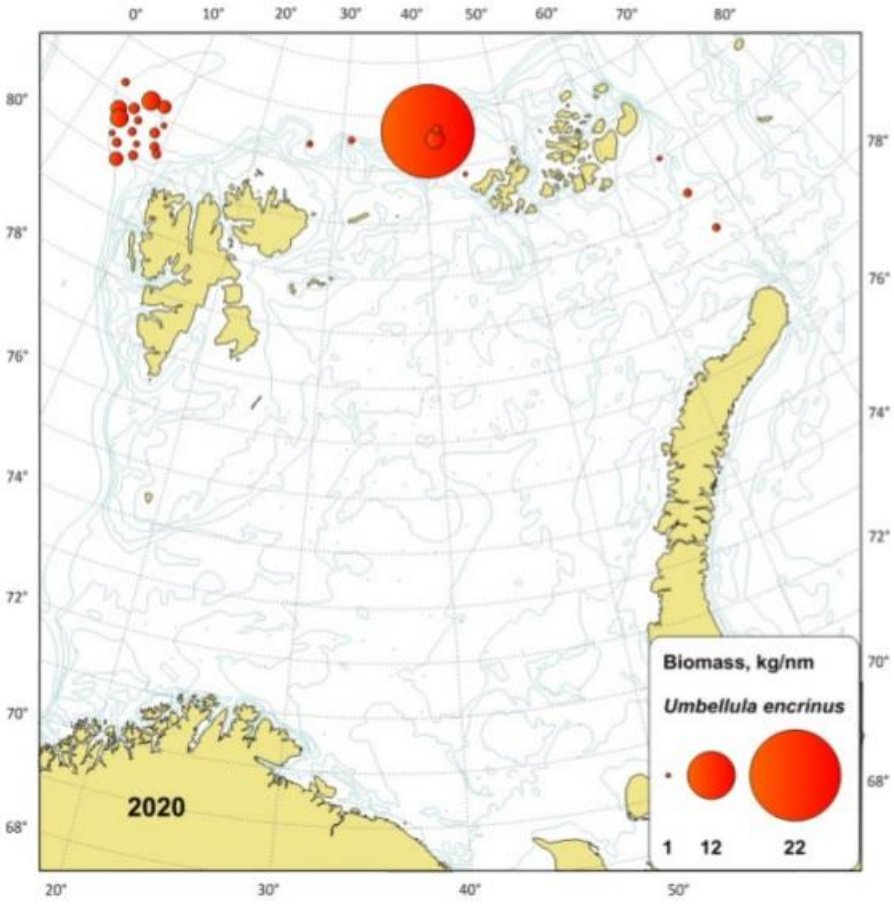

Figure 27 Biomass (kg/nm) distribution of sea pens Umbellula encrinus within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2021).

Other VMEs identified in the Barents Sea include brittle stars Gorgonocephalus genera (G. *arcticus, G. eucnemis, G. caputmedusae, and G. lamarckii*); and also abundant in the Barents Sea are the fragile comatulids sea lilies. Two species of Comatulida crinoids are found in the shelf area: the bigger and more abundant, *Heliometra glacialis*, distributed in the north and central part of the Barents Sea, and the smaller and less abundant Poliometra prolixa, distributed mainly to the north and east of Spitzbergen (ICES WGIBAR 2021).

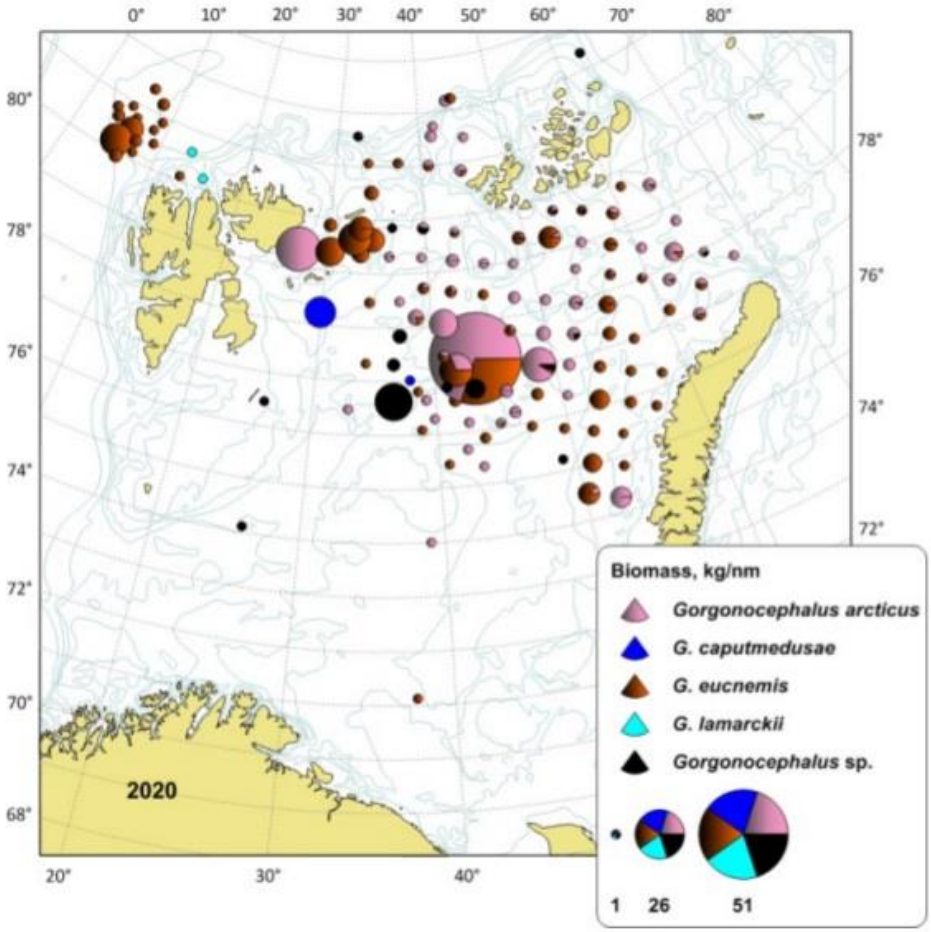

Figure 28 Biomass (kg/nm) distribution of the brittle stars of genega Gorgonocephalus (G. arcticus, G. eucnemis, G. lamarckii, and G. caputmedusae) within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2021).

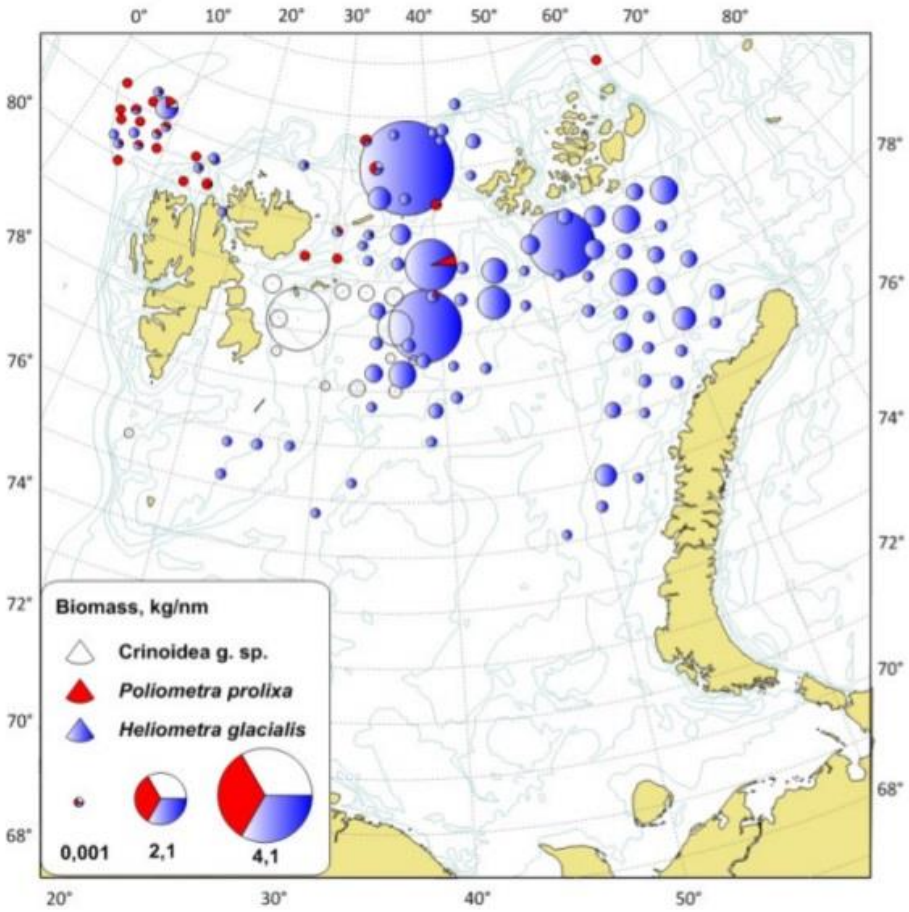

Figure 29 Biomass (kg/nm) distribution of the Comatulidae crinoids *Heliometra glacialis and Poliometra prolixa* within the Barents Sea shelf according to BESS-2020 (Source: ICES WGIBAR 2021).

d. Habitat impacts

The Bottom trawls are mobile fishing gears in which a net is dragged over the seafloor. Otter trawls are one of the most commonly used fishing gears in offshore waters, and because of the lack of a rigid frame, they can be used over rougher and steeper terrains than other types of bottom trawls and are towed at higher speeds covering more ground (Martín et al. 2014). Otter trawls are dragged over the seabed at speeds of between 2 and 5 knots. The width of the swath of seabed in contact with the gear depends on the size of the gear and on specific gear settings such as bridle length and water depth. Assuming a distance between otter boards of 100 m and a towing speed of 4 knots, an otter trawl can potentially impact an area of 0.7 km2 per hour of trawling (Ragnarsson et al., 2016). During trawling, most parts of the fishing gear, including the otter boards, footrope, and the net itself, are more or less in constant contact with the seafloor, while the bridles have much less impact. This means that the effects of these gear components differ. The otter boards scour the sediment surface, forming tracks that can be tens of centimeters deep but are quite narrow (generally <1 m in width), while the footrope and the net affect a much larger area (the area between the wing ends), but impacts are confined to the upper sediment layers (Ragnarsson et al., 2016).

O'Neill and Ivanović (2016) provide a review of the physical interaction of towed demersal fishing gears with the seabed, including the mechanical processes that lead to the modification and alteration of the benthic environment. The physical impact on soft sediments can be classified as geotechnical, for example, penetration and piercing of the substrate, lateral displacement of sediment, and the influence of the pressure field transmitted through the sediment. Alternatively, it can be considered hydrodynamic, for example, the suspension of sediment into the water column. Eigaard et al., (2016) assess the seabed impact of towed fishing gears from a bottom-up perspective. Beginning with the design and dimensions of the gear, they can then assess the physical interactions with the seabed at the level of the individual fishing operation and eventually scale this to estimate the fishing “footprint”. This theme is further developed by Rijnsdorp et al., (2016) who present a framework to assess the impact of mobile fishing gear on the seabed and benthic ecosystem at regional and local scales. The physical impact on the seabed is a function of the mass, size, and speed of the individual gear components. The impact of the elements on the benthic community is quantified using a biological-trait approach that considers the vulnerability of the benthic community to trawl impact (e.g. sediment position, morphology), the recovery rate (e.g. longevity, maturation age, reproductive characteristics, dispersal), and their ecological role.

Thrush and Ellingsen (2016) address the implications of fisheries impacts to seabed biodiversity and the problem of cumulative and degrading change to seabed ecology.

In the Barents Sea two recent studies (Buhl-Mortensen et al., 2016; Jørgensen et al., 2016) describe the impacts of fishing on benthic ecosystems. Jørgensen et al., 2016's study shows that high trawling pressure appears related to lower total benthos biomass and provides a means of identifying where specific management actions may be required for the conservation of benthic communities. Buhl-Mortensen et al., 2016 report chronic effects of fishing on the substratum and megabenthos on the shelf and slope of the southern Barents Sea and what this means for assessment of seabed integrity.

The NovasArc research project was aimed to map the distribution of VMEs in Norwegian, Icelandic and Faroese waters, as well as in other areas of the Greenland and Norwegian seas and of commercial fisheries and other human activities in the area and identify possible conflict areas. The project, planned for the period 2016-2018, was led by the IMR (Norway), with the participation of the Marine and Freshwater Research Institute (Iceland) and the Faroe Marine Research Institute (Faroe Islands). Some general conclusions of this and other mapping projects conducted in the area were:

- Abundance of trawl marks was not directly related to fisheries effort (FI) but reflected substratum softness.
- Megabenthos density and diversity decreased significantly with increased FI and effects was indicated even for low FIs 2-3 recorded trawling vessels per year. For 79 of the 97 most common taxa, density was negatively correlated with FI.
- On hard bottom and sand megafauna density was < 40 individuals per 100 m2 and diversity < 30 taxa per video where more than 15 trawling vessels were recorded yearly.
- Particularly vulnerable were the sponges: Antho dichotoma, Craniella zetlandica, and Phakellia/Axinella, also Flabellum macandrewi (Scleractinia), Ditrupa arietina (Polychaeta), Funiculina quadrangularis (Pennatulacea), and Spatangus purpureus (Echinoidea), while scavenging large gastropods, some asteroids, lamp shells and small sponges shiwed a positive trend.

Using VMS and logbook data, ICES estimated that in 2018 mobile bottom trawling techniques used by commercial fisheries (12 m+ category) were deployed over approximately 91,010 km2 of the Barents Sea, corresponding to ca. 4.3% of the ecoregion's spatial extent (this figure excluded Russian fishing effort) (ICES advice 2021). The pressure is mainly concentrated close to the coastline and in the central Barents Sea. Surface and subsurface abrasion pressure expressed as the swept-area ratio from VMS data from 2017-2020 in the Barents Sea ICES ecoregion is shown in the **Figure 30**.

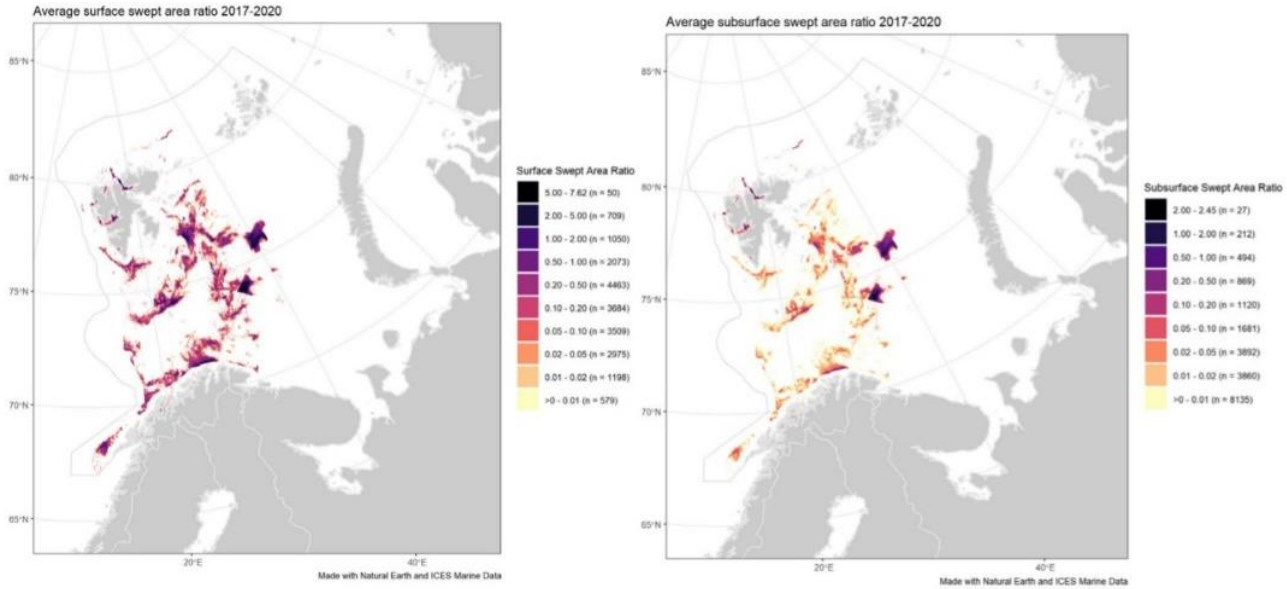

Figure 30 *Surface and subsurface abrasion pressure expressed as the swept-area ratio from VMS data from 2017-2020 in the Barents Sea ICES ecoregion. Source: ICES advice 2021.*

Some studies have tried to estimate the recovery time of trawl areas. The recovery of VME habitat that has suffered structural damage is very slow (Althaus et al. 2009; Williams et al. 2010). Reef-forming species can have low growth rates. For example, growth rates of between 5 and 25 mm yr.-1 have been reported for L. pertusa (Roberts et al. 2009 and references therein), and slower growth has been reported for species like Desmophyllum dianthus (0.5 mm yr-1)

(Adkins et al. 2004). Data on the recovery of coral habitats after fishing impacts are available from some areas. Carpets of uniformly sized L. pertusa have been observed in some locations in Norwegian waters that had been trawled 10 years previously (Buhl-Mortensen et al. 2013; Ragnarsson et al., 2016).

WWF Russia developed a map of the minimum recovery time for habitats in the Barents Sea. The map was made based on the assumption that the duration of community recovery is determined by the average life expectancy of the most long-lived species in the community. The map indicates that recovery after bottom trawling would take place within 5 years in most parts of the Barents Sea, but recovery would be up to 10 years or more in the areas where VMEs tend to occur (Denisenko & Zgurovsky 2013).

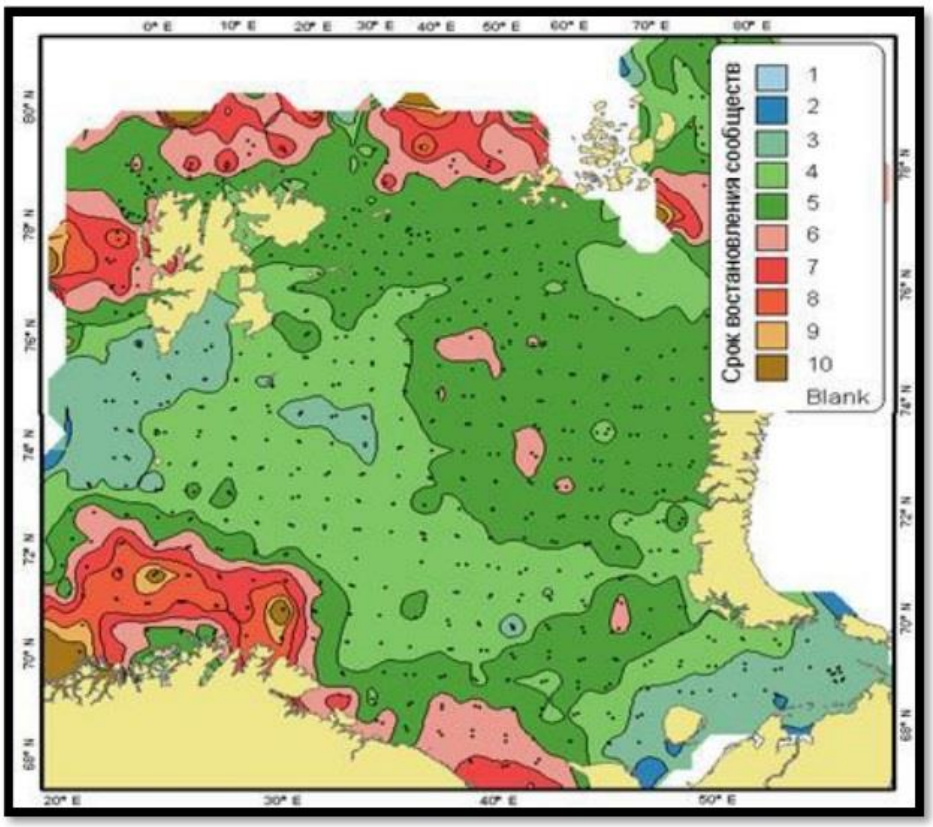

Figure 31 Map of the minimum recovery time (years) in the Barents Sea. Different colours show the community recovery time in years (Source: Denisenko & Zgurovsky 2013).

Trawling affects benthic habitats through relocation of shallow burrowing infaunal species to the surface of the seafloor, and by resuspension of surface sediment. However, bottom trawling does not irreversibly affect soft bottoms such as sandy and muddy grounds (Kaiser et al., (2006) although there is still a clear and negative relation between fisheries-intensity and density of mega benthos (Jakobsen T. & Ozhigin V., 2011; Norvac 2016). A key element in reducing impacts of fishing on the seabed is new gear technology and technical solutions, minor modifications of existing fishing gears, such as decreasing the weight of the bottom gear and trawl doors, can reduce bottom impact by as much as 50% (Buhl-Mortensen et al., 2016). Technical solutions aimed at minimising seabed impacts are starting to appear, but their efficacy remains to be tested in many ecosystems.

The regions where the fishery occurs (trawl corridors) have already been trawled for many years, which has led to a loss of biodiversity in the modified areas where vulnerable species are less abundant. Due to area restrictions, no new areas are expected to be opened to this gear if ice coverage remains stable. Based on that information, the current impact of the bottom trawl gear on the seabed habitats of the Barents Sea can be considered moderate.

Habitat management

The Faroe Islands (either in its own right or under the aegis of Denmark) and Iceland are signatories to a wide range of international conventions (CITES, OSPAR, etc) that embrace the conservation and protection of marine biota, their habitats and the environment. OSPAR has a list of threatened and declining habitats in the Barents Sea, which include: coral gardens, Cymodocea meadows, Deep-sea sponge aggregations, Intertidal mudflats, Lophelia pertusa reefs, Modiolus modiolus beds, Ostrea edulis beds, Seamounts and Zostera beds (ICES ecosystem overview 2021).

The Norwegian Biodiversity Information Centre has also designed a red list of vulnerable ecosystems and habitats in Norway which includes 16 marine areas which are categorised in six categories, from Data Deficient to Collapsed (CO). Only types classified to the categories critically endangered (CR), endangered (EN) or vulnerable (VU) are defined as being threatened. The area of the assessment includes marine shallow water, marine deep waters and Svalbard waters.

As indicated, monitoring of the marine environment and all aspects of its living resources throughout the Barents Sea are ongoing research programmes, both individually by IMR and PINRO and jointly through the JRNFC (Prokhorova, 201315) in support of the integrated Barents Sea and Norwegian Sea management plans. These programmes include monitoring the effects of trawling on sensitive marine habitats and developing protection measures where appropriate.
A number of management measures which are already implemented in the Barents Sea in recent years in order to protect marine habitats:

1. Designated Marine Protected Aras (MPA) and area closures in which all fishing is prohibited in both Norwegian and Russian marine areas to protect habitats and species. In Norway area protection is regulated through the Nature Conservation Act where four various categories might be conserved. Protected areas in Svalbard, Norwegian Arctic, were originally established under the 1925 Svalbard Act. When the Svalbard Environmental Protection Act entered into force in 2002, all national parks and nature reserves in Svalbard was protected under the new act. In all, 65 per cent of the area of the islands is protected, together with about 75 per cent of the territorial waters out to the 12-nautical-mile territorial limit. In the case of Russia, four closures aimed to protect juvenile fish have been implemented (Regulation 414 (2014)).

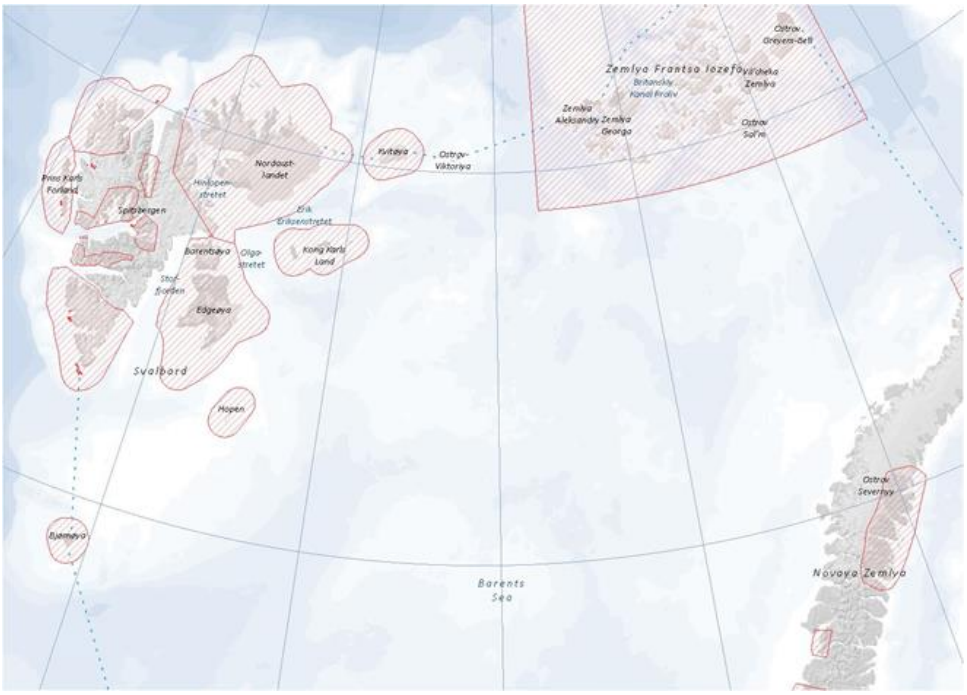

Figure 32 Marine Protected Areas in the Barents Sea (**Source:** Error! Hyperlink reference not valid.)

2. It is an offence to fish in close proximity to known areas of coral reef. Vessels use technology (high precision GPS navigation and ground-discrimination echo sounders) to avoid coral reefs and sponges to comply with the legislation and avoid damage to the fishing gear and to the catch.
3. Mandatory use of satellite monitoring (VMS) which serves to monitor compliance with those management measures (avoidance of MPAs, etc.) in real time.
4. Trawling is not permitted within the 12- nautical mile limit from Norwegian baselines (except for some specific areas).
5. Fishing to depths over 1,000 m within the Norwegian EEZ is banned in order to protect deep-water sensitive habitats and species.
6. Norwegian regulation J-61-2019 regulating bottom gears to protect vulnerable marine ecosystems (https://fiskeridir.no/Yrkesfiske/Regelverk-og-reguleringer/J-meldinger/Kommende-J-meldinger/J-61-2019). This regulation applies to all the Norwegian EEZ including waters in the Barents Sea; establishes the limits of 10 closed areas (MPAs) in order to protect VMEs and establishes that when a trawl vessel catches more than 30 kgs of coral or 400 kg of sponges in a single haul, this is reported to the authorities and the vessels needs to move at least 2 nautical miles before shooting.

According to this last regulation, when fishing in a “new fishing area” in the Norwegian EEZ or the Svalbard FPZ, vessels must have a special permit from the Directorate of Fisheries. These are only approved by the Directorate if the vessel has submitted for approval:

- A detailed protocol for trial fishing which includes a fishing plan for fishing gear, fish stocks, by-catches, time and areas.
- A plan to avoid damage to sensitive marine ecosystems.
- A plan for journal entry and reporting.
- And a plan for collecting data on vulnerable habitats

Similar measures on the protection of corals and sponges are recommended in NEAFC waters, where recommendation 19/2014 establishes threshold limits for bycatch of corals and sponges.

According to the client, the Russian and Svalbard fishing areas are almost completely sponge-free. Tromsøflaket in the Norwegian zone is one of the most vulnerable areas in the Barents Sea in terms of sponge presence, having a lot of sponge present, but the area is avoided by fishing vessels. During the third surveillance visit the client confirmed that the fishing areas have not changed so no new habitats are impacted (Bostrom & Borges 2020).

Ecosystem

The Barents Sea covers an area of approx. 1.6 million km2, which borders to the Norwegian Sea in the west and the Arctic Ocean in the north and is part of the continental shelf area surrounding the Arctic Ocean. The Barents Sea is limited by the continental slope between Norway and Spitsbergen in the west, the continental slope towards the Arctic Ocean in the north, Novaya Zemlya in the east and borders the Norwegian and Russian coasts to the south. The Barents Sea has an average depth of 230 m, and a maximum depth of about 500 m at the western entrance. Its topography is characterized by troughs and basins, separated by shallow bank areas, with depths between 50 and 200 m. The three largest banks are the Central Bank, the Great Bank, and Spitsbergen Bank. Several troughs over 300 m deep run from the central Barents Sea to the northern (e.g. Franz Victoria Trough) and western (e.g. Bear Island Trough) continental shelf break (ICES ecosystem overview 2021).

The general circulation pattern in the Barents Sea is strongly influenced by topography. Warm Atlantic waters from the Norwegian Atlantic Current with salinity higher than 35, flows in through the western entrance of the Barents Sea (ICES 2008). Large-scale atmospheric pressure systems influence the volume flux, temperature, and salinity of Atlantic waters, in turn affecting oceanographic conditions both in the Barents Sea and in the Arctic Ocean (ICES ecosystem overview 2021). The Warm Atlantic waters are divided in two branches, the southern branch, which follows the coast eastwards against Novaya Zemlya and one northern branch, which flow into the Hopen Trench. The relative strength of these two branches depends on the local wind conditions in the Barents Sea (ICES 2008). South of the Norwegian Atlantic Current and along the coastline flows the Norwegian Coastal Current, which is fresher than the Atlantic water, and has a stronger seasonal temperature signal. In the northern part of the Barents Sea, fresh and cold Arctic water flows from northeast to southwest (ICES 2008). The Atlantic and Arctic water masses are separated by the Polar Front, which is characterized by strong gradients in both temperature and salinity. In the western Barents Sea, the position of the front is relatively stable, although it seems to be pushed northwards during warm climatic periods. In the eastern part the position of the front has large seasonal, as well as year- to-year variations. Ice conditions show also large seasonal and year-to year variations. In the winter the ice can cover most of the northern Barents Sea, while in the summer the whole Sea may be ice-free. In general, the Barents Sea is characterized by large year-to-year variations in both heat content and ice conditions. The most important cause of this is variation in the amount and temperature of the Atlantic water that enters the area (ICES 2008).

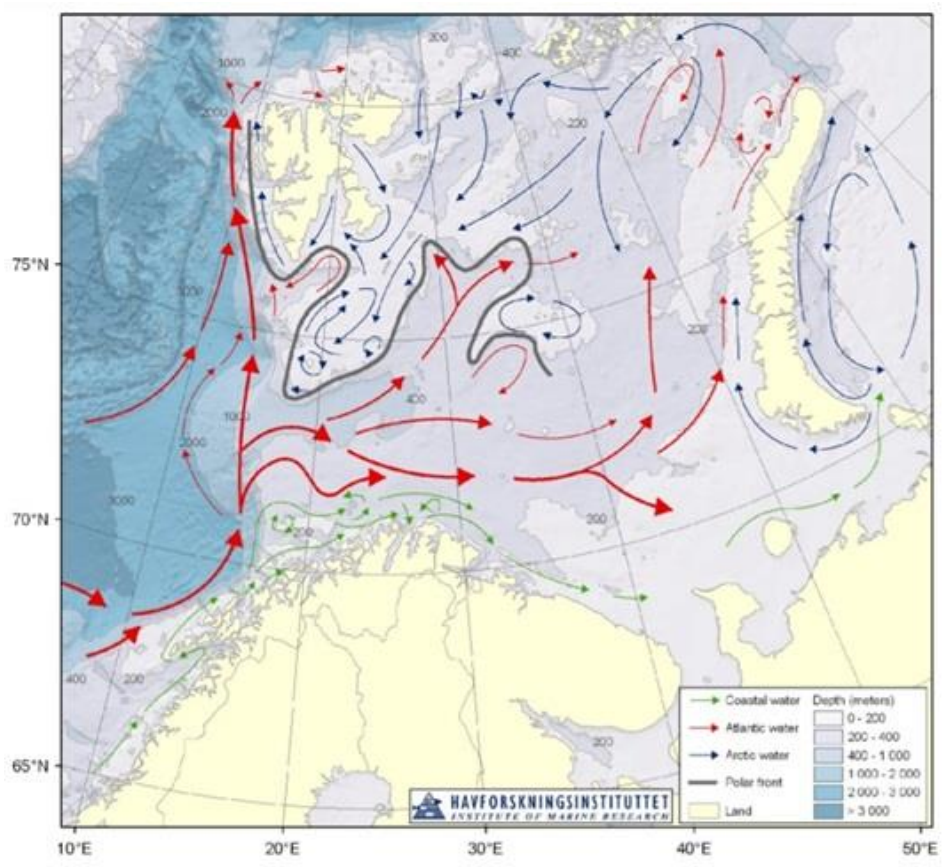

Figure 33 Bottom contours and current systems in the Barents Sea (Source: ICES 2008).

The joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-October (BESS) monitors the status of abiotic and biotic factors and changes of these in the Barents Sea ecosystem. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the IMR in Norway and the Polar Branch of VNIRO (PINRO) in Russia. BESS covers the entire, ice-free area of the Barents Sea and usually progresses from south to north, but in 2020 due to the late start of the Russian ships, the survey plan of the eastern coverage area was changed. Ecosystem stations are distributed in a 35×35 nautical mile regular grid, and the ship tracks follow this design. Exceptions are the area around Svalbard (Spitsbergen), where some additional bottom trawl hauls for demersal fish survey index estimation are carried out, and additional acoustic transects for the capelin stock size estimation. Additional bottom trawls were also planned in places of significant distribution of commercial invertebrates (snow crab and northern shrimp) (IMR/PINRO 2021).

Using the data collected in those surveys, interspecies trophic relations are studied using different multispecies and ecosystem models, which identify the most important inter-species/ functional group links and sensitivity of the ecosystem to changes and serves to give scientific based management advice to the different fleets. The Barents Sea ecosystem has a relatively low biodiversity. This productive and commercially important ecosystem is dominated by a few fish species of potentially high abundance: cod, haddock, capelin, polar cod and herring; with relatively short and simple food chains, but complex relationships between the major fish species with predator-prey relationships shifting according to opportunity and life cycle stage (Kiseleva et al., 2017). The main top predators in the ecosystem are cod, harp seal, and minke whale. They all feed on young cod as well as on capelin, herring, and the krill and amphipod prey of these species (**Figure 34** below).

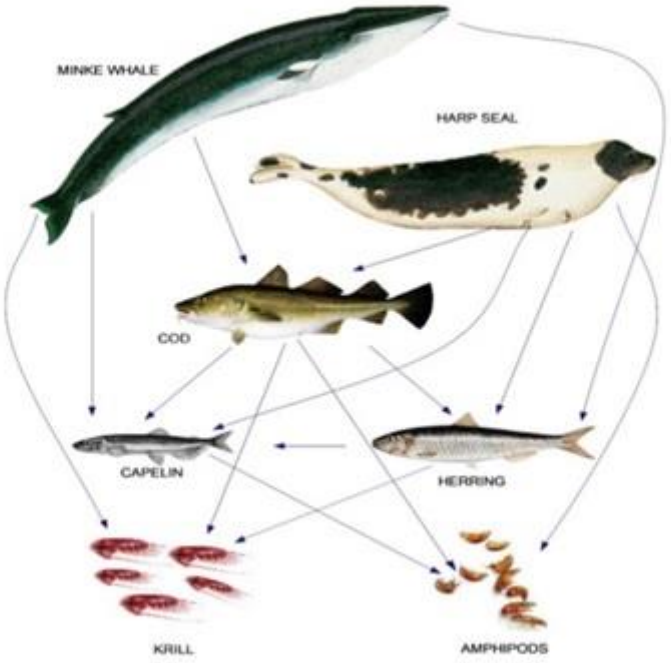

Figure 34 Interactions between commercial species and their prey in the Barents Sea food web. The arrows indicate central predator–prey relationships, with the arrows pointing from predator to prey (ICES 2021a).

The most recent findings for the Barents Sea ecosystem are summarized below (ICES WGIBAR 2021):

- The Barents Sea has experienced a warming trend since 1970s, while becoming colder after 2015-2016. Temperatures in 2020 were still typical of warm years. The areas covered by Atlantic and Arctic Waters in autumn were similar to 2019, while the area covered by cold bottom waters increased and turned out to be the largest since 2011. Ice coverage of the Barents Sea has increased since 2016 due to lower temperatures and lower area covered by Atlantic Water, but the ice coverage in 2020 was still below average (1978-2020).
- Net Primary Production (NPP) showed a marked significant increase in 2020, both in the western and eastern regions. The spatial distribution of mesozooplankton biomass displayed a typical pattern with high levels in southwestern and northern regions, and relatively low levels in central areas. Compared to the preceding 5-year averages, mesozooplankton biomass in 2020 was lower in the western, central, and eastern Barents Sea, and slightly higher just south and east of Svalbard. Krill indices of biomass have shown increasing trends over recent decades, while concurrent amphipod biomass showed negative trends.
- The 2020-year classes of capelin, redfish and polar cod were strong, while those of cod, haddock and herring seem to be weak. In 2020, the total biomass of pelagic fish increased due to strong recruitment of 1-year old capelin and polar cod. Most of the main demersal fish stocks (cod, haddock, Greenland halibut, beaked redfish, long rough dab, saithe) in the BS are in a healthy state and at a level at or above the long-term mean.
- Cod food consumption in 2020 was close to the level of 2019. Capelin is still the most important food item for cod; although other fish species, seabird and marine mammals are also important predators of this species (Dolgov et al. 2011). Importance of euphausiids, hyperiids, polar cod and snow crab has increased in cod diet, while importance of haddock, shrimp and herring has decreased.
- The stock of the northern shrimp is relatively stable. The snow crab population is still spreading, and its abundance is increasing in the Barents Sea. Aggregations of the red king crab have been shifted eastward and north-eastward, and westwards along the Norwegian coast. The distribution of megabenthos shows relative stable large-scale patterns.
- The centre of gravity of the most common seabirds shifted northward for several species the last 11 years. In the same time period, the abundance of pelagic surface feeding birds has decreased.
- The white-beaked dolphin was the most frequently observed species of marine mammals in 2020 during the late summer-early autumn survey. The abundance of minke whales and humpback whales in the BS have increased to high numbers after 2000, and they generally show overlap with capelin distributions during the BESS surveys.

The Barents Sea ecosystem has been strongly influenced by human activities, including fishing and the hunting of marine mammals, and more recently: transportation of goods, oil and gas, tourism, and aquaculture. Commercial fisheries have the largest human impact on the fish stocks in the Barents Sea, and thereby on the functioning of the whole ecosystem. It is the human activity with the largest spatial extent, as fishing takes place in most of the Barents

Sea except farthest north (ICES ecosystem overview 2021). Moreover, in recent years interest has focused on the likely response of the Barents Sea ecosystem to future climate change and ocean acidification. Retreating ice edges are opening new grounds for trawling and for transport routes. Activities in some of these newly opened grounds may affect benthic communities that were previously protected by ice cover (ICES ecosystem overview 2021).

Fishing and hunting mortality rates have been reduced on most species over the last two decades, and the largest commercially exploited fish stocks (capelin, cod, and haddock) are now harvested at fishing mortalities close to those in the management plan and have full reproductive capacity. Some of the smaller stocks (golden redfish Sebastes marinus and coastal cod in Norway) are overfished. The abundance of some mammal species such as minke and humpback whale has increased in parts of the ecoregion, although more slowly than in fish stocks (ICES ecosystem overview 2021).

Ecosystem management

The Norwegian Government have developed an integrated ecosystem approach-based management plan and strategies for the Barents Sea and Lofoten areas where the fishery operates. The purpose of the Barents Sea Management Plan is to provide a framework for the sustainable use of natural resources and goods derived from the Barents Sea–Lofoten area, while maintaining the structure, function and productivity of the ecosystems in the area. The national plan covers the Norwegian Economic Zone and the fisheries protection zone around Svalbard; it is limited to the east by the border with Russia, and to the south by the 1 nautical mile offshore border. The area included in the plan extends south-west to include the Lofoten area, and west past the continental shelf break (areas closer than 1 n.m. to shore are managed according to the EU Water Management Directive) (von Quillfeldt et al., 2017).

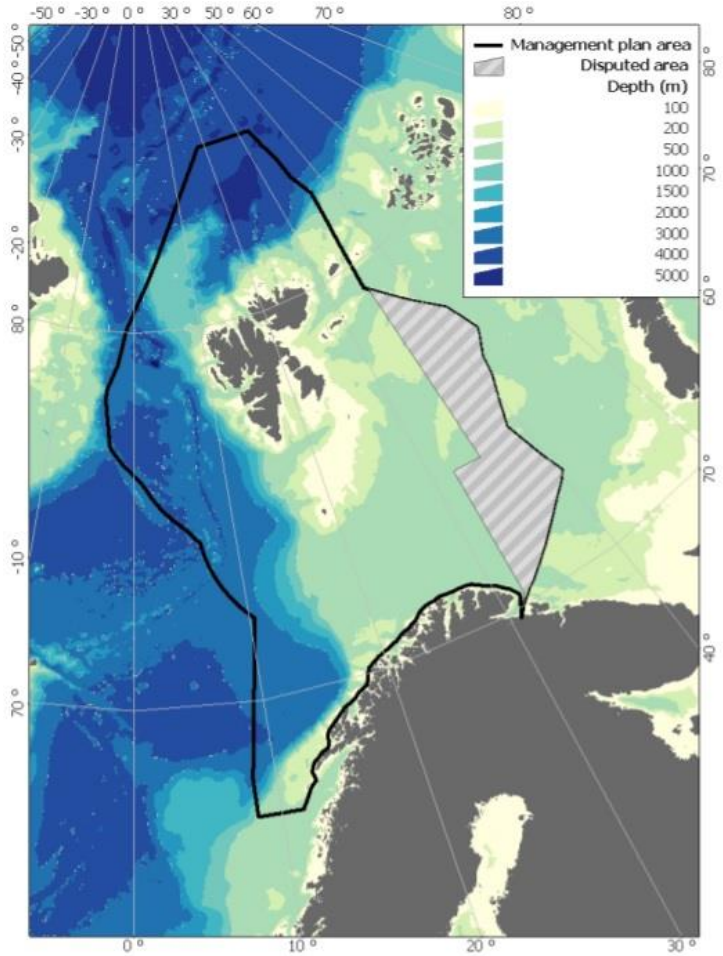

Figure 35 The geographic area for the Norwegian Barents Sea Management Plan (limits marked by the black line) and an area of internationally overlapping claims (grey hatched) (Source: von Quillfeldtet al., 2017).

Key elements of the integrated ecosystem-based fisheries management approaches within the Barents Sea, and applicable to the UoA fishery includes:

1. Species management. Norway has signed a number of agreements and conventions on species protection and management, e.g. the Convention on Biological Diversity (CBD), the Convention on

Trade in Endangered Species of Wild Animals (CITES), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Agreement governing the North Atlantic Marine Mammal Commission (NAMMCO), the Agreement on the Conservation of Polar Bears and their Habitats. The Government of Norway has established a set of objectives for species management in the Barents Sea - Lofoten area that fit with the obligations in these various agreements. These species objectives are listed in the white paper on the management plan (Report No. 8 (2005-2006) to the Parliament)

2. Closed areas and marine protected areas; the protection of valuable and threatened habitats;
3. Ecosystem-based fisheries management;
4. Multi-species stock management; the implementation of ecological measures in fishery management based on an increased use of multispecies assessment tools, and aimed at a reduced bycatch of fish, seabirds, and marine mammals, and fewer effects on bottom fauna, multi-species considerations in mixed fisheries, physical environmental issues related to area and gear, and the understanding of ecosystem components by species or stock complexes and dependencies;
5. Target specie management; an increase in the number of target species managed sustainably and under a precautionary approach;
6. The Barents Sea and Lofoten Ecosystem Management Plan also highlights the need for and potential focus for future ecosystem management cooperation with all entities with legitimate interests in the resources of the Barents Sea (Pfeiffer et. al. 2013; Olsen et.al. 2007). It includes t establish close cooperation with the EU, Russia and other countries in MSC issues and IUU fishing (Johansen 2017).

The elements included in each of the components assessed under Principle 2 are listed in the table below:

Table 27 Scoring elements

Component	Scoring elements	Designation	Data-deficient
e.g. P1, Primary, Secondary, ETP, Habitats, Ecosystems	e.g. species or stock (SA 3.1.1.1)	Main or Minor	Yes/No
Primary	Cod	Main	No
Primary	Haddock	Main	No
Primary	Saithe	Main	No
Primary	Golden redfish	Minor	No
Primary	Beaked redfish	Minor	No
Primary	Greenland halibut	Minor	No
Primary	Herring	Minor	No
Secondary	Spotted catfish	Minor	Yes
Secondary	Northern wolfish	Minor	Yes
Secondary	Atlantic catfish	Minor	Yes
Secondary	European plaice	Minor	Yes
Secondary	American plaice	Minor	Yes
Secondary	Ling	Minor	Yes

Secondary	Blue ling	Minor	Yes
Secondary	Tusk	Minor	Yes
Secondary	Silver smelt	Minor	Yes
Secondary	Starry ray	Minor	Yes
Secondary	Arctic skate	Minor	Yes
Secondary	Lumpfish	Minor	Yes
Secondary	Atlantic halibut	Minor	Yes
ETP	Common/Blue skate	NA	No
Habitats	Mud, sandy mud and muddy sand	Commonly encountered	No
Habitats	Gravelly sandy mud	Commonly encountered	No
Habitats	Hard bottom and soft bottom coral gardens	VMEs	No
Habitats	Cold Lophelia - water coral reefs	VMEs	No
Habitats	Ostur sponge aggregations	VMEs	No
Habitats	Seapen fields	VMEs	No

7.3.2 Principle 2 Performance Indicator scores and rationales

PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Scoring Issue		SG 60	SG 80	SG 100
	Main primary species stock status			
a	Guide post	Main primary species are **likely** to be above the PRI. OR If the species is below the PRI, the UoA has measures in place that are **expected** to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are **highly likely** to be above the PRI. OR If the species is below the PRI, there is either **evidence of recovery** or a demonstrably effective strategy in place **between all MSC UoAs which categorise this species as main**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main primary species are above the PRI **and are** fluctuating around a level consistent with MSY.
	UoA 1	**Yes**	**Yes**	**No**
	UoA 2	**Yes**	**Yes**	**No**
	UoA 3	**Yes**	**Yes**	**Yes**
Rationale				

According to the MSC Fisheries Standard, main primary species are those comprising over 5% of the catch unless they are of particular vulnerability or high value (in this case the 2% threshold applies).

MSC SA 3.1.3.1 requires that, where there is more than one target species treated as a UoA for a fishery, each species is considered in the Principle 2 assessment of the other UoAs. In the case of the client fishery, this means that saithe and haddock are assessed as main primary species in scoring UoA 1 (cod), that cod and saithe are main primary species in scoring UoA 2 (haddock) and cod and haddock are assessed as main primary species for UoA 3 (saithe). These three species have been assessed here as P1 species (see Principle 1). There are no other main primary species identified.

For North East cod ICES considers that fishing pressure on the stock is at FMSY between Fpa and Flim and spawning-stock size is above MSY Btrigger, Bpa, and Blim (ICES advice 2021). **SG60, SG80 and SG100 are met**. ICES advises that when the Joint Norwegian–Russian Fisheries Commission (JRNFC) management plan is applied, catches in 2022 should be no more than 708,480 tonnes (ICES advice 2021e).

For haddock, ICES assesses that fishing pressure on the stock is above FMSY but below Fpa and Flim and that the spawning-stock size is above MSY Btrigger and Bpa. **SG60, SG80 and SG100 are met.** ICES advises that when the Joint Norwegian–Russian Fisheries Commission (JNRFC) management plan is applied, catches in 2022 should be no more than 178 532 tonnes (ICES advice 2021f).

For saithe, ICES assessed that fishing pressure on the stock is below FMGT and spawning-stock size is above MSY Btrigger, Bpa, and Blim. **SG60, SG80 and SG100 are met**. ICES advises that when the Norwegian management plan is applied, catches in 2022 should be no more than 197,212 tonnes (ICES advice 2021g).

	Primary species	SG60	SG80	SG100
UoA1	Haddock	Yes	Yes	Yes
	Saithe	Yes	Yes	Yes

UoA2	Cod	Yes	Yes	Yes
	Saithe	Yes	Yes	Yes
UoA3	Cod	Yes	Yes	Yes
	Haddock	Yes	Yes	Yes

	Minor primary species stock status			
b	Guide post			Minor primary species are highly likely to be above the PRI. OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species.
	Met?			**N/A**
Rationale				

This PI has been scored using a scoring element approach for all main and minor species following the requirements in MSC FCP v2.2 7.17.10 and Table 4. The results of the scoring of each scoring element are given below and the global score for SIb is N/A.

Minor primary species identified on the logbook data provide by the client for the period 2016-2020 include beaked and golden redfish, Greenland halibut and herring.

Beaked redfish: The ICES Arctic Fisheries Working Group (AFWG) in its advice for beaked redfish in subareas 1 and 2 (ICES 2020a) indicates that the spawning–stock biomass (SSB) of the species increased steadily from 1992 to 2007, followed by stabilization slightly below that peak. Whilst the year classes 1996–2003 were weak, there is evidence for strong year classes 2005 – 2010. Recent recruitments are slightly above the long-term average. Fishing mortality has been low but has increased since 2014. ICES considers that fishing pressure on the stock is below possible precautionary levels; and spawning stock size is above MSY Btrigger and above Bpa and Blim (ICES 2020). **SG100 is met for beaked redfish.**

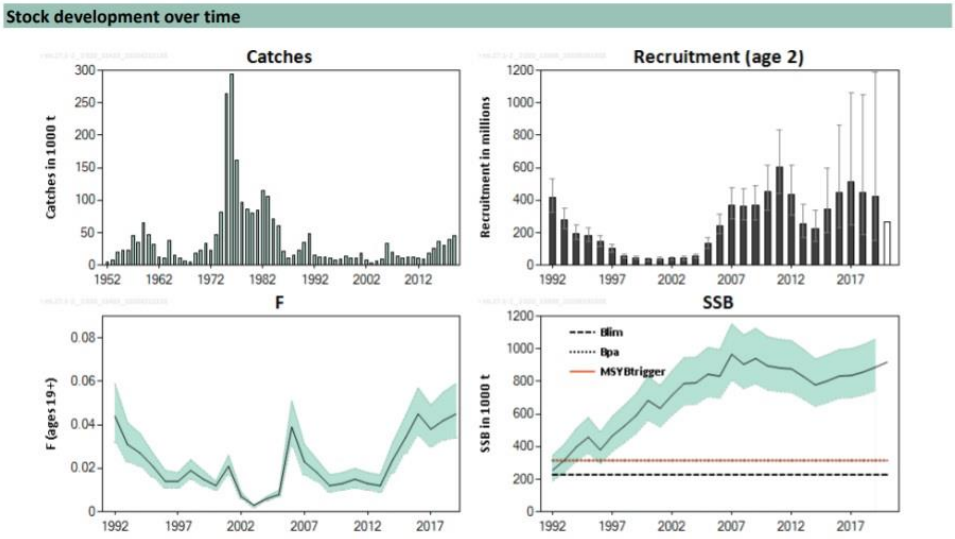

Figure 36 Beaked redfish in subareas 1 and 2. Summary of the stock assessment. The assumed recruitment value is unshaded. Shaded areas (F, SSB) and error bars (R) indicate 95% confidence intervals (ICES 2020a).

Golden redfish: According to ICES 2020 advice on golden redfish in subareas I and II, the spawning-stock biomass (SSB) shows a declining trend since the late 1990s and is currently at the lowest in the timeseries. Recruitment in 2006 (the 2003-year class) is now entering the SSB and fishery but the SSB has not yet ceased declining. The large recruitment estimates for 2011 and 2012 have high uncertainty. Fishing mortality (F) decreased until around 2005 but is now rising again (ICES 2020b). ICES assesses that the spawning stock size is below Bpa and Blim. The current exploitation rate is above the FMSY proxy.

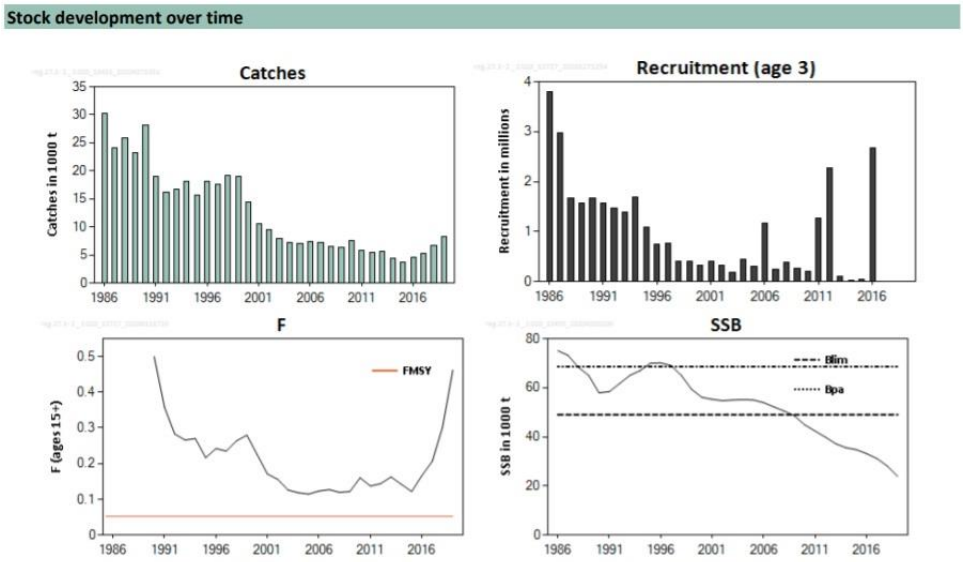

Figure 37 Golden redfish in subareas 1 and 2. Summary of the stock assessment (weights in thousand tonnes). Recruitment (until 2016 only), fishing mortality, and SSB are shown (Source: ICES 2020b).

In 2020, ICES was not able to identify catch levels that will, with high probability, give an increase in stock size above Blim. Therefore, the advice was for zero catch for the species, both for commercial and recreational fishing.

Currently, there is no significant direct fishery, although the species is landed as retained bycatch by several fleets (bycatch of redfish is calculated in live weight per week, where catches are reported as *Sebastes sp*., they are split into *S. norvegicus* and *S. mentella* by AFWG experts based on available correlation between official catches of these two species in the considered areas (ICES 2021a). Measures, such as area closures, have been taken to attempt reduce the bycatch mortality. However, fishing mortality has been rising in recent years, and a further bycatch reduction is needed to minimize all sources of fishing mortality. ICES considers that it is imperative to minimize catches on the remaining mature fish and to protect incoming recruits (ICES 2020b).

According to ICES 2021, landings of *S. norvegicus* showed a decrease from a level of 23,000–30,000 t in the period 1984-1990 to a stable level of about 16,000–19,000 t in the years 1991-1999. Then the landings decreased further, to a minimum level of 3,629 t recorded in 2015, mainly due to stronger regulations. However, this has since reversed with 6,656 t in 2018, 8,274 t in 2019 and 9,033 t in 2020 (provisional) (ICES 2021a). This increase is likely due to the increased quota for beaked redfish and thereby increased bycatch of golden redfish.

Golden redfish stock is not likely to be above the PRI. The golden redfish stock continues to be at an all-time low with no signs of recovery. A number of measures have been implemented by the fleets catching this species which seek the rebuilding of the stock.

Redfish is present in the catch composition of all UoAs, but in very low proportions (0.57% for the two redfish species pulled together). **SG100 is not met for Golden redfish.**

Greenland halibut: the ICES last advice for Greenland halibut in subareas 1 and 2 (ICES 2021b), indicates that the fishable biomass (length ≥ 45 cm, which corresponds to the minimum legal size (ICES 2021a) peaked at around 2013-2014 and show a clear downtrend since then, but it remains above Bpa. Fishing pressure on the stock has been increasing since 2009 and it is above HRpa (ICES 2021b). This stock is dominated by sporadic recruitment events. A large recruitment event of one-year-old was estimated for the year 2002, which corresponds to recruitment to the adult stock in 2007 as can be seen in length distributions in surveys at the continental slope. Since then, no such large recruitments events have been estimated, but the model used by the AFWG has been consistently estimating reasonably good recruitment in 2009–2010 and 2014, which should be entering the fishery in the coming years (ICES 2021a). Stock size is above Bpa. **SG100 is met for Greenland halibut.**

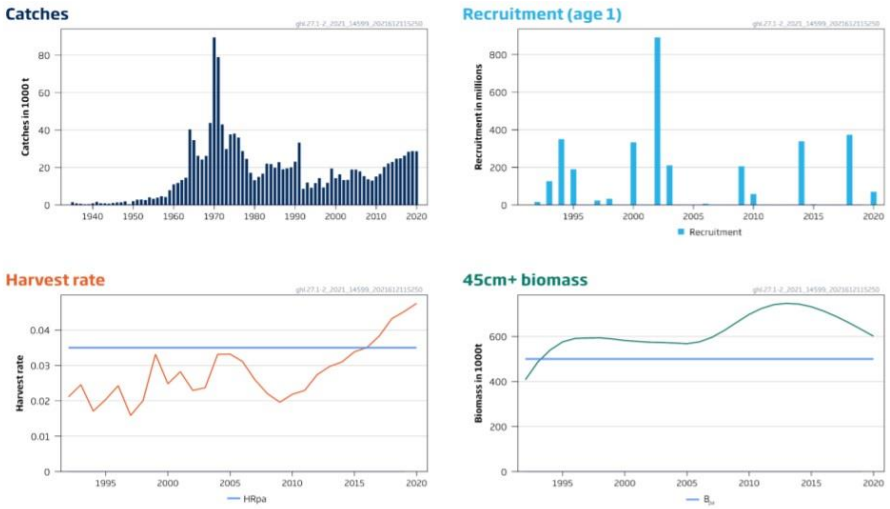

Figure 38 Greenland halibut in subareas 1 and 2. Summary of the stock assessment. Harvest rate is defined as catch in a year divided by fishable biomass at the start of the year. Fishable biomass refers to fish of length ≥ 45 cm (ICES 2021b).

Herring (*Norwegian spring-spawning herring*): According to ICES 2021 advice, fishing mortality has increased since 2015, and it is now above FMSY and Fpa but below Flim (ICES 2021d). The spawning-stock biomass (SSB) has been declining since 2008 but is estimated to be above MSY Btrigger, Bpa and Blim in 2020. The 2016-year class is expected to dominate the catches in 2022, and the subsequent year classes recruiting to the fishery are estimated to be weak. **SG100 is met for herring.**

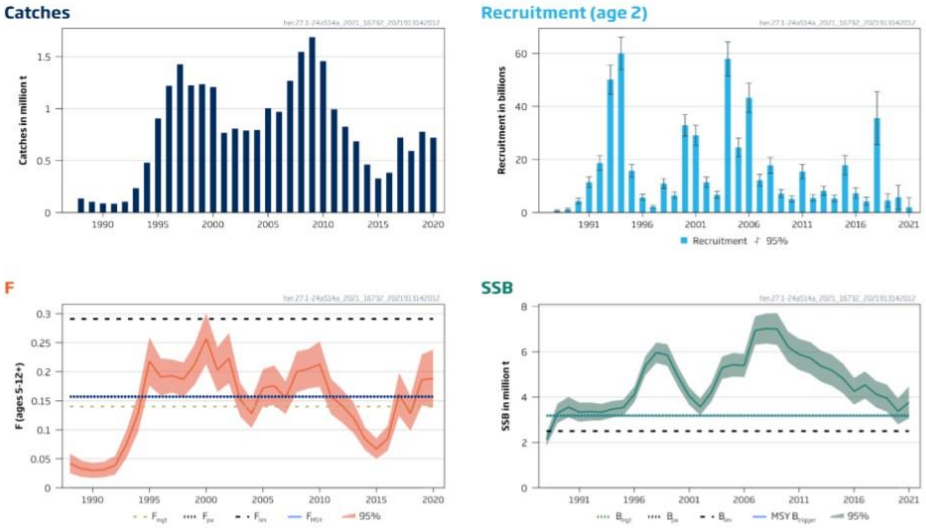

Figure 39 Herring in subareas 1, 2, and 5, and in divisions 4.a and 14.a (Norwegian spring-spawning herring). Summary of the stock assessment (Source: ICES 2021d).

Scoring element	SG100
Beaked redfish	Yes
Golden redfish	No
Greenland halibut	Yes
Herring	Yes

Total score: 95

References

ICES 2020a. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Beaked redfish (*Sebastes mentella*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020. ICES Advice 2020 – reb.27.1-2 – https://doi.org/10.17895/ices.advice.5826

ICES 2020b. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Golden redfish (*Sebastes norvegicus*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020 ICES Advice 2020 – reg.27.1-2 – https://doi.org/10.17895/ices.advice.5827

ICES 2021a. Arctic Fisheries Working Group (AFWG). ICES Scientific Reports. 3:58. 817 pp. https://doi.org/10.17895/ices.pub.8196

ICES 2021b. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Greenland halibut (*Reinhardtius hippoglossoides*) in subareas 1 and 2 (Northeast Arctic). Published 15 June 2021. ICES Advice 2021 – ghl.27.1-2 – https://doi.org/10.17895/ices.advice.8198

ICES 2021c. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP). ICES Scientific Reports. 3:47. 944 pp. http://doi.org/10.17895/ices.pub.8108

ICES 2021d. ICES Advice on fishing opportunities, catch, and effort Ecoregions in the Northeast Atlantic and the Arctic Ocean. Herring (*Clupea harengus*) in subareas 1, 2, and 5, and in divisions 4.a and 14.a, Norwegian spring-spawning herring (Northeast Atlantic and Arctic Ocean). Published 30 September 2021. ICES Advice 2021 – her.27.1-24a514a – https://doi.org/10.17895/ices.advice.7765

ICES advice 2021e. ICES Advice on fishing opportunities, catch, and effort. Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Cod (*Gadus morhua*) in subareas 1 and 2 (Northeast Arctic). ICES Advice 2021 – cod.27.1-2 – https://doi.org/10.17895/ices.advice.7741

ICES advice 2021f. ICES advice on fishing opportunities. Haddock (*Melanogrammus aeglefinus*) in subareas 1 and 2 (Northeast Arctic). ICES ICES Advice 2021 – had.27.1-2 – https://doi.org/10.17895/ices.advice.8449

ICES advice 2021g. ICES Advice on fishing opportunities, catch, and effort. Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Saithe (*Pollachius virens*) in subareas 1 and 2 (Northeast Arctic). ICES Advice 2021 – pok.27.1-2 – https://doi.org/10.17895/ices.advice.7826.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.1.2 – Primary species management strategy: All UoAs

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the PRI.	There is a **partial strategy** in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI.	There is a **strategy** in place for the UoA for managing main and minor primary species.
	Met?	**Yes**	**Yes**	**No**
Rationale				

In the context of this performance indicator, table SA8 of the MSC FCR v2.01 indicates:

- "Measures" are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere.
- A "partial strategy" represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
- A "strategy" represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

The Barents Sea ecoregion includes all or parts of the EEZs of Russia and Norway, as well as most of the Fisheries Protection Zone around Svalbard. Management is conducted in accordance with the fisheries policies of Russia and Norway and catch opportunities for stocks in the area are agreed during meetings of the Joint Norwegian–Russian Fisheries Commission. National authorities manage activities in coastal waters (i.e. within 12 nautical miles of the coast) of Russia and Norway (ICES 2021a).

Total allowable catch (TAC), introduced for most stocks, is the main fishery management tool in the ecoregion, together with several technical measures such as the of a sorting grid to avoid catching undersized fish in all groundfish trawl fisheries, a minimum mesh size of 130 mm for bottom-trawl fisheries for cod and haddock, minimum legal sizes for cod and haddock (ICES 2021a); and other general measures, such as fishing licenses for particular species, for controlling fishing effort

To improve exploitation patterns and reduce the problem of discards in the fisheries, Norway has over the years established a suite of regulations and management measures. The main objective has been to promote an exploitation pattern where fish below minimum legal size is spared, and where unwanted bycatch can be minimised. This has been achieved through several interconnected measures, which can be referred to as the "Discard Ban Package" (Gulladson et al., 2015).

A discard ban has also been implemented in the area, which means that all the catch needs to be landed. Spatial management also occurs, both for fisheries and ecosystem reasons, with permanent and temporary closed areas to protect e.g. juvenile fish and deep-water coral reefs. The Norwegian government has also implemented an "Integrated Management Plan for the Marine Environment of the Barents Sea–Lofoten Area", which is a framework for the sustainable use of natural resources in the area, including fishing (ICES 2021a). A nursery area that is permanently

closed for bottom trawling year-round is the 20 nautical mile zone around Bear Island, established in 1978 (Gullestad et al., 2015).

Cod and haddock are managed under the joint Russian–Norwegian Fisheries Commission management plan (ICES advice 2021e; ICES advice 2021f) and **saithe** is manged under the Norwegian management plan (ICES advice 2021g).

For the particular case of **golden redfish**, ICES advices a zero catch for the species in the years 2021 and 2022 (ICES 2020a). Management measures currently implemented in the area applying to this particular stock include (ICES 2020a):

- Since 1 January 2003, all directed trawl fishery for redfish (both S. norvegicus and S. mentella) outside the permanently closed areas were forbidden in the Norwegian Economic Zone north of 62°N and in the Svalbard area.
- When fishing for other species it was legal to have up to 15% redfish (both species together) in round weight as bycatch per haul and onboard at any time. Until 14 April 2004, there were no regulations of the other gears/fleets fishing for S. norvegicus. After this date, a minimum legal catch size of 32 cm has been set for all fisheries, with the allowance to have up to 10% undersized (i.e. less than 32 cm) specimens of *S. norvegicus* (s) per haul.
- In addition, a time-limited moratorium (up to 8 months) was enforced in the conventional fisheries (gillnet, longline, handline, Danish seine) except for handline vessels less than 11 metres.
- From 2016, when trawling outside 12 nm, vessels can have up to 20% by weight of redfish in each catch and upon landing. When trawling inside 12 nm, it is permitted to have up to 10% bycatch. Since 2015 it has been prohibited to fish for redfish with conventional gears north of 62°N. The ban does not, however, apply to vessels less than 15 metres fishing with handline from 1 June to 31 August. When fishing with conventional gears for other species, it is permitted to have up to 10% by weight of redfish. Vessels less than 21 metres can still have up to 30% by weight of redfish in the period 1 August to 31 December.

Moreover, the species is red-listed in the Norwegian red list of protected species, but no associated specific management measures or regulations are implemented, and catches should be kept to minimum.

However, fishing mortality has been rising in recent years, and a further bycatch reduction is needed to minimize all sources of fishing mortality. ICES considers that it is imperative to minimize catches on the remaining mature fish and to protect incoming recruits (ICES 2020b).

According to ICES 2021, landings of golden redfish decreased until 2015 (3,629 t), but since then it has increased to 9,033 tonnes in 2020 (provisional) (ICES advice 2021a). This increase is likely due to the increased quota for beaked redfish and thereby increased bycatch of golden redfish. Therefore, fishing mortality has been rising in recent years, and a further bycatch reduction is needed to minimize all sources of fishing mortality (ICES advice 2020b).

Catches of redfish (both species included) in the assessed fishery have decreased substantially since 2017 and now only represent 0.57 % of the total catch.

For **Greenland halibut**, there is no management plan for the species, but a precautionary TAC is set by the Joint Norwegian–Russian Fisheries Commission (JNRFC). The TAC for 2018 was 27 thousand tonnes and the same for 2019, 2020 and 2021 (ICES 2021a). The TAC for Greenland halibut set by JNRFC applies to catches in ICES areas 1, 2a and 2b, except the Jan Mayen EEZ and the part of the EU EEZ which is north of 62°N. As the UK has left the EU and unilateral agreements between Norway, the UK and the EU are not reached yet the final TAC in this area is not available (ICES advice 2021a).

In the case of **herring**, a long-term management strategy was agreed by the European Union, the Faroe Islands, Iceland, Norway, and Russian Federation in 2018 (Anon, 2018). ICES has evaluated the long-term management strategy and found it to be precautionary (ICES, 2018a). However, there has been an overshoot of the catches in relation to the advised TAC since 2013. ICES advice is based on the target fishing mortality in the long-term management strategy agreed and it does not take into account the deviations from the plan as evident from the sum of declared unilateral quotas. Failing to adhere to the advised catches as derived from the application of the long-term management strategy may no longer be precautionary in the long term (ICES advice 2021f).

A number of measures are in place in the fishery for managing primary main and minor species. The main primary species identified in the fishery: cod, haddock and saithe are all above the MSY Btrigger. **Therefore, SG60 and SG80 is met for all the UoAs.**

However, there are some uncertainties about the effectivity of these measures for specific minor primary species such as golden redfish and herring. Catches of golden redfish and they are still above any sustainable catch level. Catches of herring are also over the advised TAC. Therefore, the team considers that **SG100 is not met for any UoA.**

	Management strategy evaluation			
b	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some **objective basis for confidence** that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				

All information on catches is recorded by skippers and entered in the logbooks. Logbooks are submitted to the authorities. Scientific data is collected by PINRO and the IMR (IMR/PINRO 2021) and used by ICES to conduct stock assessment for primary species and giving advice to the management authorities (ICES advice 2021e, f and g). Although no scientific observers are in the fishery, the discard ban currently in place and degree of its enforcement, adds to confidence about the nature of the bycatch. Main primary species are above the MSY for all the UoAs. Therefore, there is some objective basis for confidence that the partial strategy is working for the main species. **SG60 and SG80 are met for all the UoAs.**

However, the status of some minor primary stocks is a concern, such as golden redfish which show no sign of recovery despite the management efforts applied. **SG100 is not met for any UoA.**

	Primary species	SG60	SG80	SG100
UoA1	Haddock	Yes	Yes	Yes
	Saithe	Yes	Yes	Yes
	Minor species	N/A	N/A	No
UoA2	Cod	Yes	Yes	Yes
	Saithe	Yes	Yes	No
	Minor	N/A	N/A	No
UoA3	Cod	Yes	Yes	Yes
	Haddock	Yes	Yes	Yes
	Minor	N/A	N/A	No

	Management strategy implementation			
c	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its overall objective as set out in scoring issue (a).**
	Met?		**Yes**	**No**
Rationale				

A general management strategy is in place for managing all bycatch species, no just primary species. A discard ban is in place and other management measures include control measures covering fleet effort, gear types and sizes, landings, quotas and permanent and temporary area closures to reduce the catch of juveniles. The assessed fleet seem to be compliant with these measures. The status of the main primary species is within biological limits. Therefore, **SG80 is met for all the UoAs.**

However, the status of some stocks is a concern, golden redfish is at very low levels with no signs of recovery. Although the catch in the fishery is low, representing only 0.57% of the total catch. It cannot be confirmed that the fishery is not hindering the recovery of the species. **SG100 is not met for any UoA.**

d	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**
Rationale				

There are no shark secondary species in the catch. **NA.**

e	Review of alternative measures			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	**Yes**	**Yes**	**No**
Rationale				

'Unwanted catch' is defined in the MSC Fisheries Standard GSA3.1.6 as: "the term 'unwanted catch' shall be interpreted by the team as the part of the catch that a fisher did not intend to catch but could not avoid and did not want or chose not to use".

There is no unwanted catch of main primary species in the assessed UoAs, main primary species are cod, haddock and saithe; all are commercial species which are landed and sold. There are no unwanted catches of main primary species and so **SG60 and 80 are met for all the UoAs.**

The assessment team was not made aware of biennial reviews of the potential effectiveness and practicality of alternative measures to minimise UoA related mortality of unwanted catch of all primary species. **SG100 is not met**.

References

Logbook catch data provided by the client.

Gullestad, P., Blom, G., Bakke, G. & Bogstad, B. 2015. The "Discard Ban Package": Experiences in efforts to improve the exploitation patterns in Norwegian fisheries, Marine Policy, Volume 54, April 2015, Pages 1-9, ISSN 0308-597X, http://dx.doi.org/10.1016/j.marpol.2014.09.025.

ICES 2020a. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Beaked redfish (*Sebastes mentella*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020. ICES Advice 2020 – reb.27.1-2 – https://doi.org/10.17895/ices.advice.5826

ICES 2020b. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Golden redfish (*Sebastes norvegicus*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020 ICES Advice 2020 – reg.27.1-2 – https://doi.org/10.17895/ices.advice.5827

ICES 2021a. Arctic Fisheries Working Group (AFWG). ICES Scientific Reports. 3:58. 817 pp. https://doi.org/10.17895/ices.pub.8196

ICES 2021b. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Greenland halibut (*Reinhardtius hippoglossoides*) in subareas 1 and 2 (Northeast Arctic). Published 15 June 2021. ICES Advice 2021 – ghl.27.1-2 – https://doi.org/10.17895/ices.advice.8198

ICES 2021c. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP). ICES Scientific Reports. 3:47. 944 pp. http://doi.org/10.17895/ices.pub.8108

ICES 2021d. ICES Advice on fishing opportunities, catch, and effort Ecoregions in the Northeast Atlantic and the Arctic Ocean. Herring (*Clupea harengus*) in subareas 1, 2, and 5, and in divisions 4.a and 14.a, Norwegian spring-spawning herring (Northeast Atlantic and Arctic Ocean). Published 30 September 2021. ICES Advice 2021 – her.27.1-24a514a – https://doi.org/10.17895/ices.advice.7765

ICES advice 2021e. ICES Advice on fishing opportunities, catch, and effort. Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Cod (*Gadus morhua*) in subareas 1 and 2 (Northeast Arctic). ICES Advice 2021 – cod.27.1-2 – https://doi.org/10.17895/ices.advice.7741

ICES advice 2021f. ICES advice on fishing opportunities. Haddock (*Melanogrammus aeglefinus*) in subareas 1 and 2 (Northeast Arctic). ICES ICES Advice 2021 – had.27.1-2 – https://doi.org/10.17895/ices.advice.8449

ICES advice 2021g. ICES Advice on fishing opportunities, catch, and effort. Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Saithe (*Pollachius virens*) in subareas 1 and 2 (Northeast Arctic). ICES Advice 2021 – pok.27.1-2 – https://doi.org/10.17895/ices.advice.7826.

IMR/PINRO 2021. Survey report from the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-November 2020. IMR/PINRO Joint Report Series 1, 2021.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.1.3 – Primary species information: All UoAs

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main primary species			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is **adequate to assess** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is **adequate to assess with a high degree of certainty** the impact of the UoA on main primary species with respect to status.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

All information on catches is recorded by skippers and entered in the logbooks on a daily basis. Although no scientific observers are in the fishery, the discard ban currently in place and degree of its enforcement, adds to confidence about the nature of the bycatch. Scientific (including fisheries and non-fisheries) data is collected by the research institutions (IMR/PINRO) and sent to ICES who provides scientific advice for cod, haddock and saithe in order to set TACs and implement other management measures. Main primary species are above the MSY for all the UoAs. Therefore, quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoA on main primary species with respect to status. **SG60, SG80 and SG100 are met.**

b	Information adequacy for assessment of impact on minor primary species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.
	Met?			**Yes**
Rationale				

As mentioned above, catch data is recorded in logbooks and the landing obligation, implemented in 2009, and its degree of enforcement adds confidence about the nature of the bycatch in the fishery. Therefore, some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status. **SG100 is met.**

c	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage **main** primary species.	Information is adequate to support a **partial strategy** to manage **main** primary species.	Information is adequate to support a **strategy** to manage **all** primary species, and evaluate with a **high degree of certainty** whether the

				strategy is achieving its objective.
	Met?	**Yes**	**Yes**	**No**

Rationale

Information for all Primary species comes from logbooks. This information is used by ICES to conduct stock assessment for the species, estimate biomass and adjust the TAC (when available) accordingly to the status of the different stocks.

Therefore, the information seems to be adequate to support a partial strategy to manage main primary species. **SG60 and SG80 are met.**

However, redfish are not separated in the catch and ICES considers that there are some uncertainties about the catch levels of golden redfish due to the difficulties in distinguishing from the Sebastes mentella stock in the same area, particularly for juvenile specimens. Given that the S. mentella stock is at a much higher biomass level, this raises the possibility that some or all of those identified as juvenile S. norvegicus in the survey data, and as larger individuals in the catch, may be misidentified S. mentella. ICES consider that this implies a high level of uncertainty concerning the size of the most recent sign of good recruitment (the 2008 and 2009 year classes), and some uncertainty around the size of the 2003 year class as these fish are similar sizes to the S. mentella (ICES advice 202a and b). **SG100 is not met.**

References

ICES 2020a. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Beaked redfish (*Sebastes mentella*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020. ICES Advice 2020 – reb.27.1-2 – https://doi.org/10.17895/ices.advice.5826

ICES 2020b. ICES Advice on fishing opportunities, catch, and effort Arctic Ocean, Barents Sea, and Norwegian Sea ecoregions. Golden redfish (*Sebastes norvegicus*) in subareas 1 and 2 (Northeast Arctic). Published 16 June 2020 ICES Advice 2020 – reg.27.1-2 – https://doi.org/10.17895/ices.advice.5827

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.1 – Secondary species outcome: All UoAs

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit		
Scoring Issue		SG 60	SG 80	SG 100
	Main secondary species stock status			
a	Guide post	Main secondary species are **likely** to be above biologically based limits. OR If below biologically based limits, there are **measures** in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are **highly likely** to be above biologically based limits. OR If below biologically based limits, there is either **evidence of recovery** or a **demonstrably effective partial strategy** in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are **considerable**, there is either **evidence of recovery** or a, **demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main secondary species are above biologically based limits.
	UoA1	**NA**	**NA**	**NA**
	UoA2	**NA**	**NA**	**NA**
	UoA3	**NA**	**NA**	**NA**
Rationale				

According to the MSC Fisheries Standard v2.01, main primary species are those comprising over 5% of the catch unless they are of particular vulnerability or high value (in this case the 2% threshold applies).

As indicated in the background section, based on the logbook catch data provided by the client, all secondary species represent less than 2% of the catch in the fishery under assessment. Therefore, there are no “main” secondary species in the fishery and SIa is not scored.

	Minor secondary species stock status			
b	Guide post			Minor secondary species are highly likely to be above biologically based limits. OR If below biologically based limits’, there is evidence that the UoA does not hinder the

				recovery and rebuilding of secondary species
	Met?			**No**

Rationale

Minor secondary species identified in the catch data provided by the client for the period 2016-2020 include catfishes (spotted catfish, northern wolffish, Atlantic catfish), common dab, European plaice, American plaice, tusk, ling, silver smelt, blue ling, Atlantic halibut, lumpfish, whiting, starry ray and arctic skate.
There are no reference points available for these stocks, neither derived from analytical stock assessment nor using empirical approaches. Thus, all minor secondary scoring elements are Data Deficient species according to MSC FCP v2.1 7.7.3.2 and a RBF shall be triggered for assessing this SI. However, FCP v2.1 PF4.1.4 allows the team to avoid conducting RBF on minor species when evaluating PI 2.1.1 or 2.2.1. Due to the high number of different taxa to be assessed as Minor Secondary species the assessment team decided not to trigger the RBF and these species were not assessed.

Therefore, in accordance with FCP v2.1 PF4.1.4 the final PI score shall be adjusted downward according to clause PF5.3.2 (which states that “final PI score shall be no greater than 80”). **SG100 is not met by any minor secondary species.**

References

MSC Fisheries Standard v2.01

MSC FCP v2.1

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.2 – Secondary species management strategy: All UoAs

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **partial strategy** in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **strategy** in place for the UoA for managing main and minor secondary species.
	Met?	**Yes**	**Yes**	**No**
Rationale				

In the context of this performance indicator (Source: MSC FCR v2.01; Table SA8):
- “Measures” are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere. - A “partial strategy” represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
- A “strategy” represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

As indicated above, there are no ‘main’ Secondary species identified in the catch, **SG80 is met automatically.**

The Barents Sea ecoregion includes all or parts of the EEZs of Russia and Norway, as well as most of the Fisheries Protection Zone around Svalbard. Management is conducted in accordance with the fisheries policies of Russia and Norway and catch opportunities for stocks in the area are agreed during meetings of the Joint Norwegian–Russian Fisheries Commission. National authorities manage activities in coastal waters (i.e. within 12 nautical miles of the coast) of Russia and Norway (ICES 2021a).

Total allowable catch (TAC), introduced for most stocks, is the main fishery management tool in the ecoregion, together with several technical measures such as the of a sorting grid to avoid catching undersized fish in all groundfish trawl fisheries, a minimum mesh size of 130 mm for bottom-trawl fisheries for cod and haddock, minimum legal sizes for cod and haddock (ICES 2021a); and other general measures, such as fishing licenses for particular species, for controlling fishing effort

To improve exploitation patterns and reduce the problem of discards in the fisheries, Norway has over the years established a suite of regulations and management measures. The main objective has been to promote an exploitation pattern where fish below minimum legal size is spared, and where unwanted bycatch can be minimised. This has been achieved through several interconnected measures, which can be referred to as the “Discard Ban Package” (Gullestad et al., 2015).

A discard ban has also been implemented in the area, which means that all the catch needs to be landed. Spatial management also occurs, both for fisheries and ecosystem reasons, with permanent and temporary closed areas to protect e.g. juvenile fish and deep-water coral reefs. The Norwegian government has also implemented an “Integrated Management Plan for the Marine Environment of the Barents Sea–Lofoten Area”, which is a framework for the sustainable use of natural resources in the area, including fishing (ICES 2021a). A nursery area that is permanently closed for bottom trawling year-round is the 20 nautical mile zone around Bear Island, established in 1978 (Gullandson et al., 2015).

Although a general management strategy is in place for primary and secondary species. No TACs or other specific management tools are implemented for secondary species. No limit and target reference points have been implemented for those species either. Therefore, it cannot be considered that there is a strategy in place for secondary minor species. **SG100 is not met by any UoA.**

	Management strategy evaluation			
b	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is **some objective basis for confidence** that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				

All information on catches is recorded by skippers and entered in the logbooks. Logbooks are submitted to authorities. Scientific data is collected by PINRO and the IMR and used by ICES to conduct stock assessment and giving advice to the management authorities. Control measures covering fleet effort, gear types and sizes, landings, quotas and permanent and temporary area closures are in place. Although no scientific observers are in the fishery, the discard ban currently in place and degree of its enforcement, adds to confidence about the nature of the bycatch. No main secondary species identified in the catch. Therefore, there is some objective basis for confidence that the partial strategy will work. **SG60 and SG80 are met** for all the species.

However, the status of secondary species is largely unknown. **SG100 is not met.**

	Management strategy implementation			
c	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**
	Met?		**Yes**	**No**
Rationale				

A general management strategy is implemented for managing all bycatch species, no just secondary species. A discard ban is in place and other management measures include control measures covering fleet effort, gear types and sizes, landings, quotas and permanent and temporary area closures to reduce the catch of juveniles. The assessed fleet seem to be compliant with these measures. No main secondary species have been identified in the fishery. Therefore, **SG80 is met for all UoAs.**

However, secondary species are not assessed. Although the catch of these species in the fishery is relatively small, representing approximately only 0.5% of the total catch. It cannot be confirmed that the fishery is not hindering the recovery of all the minor secondary species. **SG100 is not met.**

	Shark finning			
d	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**
Rationale				

Shark finning is not an issue in this fishery as there is no catch of sharks. **NA.**

	Review of alternative measures to minimise mortality of unwanted catch			
e	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of all secondary species, and they are implemented, as appropriate.
	Met?	**Yes**	**Yes**	**No**

Rationale

‘Unwanted catch’ is defined in the MSC Fisheries Standard GSA3.1.6 as: “the term ‘unwanted catch’ shall be interpreted by the team as the part of the catch that a fisher did not intend to catch but could not avoid, and did not want or chose not to use”.

There is no unwanted catch of main secondary species in the assessed UoAs, **SG60 and 80 are met for all the UoAs.**

The assessment team was not made aware of biennial reviews of the potential effectiveness and practicality of alternative measures to minimise UoA related mortality of unwanted catch of all secondary species. **SG100 is not met**.

References

Logbook catch data provided by the client.

Gullestad, P., Blom, G., Bakke, G. & Bogstad, B. 2015. The “Discard Ban Package”: Experiences in efforts to improve the exploitation patterns in Norwegian fisheries, Marine Policy, Volume 54, April 2015, Pages 1-9, ISSN 0308-597X, http://dx.doi.org/10.1016/j.marpol.2014.09.025.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.3 – Secondary species information: All UoAs

PI 2.2.3		**Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species**		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts on main secondary species			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and **adequate to assess** the impact of the UoA on main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and **adequate to assess with a high degree of certainty** the impact of the UoA on main secondary species with respect to status.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Detailed quantitative information is available on all Secondary species caught in this fishery to evaluate with a high degree of confidence that there are no main secondary species in the catch of the fishery, so **SG100 is met by default.**

b	Information adequacy for assessment of impacts on minor secondary species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
	Met?			**No**
Rationale				

Catch data is recorded in logbooks and the catch profile data for the period 2016-2020 has been provided by the client. Minor secondary species identified in the catch include: catfishes (spotted catfish, northern wolffish, Atlantic catfish), common dab, European plaice, American plaice, silver smelt, blue ling, Atlantic halibut, lumpfish, whiting, starry ray and arctic skate. The stock status of some of this secondary species is unknown. Although this catch data can be used to assess the impacts on those species, the stock status of some of these species is unknown. **SG100 is not met**.

c	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage **main** secondary species.	Information is adequate to support a **partial strategy** to manage **main** secondary species.	Information is adequate to support a **strategy** to manage **all** secondary species, and **evaluate** with a **high degree of certainty** whether the strategy is **achieving its objective**.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are no Secondary main species in this fishery, so **SG80 is met by default.**

The fishery is well documented through mandatory measures (logbook information, VMS information, survey data, and research reports from institutions such as PINRO and ICES), which is adequate to support the strategy. However, given the high number of minor secondary species in the catch, and the lack of reference points for them, the team considers that available information is not adequate to support a strategy to manage all secondary species and to evaluate with a high degree of certainty whether the strategy is achieving its objective as stock status of those species is largely unknown. **SG100 is not met by any UoA.**

References

Logbook data provide by the client.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.3.1 – ETP species outcome: All UoAs

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Effects of the UoA on population/stock within national or international limits, where applicable			
	Guide post	Where national and/or international requirements set limits for ETP species, the **effects of the UoA** on the population/ stock are known and **likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, the **combined effects of the MSC UoAs** on the population /stock are known and **highly likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a **high degree of certainty** that the **combined effects of the MSC UoAs** are within these limits.
	Met?	**NA**	**NA**	**NA**
Rationale				

As indicated in the background section, under the MSC definition, ETP species are those listed in international or national lists. Based on the logbook data provided by the client, only one ETP species have identified in the fishery under assessment: common/blue skate (*Dipturus batis*). As there are no national and/or international limits for this species, it is assessed under SIb.

b	Direct effects			
	Guide post	Known direct effects of the UoA are likely to not **hinder recovery** of ETP species.	Direct effects of the UoA are **highly likely** to not **hinder recovery** of ETP species.	There is a **high degree of confidence** that there are no **significant detrimental direct effects** of the UoA on ETP species.
	Met?	**Yes**	**Yes**	**No**
Rationale				

According to the logbook data provided by the client, only one ETP species, common/blue skate, is recorded in the catch of the fishery under assessment. There are no national and/or international limits for this species. Therefore, this species is scored under SIb.

Common/blue skate is assessed in the Barents Sea and adjoining Norwegian Sea as part of ICES Working Group on Elasmobranchs (ICES WGEF 2021), where common/blue skate is considered as part of the blue skate *Dipturus batis* complex. Two species are included in the 'common skate complex' (common blue skate and flapper skate, *D. intermedius*) and their distribution is not precisely known, but available data indicate a large region of overlap from northern Scotland to the Celtic Sea, including west of Ireland (Griffiths et al. 2010, ICES 2012). Whilst 'common skate complex' has been reported in the Norwegian Sea and Barents Sea, as far east as the Murman coast (Andriyashev 1954, Williams 2008), it is uncertain whether these records refer to Common Blue Skate and/or Flapper Skate, or another skate species (e.g., another Dipturus spp. or Bathyraja spp.). Survey data suggests that *D. batis* is rarely if at all encountered in the Barents Sea, reflecting the natural distribution of the species as being further to the South (Barents Sea Ecosystem survey - IMR-PINRO joint report series 2 2019).

ICES does not provide advice on the status of skate stocks in this ecoregion and there are no TACs for any of the skate species in this ecoregion. Norway has a general ban on discarding, with some exceptions. Live specimens must be released immediately, whereas dead specimens must be landed (with some exceptions, all dead or dying skates and other fish in the catches should be landed, whereas live specimens can be released (discarded).

An average of 1.6 tonnes/per year of skate were landed by the fishery in recent years, representing 0.0% of the total catch. However, it is unclear if all this catch has been adequately identified as common skate. Considering this relatively low catch, that the fishery operates outside the range of the species, and the high post-capture release survival rate of skates (Madelman and Farrington (2007)), the direct effects of the UoA are highly likely to not hinder recovery of this

ETP species. As regards unidentified skates and rays, catch by the different UoAs also show these interactions are sporadic. **SG60 and SG80 is met by all the UoAs.**

However, due to the number of uncertainties in the identification of skates and rays, and the lack of advice on the status of skate stocks in this ecoregion, it is not possible to asseverate with a high degree of confidence that there are no significant detrimental direct effects of the UoA on ETP species. **SG100 is not met for any UoA.**

A recommendation is set to improve skate identification onboard the assessed fleet.

	Indirect effects			
C	Guide post		Indirect effects have been considered for the UoA and are thought to be **highly likely** to not create unacceptable impacts.	There is a **high degree of confidence** that there are no **significant detrimental indirect effects** of the UoA on ETP species.
	Met?		**Yes**	**No**

Rationale

Indirect effects on ETP species may include several issues such as vessel strike or other injuries, acoustic disturbances from engine noise, ghost fishing by lost gears and pollution, as well as those related to prey competition, reduction of prey availability, disturbance/ interference of feeding or breeding behaviour of ETP species, etc.

Interaction with seabirds or marine mammals have not been reported by the fishery. In the case of prey competition, these groups rely on species such as cod, capelin and herring (see **Figure 34**). Capelin and herring are not targeted by the fishery, and in general prey removal is normally taken into account by the scientific institutions when assessing these species by increasing the natural mortality to account for the needs of higher trophic levels. All the target stocks are healthy.

The fishery operates outside the 12nm zone in open water, which reduces the likelihood of interacting with bird breeding colonies.

All vessels are fully MARPOL compliant, with detailed waste and oil handling protocols and evidence of records of garbage discharges supplied to the assessor. As regard to lost fishing gears, fishing gear is expensive and in practice, it is understood that the fleet makes every effort to avoid gear loss that might result in entanglement of ETPs and to retrieve it.

Based on the previous information, it is highly unlikely that indirect effects create unacceptable impacts. **SG80 is met by all UoAs.**

However, given the uncertainties in assessing some of the indirect impacts on ETP species (such as acoustic disturbances, or other unknown/unobserved indirect effects), it cannot be considered that there is a high degree of confidence that there are no significant detrimental indirect effects of the UoA on ETP species. **SG100 is not met by any UoA.**

References

ICES WGEF 2021. Working Group on Elasmobranch Fishes (WGEF). ICES Scientific Reports. 3:59. 822 pp. https://doi.org/10.17895/ices.pub.8199

IMR/PINRO 2021. Survey report from the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-November 2020. IMR/PINRO Joint Report Series 1, 2021.

Mandelman, J.W., and M.A. Farrington. 2007. The estimated short-term discard mortality of a trawled elasmobranch, the spiny dogfish (Squalus acanthias).

Draft scoring range	**≥80**

Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.3.2 – ETP species management strategy: All UoAs

PI 2.3.2		**The UoA has in place precautionary management strategies designed to:** - **meet national and international requirements;** - **ensure the UoA does not hinder recovery of ETP species.** **Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species**		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place (national and international requirements)			
	Guide post	There are **measures** in place that minimise the UoA-related mortality of ETP species, and are expected to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **comprehensive strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to **achieve above** national and international requirements for the protection of ETP species.
	Met?	**NA**	**NA**	**NA**
Rationale				

A strategy to manage the UoA's impact on ETP species is in place but there are no specific requirements for protection or rebuilding of these species provided through applicable national ETP legislation or international agreements. This SI is N/A. See SIb.

b	Management strategy in place (alternative)			
	Guide post	There are **measures** in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **strategy** in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **comprehensive strategy** in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species.
	Met?	**Yes**	**Yes**	**No**
Rationale				

Both Norway and Russia, the countries where the fishery operates, are signatory to the Convention on Biological Diversity and the Convention on International Trade in Endangered Species (CITES) and the NAMMCO (the North Atlantic Marine Mammal Commission) - an international body for cooperation on the conservation, management and study of marine mammals in the north Atlantic- which along with IWC advocate measures to reduce bycatch of marine mammals.

Norway and Russia share responsibilities for monitoring and managing populations of all marine mammals in the Barents Sea. And both countries have developed "red lists" of threatened species which are recognized by the national legislations.

The Norwegian Marine Resources Act and associated regulations, through the precautionary approach principle, provide a strategy for managing fishery interactions with ETP species, ensuring that management actions are taken to avoid red list species, including the closure of areas as deemed necessary. There is also provision in the act to require all vessels to record and retain all non-fish bycatch if necessary. Besides, Norwegian Regulation No. 1507 specifically protects basking sharks, spurdogs, portbeagle and silky sharks. Should any fishing vessel catch these species when fishing shall return them in the sea.

The Faroe Islands and Iceland are also signatories to a range of international conventions for the conservation and protection of marine biota, their habitats and environment, (i.e. Bern, Bonn, NAMMCO, OSPAR, Ramsar, Rio conventions).

NAMMCO has recommended that member countries should monitor and report bycatch of marine mammals and seabirds. If issues relating to ETP species are identified (by NAMMCO for example), various mechanisms have been developed to detect and reduce their effects. These include biodiversity action plans for the protection of key and threatened species and habitats, and the OSPAR North East Atlantic Environment Strategy 2030 (NEAES 2030). The strategic objective 5 aims to protect and conserve marine biodiversity, ecosystems and their services to achieve good status of species and habitats, and thereby maintain and strengthen ecosystem resilience) (OSPAR 2021)

The integrated management plan for the Barents Sea, facilitate important cooperation among the International Maritime Organization (IMO), the Arctic Council, the Convention for the Protection of the Marine Environment in the North-East Atlantic (the OSPAR Convention), the North East Atlantic Fisheries Commission (NEAFC) and the bilateral environmental cooperation and fisheries cooperation between Norway and Russia (Meld 2015). The plan identifies appropriate mitigation measures as necessary. In general, where Norway [or Russia] identifies a need for strategies to be introduced, appropriate action is taken, including monitoring of potential interactions with ETP species.

In general, trawl fisheries in the Barents Sea are considered to have a relatively low risk for bycatches of marine mammals and seabird species (ICES WGBYC 2021). Interactions with marine mammals or seabirds have not been reported by the fishery in recent years. Only one ETP species, D.batis have been identified in the catch but in very low numbers (average catch in the period 2016-2020 is 2 tonnes, which represents 0.0000321% of the total catch).

Therefore, the assessment team considers that there is a strategy in place that is expected to ensure the UoA does not hinder the recovery of ETP species. **SG60 and SG80 are met for all UoAs.**

However, it is considered that a comprehensive strategy would include some elements such as for example measures to avoid non-fatal interactions or specific measures for elasmobranch species. Therefore, **SG100 is not met.**

	Management strategy evaluation			
C	Guide post	The measures are **considered likely** to work, based on **plausible argument** (e.g. general experience, theory or comparison with similar fisheries/species).	There is an **objective basis for confidence** that the measures/strategy will work, based on **information** directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a **quantitative analysis** supports **high confidence** that the strategy will work.
	Met?	**Yes**	**Yes**	**No**

Rationale

As indicated in the previous SI, a number of general measures have been implemented in the Barents Sea in order to reduce the impact of the different fisheries on ETP species. Although a TAC has not been set for skate and ray species (the only ETP species group identified in this fishery), some measures such as quick release of alive specimens apply to the fishery. Research undertaken by Madelman and Farrington (2007) shows that shark species have a high survival rate if released soon. Ellis et al., 2017, concluded that post-release survival of elasmobranch species varies with a range of biological attributes (species, size, sex and mode of gill ventilation) as well as the range of factors associated with capture (e.g. gear type, soak time, catch mass and composition, handling practices and the degree of exposure to air and any associated change in ambient temperature), but discard survival of skates seems to be relatively high.

The status of other ETP groups, such as marine mammals or seabirds, is monitored by the scientific bodies (IMR, PINRO, etc) and adverse interactions taking into consideration on the advice (ICES). IMR also conducts on-site research gathering information from the Norwegian reference fleet, which serves to provide estimations on the effectiveness of mitigation measures.

Information from catch statistics indicates that interactions of the assessed fleet with ETP species is low (common skate is the only ETP species reported, and the catch of the species represents 0% of the total catch). Therefore, there is an objective basis for confidence that the measures/strategy will work, based on information directly about the fishery and/or the species involved. **SG60 and SG80 is met for all the UoAs.**

However, there is not an adequate knowledge about the impact of the fishery on skate and ray species due to misidentification problems. It prevents to conduct an adequate quantitative analysis of the impact of the trawl fishery on that group of species. **SG100 is not met for any UoA.**

	Management strategy implementation			
d	Guide post		There is some **evidence** that the measures/strategy is being implemented successfully.	There is **clear evidence** that the strategy/comprehensive strategy is being implemented successfully and **is achieving its objective as set out in scoring issue (a) or (b).**
	Met?		**Yes**	**No**
Rationale				

A number of management measures have been implemented in the area of the assessment, such as a landing obligation for all species (with some exceptions), area closures, bycatch limitations, return to sea of alive elasmobranchs, use of sorting grids to avoid catch of juvenile fish, use of specific scaring devices (for other fisheries such as streamers for longlines and pingers for gillnets). Interactions of the fisheries with ETP species are regularly monitored by scientific bodies (IMR, PINRO, NINA) and management measures reviewed by the different advising agencies (ICES, NAMMCO, OSPAR, etc).

A robust enforcement system is in place. In all areas, client vessels have a Vessel Monitoring System (VMS) on board, must complete electronic logbooks and also comply with the reporting procedures. Log-books and sales notes are regularly inspected and cross-checked by respective country authorities. In addition to that, both Icelandic and Faroese vessels are subject to a routine boarding and inspection at sea and reporting prior to landing. Therefore, there is some evidence that the measures/strategy is being implemented successfully. **SG80 is met.**

However, as there are some uncertainties in the identification of ETP species, specifically for skates and rays, which are the only ETP species group reported by the fishery. Moreover, ICES does not provide advice on the status of skate stocks in this ecoregion and there are no TACs for any of the skate species. Therefore, it cannot be stated that there is clear evidence that the strategy is being implemented successfully and is achieving its objective as set out in scoring issue (a) or (b). **SG100 is not met for any UoA.**

	Review of alternative measures to minimise mortality of ETP species			
e	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

The impact of fisheries on ETP species in the Barents Sea (among other regions) are reviewed by different ICES working groups (ICES Working Group on Bycatch of Protected Species (WGBYC), ICES Working Group on Marine Mammal Ecology (WGMME)) using bycatch and scientific data collected by research surveys. As indicated above, these reviews have concluded that the impact of trawl fisheries on marine mammals or seabirds is low. Therefore, no specific management measures are implemented in those fisheries. Studies on the post-release survival of elasmobranch species have also been conducted at the European level as a consequence of the implementation of the landing obligation (Ellis et al., 2017). And zero TACs set for some species. **SG60 and SG80 are met.**

As zero TACs for elasmobranch species are reviewed annually by ICES and no other measures are known for this fishery, the assessment team concludes that **SG100 is met.** as There is (at least) a biennial reviews of the potential effectiveness and practicality of alternative measures to minimise UoA related mortality of unwanted catch of all primary species.

References

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Mandelman, J.W. & M.A. Farrington. 2007. The estimated short-term discard mortality of a trawled elasmobranch, the spiny dogfish (Squalus acanthias)

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.3.3 – ETP species information: All UoAs

PI 2.3.3		**Relevant information is collected to support the management of UoA impacts on ETP species, including:** - **Information for the development of the management strategy;** - **Information to assess the effectiveness of the management strategy; and** - **Information to determine the outcome status of ETP species**		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts			
	Guide post	Qualitative information is **adequate to estimate** the UoA related mortality on ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Qualitative information is **adequate to estimate productivity and susceptibility** attributes for ETP species.	Some quantitative information is **adequate to assess** the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Some quantitative information is **adequate to assess productivity and susceptibility attributes** for ETP species.	Quantitative information is available to assess with a high degree of certainty the **magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status** of ETP species.
	Met?	**Yes**	**Yes**	**No**
Rationale				

As indicated in the background section, information is collected on the spatial and temporal distribution and population status of ETP species in the Barents Sea. Marine mammal and seabird stock monitoring and abundance estimates are made by IMR and the joint IMR-PINRO surveys, undertaken under the auspices of JNRFC.

Research on ETP species is carried out by several ICES groups, including the ICES Working Group on Elasmobranch Fishes (WGEF), ICES Working Group on Protected Species (SGBYC), the ICES Working Group on marine mammal ecology (WGMME) and other non-ICES groups such as NAMMCO (the North Atlantic Marine Mammal Commission) and the International Whaling Commission (IWC). Trend in abundance on marine mammals and seabird species (and other ETP species) are well known thanks to this monitoring in place.

It is obligatory for the fishery to record the presence or absence of marine mammals and seabirds in the logbooks. The level of interaction of the fishery with these species is considered to be low. The only ETP species identified in the fishery is common skate. VMS data allows for precise analysis of spatial distribution of fishing effort in the area allowing for assessing potential interactions with sea mammals, seabirds and other ETP species. With that data and the monitoring conducted by the agencies it is possible to quantitatively estimate that the level of interaction of the fishery with ETP species. **SG60 and SG80 is met.**

The available information does not, however, allow for such estimation to be carried out with a high degree of certainty (better information at the species level and information on the indirect impact of the fishery on those species would be necessary). Therefore, **SG100 is not met for any UoA.**

b	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage the impacts on ETP species.	Information is adequate to measure trends and support a **strategy** to manage impacts on ETP species.	Information is adequate to support a **comprehensive strategy** to manage impacts, minimise mortality and injury of ETP species, and evaluate with a **high degree of**

				certainty whether a strategy is achieving its objectives.
	Met?	**Yes**	**Yes**	**No**

Rationale

The PINRO/IMR ecosystem surveys provide adequate information to monitor the trends for ETP species in the Barents Sea. This information is annually updated and supports the strategies represented by the protocols of the JNRFC, NAMMCO and OSPAR and the Norwegian and Barents Seas management plans.

The fishery has been certified for some years and the time-series catch data provided by fishery's logbooks, monitoring conducted by research programs and assessments undertaken by ICES working groups are considered sufficiently wide-ranging in space and time to measure trends and support a full strategy to manage impacts on ETP species. **SG60 and SG80 are met by all UoAs.**

However, a comprehensive strategy needs better data which considers all interactions with ETP species, including indirect interactions with ETP species. **SG100 is not met by any UoA.**

References

IMR/PINRO 2021. Survey report from the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-November 2020. IMR/PINRO Joint Report Series 1, 2021.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.1 – Habitats outcome: All UoAs

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates		
Scoring Issue		SG 60	SG 80	SG 100
a	Commonly encountered habitat status			
	Guide post	The UoA is **unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**
Rationale				

Under the MSC definition (MSC FS v2.01, GSA3.13.3.1), commonly encountered habitats include those that the target species favours, that the UoA's gear is designed to exploit, and/or that make up a reasonable portion of the UoA's fishing area. Based on the information provided in the background section, commonly encountered habitats for the FISF Faroe Island fishery include mud, sandy mud and muddy sand and gravelly sandy mud.

Serious or irreversible harm to "structure or function" means changes caused by the UoA that fundamentally alter the capacity of the habitat or ecosystem to maintain its structure and function. For the habitat component, this is the reduction in habitat structure, biological diversity, abundance and function such that the habitat would be unable to recover to at least 80% of its unimpacted structure, biological diversity and function within 5-20 years, if fishing were to cease entirely.

The Bottom trawls are mobile fishing gears in which a net is dragged over the seafloor. On continental shelves, bottom trawling affects habitats not only through removal of the target species, but also by both causing mortality of unintended bycatch species and through their physical impact on the seafloor. The contact of gear components as trawl doors and tickler chains with the seafloor causes direct damage to benthic organisms, resuspension of sediments and the destruction of bioengineered epi- and endobenthic structures such as reefs and burrows. The physical impact varies between different types of sediment, while the impact on benthic communities depends on the resilience of the community itself as well (van der Reijden et al., 2018).

Some studies have tried to estimate the recovery time of trawl areas. The recovery of VME habitat that has suffered structural damage is very slow (Althaus et al. 2009; Williams et al. 2010). WWF Russia developed a map of the minimum recovery time for habitats in the Barents Sea (see background section). The map indicates that recovery after bottom trawling would take place within 5 years in most parts of the Barents Sea, but recovery would be up to 10 years or more in the areas where VMEs tend to occur (Denisenko & Zgurovsky 2013).

Fishing activity of the fleet mostly takes place in three zones of the Barents Sea: to the south of the Norwegian Svalbard archipelago, the Norwegian zone and the Russian zone, to the east of New Zembla. The trawls used are rock-hopper trawls that are designed to ride over seabed irregularities, but which may still affect habitat structure and function through surface abrasion and boulder turning (Kiseleva et al., 2017). However, according to Kaiser et al., 2006, bottom trawling does not irreversibly affect soft bottoms such as sandy and muddy grounds where the fishery occurs. Moreover, the fishery occurs in well-established trawl corridors meaning that they concentrate fishing activity to historic grounds which represent less than 20% of the total Barents Sea area (according to ICES ecosystem overview (2021), in 2018 mobile bottom trawling techniques used by commercial fisheries (12 m+ category) were deployed over approximately 91,010 km2 of the Barents Sea, corresponding to ca. 4.3% of the ecoregion's spatial extent (this estimate excluded Russian fishing effort)).

A key element in reducing impacts of fishing on the seabed is new gear technology and technical solutions, minor modifications of existing fishing gears, such as decreasing the weight of the bottom gear and trawl doors, can reduce bottom impact by as much as 50% (Buhl-Mortensen et al., 2016).

Therefore, based on the provided information, the team concludes that bottom trawls are highly unlikely to reduce structure and function of the commonly encountered habitats (soft bottoms) to a point where there would be serious or irreversible harm. **SG60 and SG80 are met for all the UoA.**

The evidence is not good enough to consider that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. **SG100 is not met by any UoA.**

	VME habitat status			
b	Guide post	The UoA is **unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**
Rationale				

VMEs are defined in MSC Fisheries Standard v2.01 in GSA3.13.3.2 (see background section). NEAFC Recommendation 09/2015 lists which species should be considered as VME indicators when encountered in large fields. These species are listed based on traits related to functional significance, fragility, and the life-history traits of components that show slow recovery to disturbance.

Monitoring of the marine environment and all aspects of its living resources throughout the Barents Sea are ongoing research programmes, both individually by IMR and PINRO and jointly through the JRNFC (IMR/PINRO 2021). Based on the NEAFC recommendation and the maps provided by the MAREANO and BESS programmes, four elements have been selected as potential VMEs affected by the fishery:

1 - Cold water coral reef: Lophelia pertusa reef and Solenosmilia variabilis reef.
2 - Coral garden, which includes both hard-bottom and soft-bottom coral gardens.
3 - Deep sea sponge aggregations; and
4 - Seapen fields.

A number of management measures have been implemented in the area to reduce the impact on VMEs (see management section in PI 2.4.2), which includes: designated Marine Protected Aras (MPA), closed areas (trawling is not permitted within the 12- nautical mile limit from Norwegian baselines and fishing to depths over 1,000 m within the Norwegian EEZ is banned in order to protect deep-water sensitive habitats and species), catch limits per haul for corals (30 kg) and sponges (400 kg) and move-on rules when these limits are surpassed, regulation for “new fishing areas”, and mandatory Vessel satellite monitoring (VMS) which serves to monitor compliance with those management measures in real time.

Some studies have tried to estimate the recovery time of trawl areas. The recovery of VME habitat that has suffered structural damage is very slow (Althaus et al. 2009). Reef-forming species can have low growth rates. For example, growth rates of between 5 and 25 mm yr.-1 have been reported for L. pertusa (Roberts et al. 2009 and references therein), and slower growth has been reported for species like Desmophyllum dianthus (0.5 mm yr-1) (Adkins et al. 2004). Data on the recovery of coral habitats after fishing impacts are available from some areas. Carpets of uniformly sized L. pertusa have been observed in some locations in Norwegian waters that had been trawled 10 years previously (Buhl-Mortensen et al. 2015; Ragnarsson et al., 2016).

WWF Russia developed a map of the minimum recovery time for habitats in the Barents Sea. The map indicates that recovery after bottom trawling would take place within 5 years in most parts of the Barents Sea, but recovery would be up to 10 years or more in the areas where VMEs tend to occur (Denisenko & Zgurovsky 2013).

According to the client, the Russian and Svalbard fishing areas are almost completely sponge-free. Tromsøflaket in the Norwegian zone is one of the most vulnerable areas in the Barents Sea in terms of sponge presence, having a lot of sponge present, but the area is avoided by fishing vessels. The fishery operates in traditional fishing areas, it does not conduct exploratory fishing outside these areas; thus trawling has been conducted regularly over the same grounds over many years (Bostrom & Borges 2020).

In the particular case of seapens, it is not considered to be a declining habitat in OSPAR region 1 and according to the maps shown in the background section most seapens in the Barents Sea are distributed further north that where the fishery takes place.

Due to the restricted and regulated path where demersal fishing is allowed, and the extensive management measures to protect VMEs in the Barents Sea, the assessment team considers that it is unlikely that the UoA would reduce structure and function of VMEs to a point where there would be serious or irreversible harm. **SG60 is met for all UoAs.**

As seapens occur further north that where the fishery takes place, the fishery occurs in trawl corridors and it avoids sea sponge aggregations, the assessment team considers that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm. **SG80 is met.**

Some areas of the Barents Sea have not been mapped yet, modelling exercises have been conducted, but some areas of the Barents Sea have not been mapped yet for VMEs. **SG100 is not met**.

Element	SG60	SG80	SG100
Cold water corals	Yes	Yes	No
Coral gardens	Yes	Yes	No
Deep sea sponge aggregations	Yes	Yes	No
Seapen fields	Yes	Yes	No

	Minor habitat status			
c	Guide post			There is **evidence** that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?			**No**
Rationale				

Habitats which have not been considered in previous sections and are found in the area of operation of the assessed fishery are considered minor for MSC purposes. In these case, two minor habitats are considered here: coarse sediments (gravel, cobble and boulders) and rocky areas.

Bottom trawlers are generally employed on soft areas to avoid rocky areas which can lead to gear losses. However, evidence that the fishery does not operate on those areas has not been provided. Therefore, the team could not find evidence to support SG100. **SG100 is not met by any UoA.**

Element	SG100
Coarse sediments (gravel, cobble and boulders)	No
Rocky areas	No

References

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.2 – Habitats management strategy: All UoAs

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a **partial strategy** in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a **strategy** in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	**Yes**	**Yes**	**No**
Rationale				

In the context of this performance indicator (Source: MSC FCR v2.01; Table SA8):
- “Measures” are actions or tools in place that either explicitly manage impacts on the component or indirectly contribute to management of the component under assessment having been designed to manage impacts elsewhere. - A “partial strategy” represents a cohesive arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome and an awareness of the need to change the measures should they cease to be effective. It may not have been designed to manage the impact on that component specifically.
- A “strategy” represents a cohesive and strategic arrangement which may comprise one or more measures, an understanding of how it/they work to achieve an outcome, and which should be designed to manage impact on that component specifically. A strategy needs to be appropriate to the scale, intensity and cultural context of the fishery and should contain mechanisms for the modification fishing practices in the light of the identification of unacceptable impacts.

As indicated in the background section, monitoring of the marine environment and all aspects of its living resources throughout the Barents Sea are ongoing research programmes, both individually by IMR and PINRO and jointly through the JRNFC (IMR/PINRO 2021) in support of the integrated Barents Sea and Norwegian Sea management plans. These programmes include monitoring the effects of trawling on sensitive marine habitats and developing protection measures where appropriate.

A number of management measures which are already implemented in the Barents Sea in recent years in order to protect marine habitats:

1. Designated Marine Protected Aras (MPA) and area closures in which all fishing is prohibited in both Norwegian and Russian marine areas to protect habitats and species. In Norway area protection is regulated through the Nature Conservation Act where four various categories might be conserved. Protected areas in Svalbard, Norwegian Arctic, were originally established under the 1925 Svalbard Act. When the Svalbard Environmental Protection Act entered into force in 2002, all national parks and nature reserves in Svalbard was protected under the new act. In all, 65 per cent of the area of the islands is protected, together with about 75 per cent of the territorial waters out to the 12-nautical-mile territorial limit. In the case of Russia, four closures aimed to protect juvenile fish have been implemented (Regulation 414 (2014)).
2. It is an offence to fish in close proximity to known areas of coral reef. Vessels use technology (high precision GPS navigation and ground-discrimination echo sounders) to avoid coral reefs and sponges to comply with the legislation and avoid damage to the fishing gear and to the catch.
3. Mandatory use of satellite monitoring (VMS) which serves to monitor compliance with those management measures (avoidance of MPAs, etc.) in real time.
4. Trawling is not permitted within the 12- nautical mile limit from Norwegian baselines (except for some specific areas).
5. Fishing to depths over 1,000 m within the Norwegian EEZ is banned in order to protect deep-water sensitive habitats and species.
6. Norwegian regulation J-61-2019 regulating bottom gears to protect vulnerable marine ecosystems (https://fiskeridir.no/Yrkesfiske/Regelverk-og-reguleringer/J-meldinger/Kommende-J-meldinger/J-61-2019). This regulation applies to all the Norwegian EEZ including waters in the Barents Sea; establishes the limits of 10 closed areas (MPAs) in order to protect VMEs and establishes that when a trawl vessel catches more than 30 kgs of coral or 400 kg of sponges in a single haul, this is reported to the authorities and the vessels needs to move at least 2 nautical miles before shooting.

According to this last regulation, when fishing in a “new fishing area” in the Norwegian EEZ or the Svalbard FPZ, vessels must have a special permit from the Directorate of Fisheries. These are only approved by the Directorate if the vessel has submitted for approval:

- A detailed protocol for trial fishing which includes a fishing plan for fishing gear, fish stocks, by-catches, time and areas.
- A plan to avoid damage to sensitive marine ecosystems.
- A plan for journal entry and reporting.
- And a plan for collecting data on vulnerable habitats

Similar measures on the protection of corals and sponges are recommended in NEAFC waters, where recommendation 19/2014 establishes threshold limits for bycatch of corals and sponges.

Enforcement of these measures is carried out by the Norwegian Coast Guard. The Directorate of Fisheries is generally content with the accomplishment of these measures.

The comprehensive set of measures to manage habitat impacts may be considered as a partial strategy that is expected to achieve the Habitat Outcome 80 level of performance or above. **SG80 is met.**

Note: As SG80 for scoring issue a is met, SG60 is not scored following Derogation for PI 2.4.2 for scoring issue a (see https://mscportal.force.com/interpret/s/article/Move-On-Rules-derogation-November-2020).

However, there is not a comprehensive management plan in place, supported by a comprehensive impact assessment, that determines that all fishing activity (MSC UoAs/non-MSC fisheries) will not cause serious or irreversible harm to VMEs. **SG100 is not met.**

	Management strategy evaluation			
b	Guide post	The measures are **considered likely** to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some **objective basis for confidence** that the measures/partial strategy will work, based on **information directly about the UoA and/or habitats** involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on **information directly about the UoA and/or habitats** involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The number of initiatives to map VMEs in the area provides an increasing level of information about the distribution and status of VMEs in the area. VMS data inform about the areas where the fishery operates and permits to assess the impact of the fisheries on those habitats.

This level of monitoring provides some objective basis for confidence that the partial strategy outlined in SIa will work, based information directly about the UoA and/or habitats involved. **SG 60 and 80 are therefore met.**

The level of information required to test this partial strategy does not seem to be available, as detailed habitat mapping and impact assessment across the Barents Sea is missing. **Therefore, SG100 is not met.**

	Management strategy implementation			
c	Guide post		There is **some quantitative evidence** that the measures/partial strategy is being implemented successfully.	There is **clear quantitative evidence** that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		**Yes**	**No**
Rationale				

An on-going monitoring programme for mapping the seabed is in place in the Barents Sea is being carried out (IMR/PINRO 2021; ICES WGIBAR 2021). Information on gear types and gear use is collected routinely, and VMS and logbook data on activity are available. A number of regulations have been implemented in the area for protection of VMEs (Regulation J- 187-2008; Regulation J-61-2019) and compliance with management measures seems to be adequate. The team considers that there is quantitative evidence that the management strategy is being implemented successfully. **SG80 is met for all UoAs.**

However, information on VMEs distribution in the area is still limited. Therefore, there is not clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a). SG100 is not met. **SG100 is not met.**

	Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs			
d	Guide post	There is **qualitative evidence** that the UoA complies with its management requirements to protect VMEs.	There is **some quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is **clear quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
	Met?	**Yes**	**No**	**No**

Rationale

Evidence provided by the client during the previous surveillance visits confirms that the fishery complies with fisheries management regulations (Norwegian and Russian regulations as well as NEAFC Recommendations) with regards to sharing VMS data, catch data, and avoiding closed areas, and MPA, where any non-compliance would result in infringements as well as loss of fishing permit. Given this, the team considers that there is clear quantitative evidence that all UoAs comply with the different mandatory management requirements affecting the fishery, including those designed to protect VMEs. **SG60 is met by all UoA's.**

A number of voluntary protection measures have been or are being implemented by other MSC UoAs working in the area of the assessment:

- Development and implementation of lighter gear (several Russian fisheries e.g. Arkhangelsk, FIUN etc.)
- Several Russian fisheries are developing and hoping to implement lighter bottom trawl gears.
- Implementation of NEAFC Recommendation as regards the establishment of a move on rule of 5 nm when encountering 7 kg of seapens or burrowing megafauna
- Recording by the crew of interactions with living corals and living sponges (AGARBA, FIUN)
- The MSC AGARBA cod fishery has an internal Code of Conduct and internal move on rule so that vessels shall move 2 nm when encountering 200 kg sponges or 20 kg corals.
- Agreement by Russian Barents Sea MSC fisheries to voluntarily protect a number of areas in the Barents Sea from demersal fishing (came into force on 1st August 2020). Two of these areas fall within Russian EEZ and one within Norwegian EEZ.

The FISF Faroe Islands cod, haddock and saithe fishery in the Barents Sea has not provided evidence of complying with these voluntary measures. The requirements at **SG80 are not met** by any UoA at this stage.

A condition has been set for 2.4.2SId.

References

https://mscportal.force.com/interpret/s/article/Move-On-Rules-derogation-November-2020

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J-61-2019: Regulations on the regulation of fisheries to protect vulnerable marine ecosystems.

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.3 – Habitats information: All UoAs

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	The types and distribution of the main habitats are **broadly understood**. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and **vulnerability** of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.	The distribution of all habitats is known over their range, with particular attention to the occurrence of vulnerable habitats.
	Met?	**Yes**	**Yes**	**No**
Rationale				

As described in the background section, there is sufficient information on the nature, distribution and vulnerability of the main habitats in the different UoAs, including information on topography and depth range, sediment composition, distribution of biotopes, species diversity and richness, etc thanks to a number of mapping programs undertaken in the area.

In the last decade observations carried out by habitat mapping programmes in Norway (MAREANO programme), Iceland (habitat mapping efforts by the Marine and Freshwater Research Institute (MFRI)), and more recently in the Faroe Islands have also substantially increased knowledge on the distribution of VMEs in the Nordic Seas (Burgos et al., 2020). It includes data from the Benthic Invertebrates of Icelandic waters (BIOICE) and the Marine Benthic Fauna of the Faroe Islands (BIOFAR) projects, and the Institute of Marine Research (IMR) coral database. Also published data from habitat mapping surveys by the Marine and Freshwater Research Institute (MFRI) in Iceland (Ólafsdóttir and Burgos, 2012) and the MAREANO project in Norway (Buhl-Mortensen et al., 2015), and recent video observations carried out in the Faroe Islands (Buhl-Mortensen et al., 2019). The ICES VME database (Morato et al., 2018) also provides some information on VMEs distribution. These sources, together with geological information from the NGU and from the Ocean Biogeographic Information System (OBIS, Grassle, 2000), independent published literature (Copley et al. (1996), Klitgaard and Tendal (2004), Mortensen et al. (1995, 2001), Jakobsen and Ozhigin (2011), Jørgensen et al. (2015), Lubin (2013), Cárdenas and Rapp (2015), and Hestetun et al. (2017)) and other data such as by-catch data from the Joint Annual Norwegian-Russian Ecosystem Surveys in the Barents Sea (Jørgensen et al., 2015), and from the MFRI autumn surveys, can be used to characterize nature, distribution and vulnerability of the main habitats in the UoA (Burgos et al., 2020). A complete list of the publications used to obtain records of VME indicator species can be found in Buhl-Mortensen et al. (2015) and as an appendix in Buhl-Mortensen et al. (2019).

Species distribution models can be also used to predict the distribution of VMEs and their indicator species (Burgos et al., 2020). Areas with high VME Index include much of the shelf break and slope off Norway and the Barent Sea, Iceland, and the Faroe Islands, the shelf off southern Greenland, and the areas in the Reykjanes Ridge and the Kolbeinseyn Ridge (Burgos et al., 2020).

Research carried out to date has provided sufficient knowledge on the nature, vulnerability and distribution of main habitats in the areas where the assessed fishery occurs (including commonly encountered habitats and VME) at a level of detail relevant to the scale and intensity of the UoA. **SG60 and SG80 are met by all UoAs.**

Nevertheless, large areas of the Barents Sea (specially the central basin) are still unexplored for VMEs due to the cost and logistics of obtaining observations in the deep-sea. Therefore, it is not possible to state that all habitats are known over their range. **SG100 is not met by any UoA.**

	Information adequacy for assessment of impacts			
b	Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.	Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.	The physical impacts of the gear on all habitats have been quantified fully.
	Met?	**Yes**	**Yes**	**No**
Rationale				

VMS data provides information on the spatial and temporal location and extent of fishing gear types. This information, together with available information on the distributions of main habitat types and the knowledge of the impacts that the different gears may have on habitat types serve to identify the main impacts that the different UoAs have on main habitats and that there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear. **SG 60 and 80 is met by all UoAs.**

As indicated in the background section, a number of studies have investigated the impact of bottom trawling in detail (O'Neill and Ivanović (2016); Eigaard et al., (2014); Eigaard et al., (2015)), including the Barents Sea (Buhl-Mortensen et al., 2016; Jørgensen et al., 2017; Ragnarssonet al., 2016). Any bottom-contact fishing impact the sea floor to some extent depending on the seabed type and the gear type used. In some cases, impacts are clear; bottom-trawling can cause immediate and long-lasting damage to deepwater coral, sponge and sea-pen communities. However, knowledge of recovery rates of seabed habitats affected by bottom trawling is somehow still limited.

While there is reasonable data on habitat impacts of bottom trawl and recovery rates of major habitats, understanding of recovery rates of associated species, and especially for vulnerable species is still poorly understood. Therefore, it cannot be stated that the physical effects of bottom trawl on ALL habitats (including VMEs, etc) has been fully quantified. **SG100 is not met by any UoA.**

	Monitoring			
c	Guide post		Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in all habitat distributions over time are measured.
	Met?		**Yes**	**No**
Rationale				

Information on habitats distribution in the Barents Sea continues to be collected by a number of organizations through ongoing seabed habitat programmes, such as the MAREANO programme ongoing since 2006, the joint IMR-PINRO ecosystem and the OSPAR Commission surveys (the NovasArc project seem to be finished by now (https://novasarc.hafogvatn.is/project/)). Data on VMS provided by the vessels to research and government agencies

and habitat maps from those programmes can be used to detect any increase in risk to the main habitats found in the Barents Sea. **SG80 is met by all UoAs.**

However, as indicated previously, large areas of the central Barents Sea remain still unmapped due to the cost and logistics of obtaining observations in the deep-sea. In order to measure changes over time in all habitat distribution, historical information for those areas would be necessary. Therefore, **SG100 is not met for any UoA.**

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.5.1 – Ecosystem outcome: All UoAs

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guide post	The UoA is **unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is **highly unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, monitors the status of abiotic and biotic factors and changes of these in the Barents Sea ecosystem. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the IMR in Norway and the Polar Branch of VNIRO (PINRO) in Russia. Using the data collected in this and other surveys, interspecies trophic relations in Arctic waters are modelled by different ICES working groups (AFWG, WGDEC ad WGIBAR) using multispecies and ecosystem models, which identify the most important inter-species/ functional group links and sensitivity of the ecosystem to changes. Therefore, key ecosystem elements of the Barents Seas ecosystem and their nature, structure, dynamics and functions have been adequately documented (ICES WGIBAR 2021). This information is used to assess the status of these elements and give advice for the management of this resources under the Norwegian Integrated Management Plan for the Barents Sea- Lofoten area.

The Barents Sea ecosystem has a relatively low biodiversity. This productive and commercially important ecosystem is dominated by a few fish species of potentially high abundance: cod, haddock, capelin, polar cod and herring; with relatively short and simple food chains, but complex relationships between the major fish species with predator-prey relationships shifting according to opportunity and life cycle stage (ICES ecosystem overview 2021).

The Barents Sea ecosystem has been strongly influenced by human activities, including fishing and the hunting of marine mammals, and more recently: transportation of goods, oil and gas, tourism, and aquaculture. Commercial fisheries have the largest human impact on the fish stocks in the Barents Sea, and thereby on the functioning of the whole ecosystem (ICES ecosystem overview 2021).

The assessment model results indicate that in general the Barents Sea ecosystem is in relatively healthy status, fishing and hunting mortality rates have been reduced on most species over the last two decades, and the largest commercially exploited fish stocks (capelin, cod, and haddock) are now harvested at fishing mortalities close to those in the management plan and have full reproductive capacity.

The abundance of some mammal species such as minke and humpback whale has increased in parts of the ecoregion, although more slowly than in fish stocks (ICES WGIBAR 2021).

Therefore, there is evidence that many of the key elements of the ecosystem are healthy, and there is a good understanding of the factors affecting the negative trends in other ecosystem elements, such as some seabirds' species which have been/are being affected by prey collapse, climate change and also bycatch, but maybe in longline and gill net fisheries.

Therefore, the team considers that there is good knowledge about the key ecosystem elements and the FISF Faroe Islands cod, haddock and saithe fishery in the Barents Sea is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. **SG60 and SG80 are met by all the UoAs.**

However, longer term ecosystem and community responses to indirect impacts of fisheries are not well understood. There is a growing need to develop indicators of ecological status, including seabed integrity and there are a generally lack of predictive models of recovery for most ecosystems. Therefore, there is not clear evidence that the UoA is highly

unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. **SG100 is met by any Uoa.**

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.5.2 – Ecosystem management strategy: All UoAs

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary which take into account the **potential impacts** of the UoA on key elements of the ecosystem.	There is a **partial strategy** in place, if necessary, which takes into account **available information and is expected to restrain impacts** of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a **strategy** that consists of a **plan**, in place which contains measures to **address all main impacts of the UoA** on the ecosystem, and at least some of these measures are in place.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The Norwegian Government have developed an integrated ecosystem approach-based management plan and strategies for the Barents Sea and Lofoten areas where the fishery operates. The purpose of the Barents Sea Management Plan is to provide a framework for the sustainable use of natural resources and goods derived from the Barents Sea–Lofoten area, while maintaining the structure, function and productivity of the ecosystems in the area. The national plan covers the Norwegian Economic Zone and the fisheries protection zone around Svalbard; it is limited to the east by the border with Russia, and to the south by the 1 nautical mile offshore border.

Key elements of the integrated ecosystem-based fisheries management approaches within the Barents Sea, and applicable to the UoA fishery includes:

1. Species management. Norway has signed a number of agreements and conventions on species protection and management, e.g. the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species of Wild Animals (CITES), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the Agreement governing the North Atlantic Marine Mammal Commission (NAMMCO), the Agreement on the Conservation of Polar Bears and their Habitats. The Government of Norway has established a set of objectives for species management in the Barents Sea - Lofoten area that fit with the obligations in these various agreements. These species objectives are listed in the white paper on the management plan (Report No. 8 (2005-2006) to the Parliament)
2. Closed areas and marine protected areas; the protection of valuable and threatened habitats;
3. Ecosystem-based fisheries management;
4. Multi-species stock management; the implementation of ecological measures in fishery management based on an increased use of multispecies assessment tools, and aimed at a reduced bycatch of fish, seabirds, and marine mammals, and fewer effects on bottom fauna, multi-species considerations in mixed fisheries, physical environmental issues related to area and gear, and the understanding of ecosystem components by species or stock complexes and dependencies;
5. Target specie management; an increase in the number of target species managed sustainably and under a precautionary approach;
6. The Barents Sea and Lofoten Ecosystem Management Plan also highlights the need for and potential focus for future ecosystem management cooperation with all entities with legitimate interests in the resources of the Barents Sea. It includes t establish close cooperation with the EU, Russia and other countries in MSC issues and IUU fishing (von Quillfeld et al., 2017).

The JRNFC has also commitment itself to safeguarding the exploited stocks and management plans have been implemented for the target stocks, including cod, haddock and saithe.

This ecosystem management strategy is based on the assessments and modelling exercises conducted by the ICES working groups (which include ecosystem considerations, such as prey-predator relationships) which use ecosystem and fisheries data collected by the IMR/PINRO scientific surveys, under the auspices of the JRNFC (IMR/PINRO 2021).

The management measures in place to address ecosystem impacts are coordinated by Norwegian and Russian authorities through the JNRFC and take into account the potential impact of the UoA. on key elements of the ecosystem.

Therefore, it can be considered a partial strategy, which is expected to restrain impacts of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance. **SG60 and 80 are met by all the UoAs.**

However, there are some uncertainties about the impacts on the benthic grounds and some measures need to be better integrated to consider it a strategy or plan to address all main impacts. **SG100 is not met.**

	Management strategy evaluation			
b	Guide post	The **measures** are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoAs/ ecosystems).	There is **some objective basis for confidence** that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved.	**Testing** supports **high confidence** that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				

As indicated in the background section, there is a good knowledge on the Barents Sea and Norwegian Sea ecosystems thanks to the continued monitoring conducted by the different research institutions. The target stocks are all above MSY trigger and predator species such as marine mammals are stable (or increasing in the case of minke and humpback whales). Impacts on other elements such as the benthic habitats or seabirds are being restrained thanks to the management measures implemented. In the case of this last group, the reduction in number of individuals does not seem to be directly caused by fishing pressures but for another reasons (prey availability, climate change, etc). Therefore, there is some objective basis for confidence that the measures/ partial strategy will work, based on some information directly about the UoA and/or the ecosystem involved. **SG 60 and 80 is met by all the UoAs.**

Although the main pressures on the ecosystem are known, there is a limited understanding about the long-term and wider impacts on some elements of the ecosystem, such as the changes in benthic communities. Some areas of the Barents Sea have not been explored yet. **Therefore, SG100 is not met.**

	Management strategy implementation			
c	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**
	Met?		**Yes**	**No**
Rationale				

An on-going monitoring programme for assessing the status of the different elements of the ecosystem in the Barents Sea, including plankton, invertebrates, fisheries resources and top predators (marine mammals, seabirds and elasmobranch) (IMR/PINRO 2021; ICES WGIBAR 2021). Information on gear types and gear use is collected routinely, and VMS and logbook data on activity are available. An ecosystem approach-based management plan has been developed for the Barents Sea and Lofoten areas where the fishery operates, which includes a number of measures to reduce the impact of fisheries on the elements of the ecosystem. Compliance with the measures seem to be adequate. Therefore, the team considers that there is some evidence that the partial strategy is being implemented successfully. **SG80 is met for all UoAs.**

However, information on some elements of the ecosystem is still limited or the impact of fisheries not completely understood. Therefore, there is not clear quantitative evidence that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a). **SG100 is not met.**

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	**NA**

PI 2.5.3 – Ecosystem information: All UoAs

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	Information is adequate to **identify** the key elements of the ecosystem.	Information is adequate to **broadly understand** the key elements of the ecosystem.	
	Met?	**Yes**	**Yes**	
Rationale				

The joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters (BESS) monitors the status of abiotic and biotic factors and changes of these in the Barents Sea ecosystem. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the IMR in Norway and the Polar Branch of VNIRO (PINRO) in Russia (IMR/PINRO 2021). BESS covers the entire, ice-free area of the Barents Sea and usually progresses from south to north. Ecosystem stations are regularly distributed and some additional bottom trawl hauls for demersal fish survey index estimation and additional acoustic transects for the capelin stock size estimation grid are carried out around Svalbard (Spitsbergen). Additional bottom trawls are also conducted for assess the distribution of commercial invertebrates (snow crab and northern shrimp). This is an ongoing ecosystem survey which in 2020 was carried out from August to November by several Norwegian research and Russian vessels (IMR/PINRO 2021).

The main aim of the BESS is to cover the whole Barents Sea ecosystem geographically and provide survey data for commercial fish and shellfish stock estimation. Stock estimation is particularly important for capelin, one of the key species in the Barents Sea ecosystem, the Norwegian-Russian Fishery Commission determines TAC immediately after the survey (IMR/PINRO 2021). In addition, a broad spectrum of physical variables, ecosystem components and pollution are monitored and reported. The survey is used by ICES working groups as well as for the Norwegian ecosystem status report on selected indicators from the Norwegian EEZ of the Barents Sea.

Data collected during the surveys is used to evaluate the status of different fishing stocks, ETP species (marine mammals and sea birds) and habitats (VME and non-VMEs). Integrated ecosystem-based models are applied in order identify trends or changes in the status of the ecosystem elements, as well as commercial stock removal or protection for vulnerable species. Therefore, information is adequate to broadly understand the key elements of the ecosystem. **SG60 and SG80 are met by all the UoAs.**

b	Investigation of UoA impacts			
	Guide post	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, but **have not been investigated** in detail.	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and **some have been investigated in detail**.	Main interactions between the UoA and these ecosystem elements can be inferred from existing information, and **have been investigated in detail**.
	Met?	**Yes**	**Yes**	**No**
Rationale				

Detailed information on catches of target non-target species, as well as other bycatch (non-commercial finfish, benthic organisms etc) is collected by several fisheries research institutions (PINRO, IMR, ICES, JNRFC). This provides information about the impact of the UoA on the key ecosystem elements. The main impacts of the UoA on bottom habitats and trophic structures can also be inferred from the existing information, including location (VMS), mapping, and gear-habitat interaction studies. Many of these interactions (trophic interactions, impacts on some of the bottom habitats, etc) have been investigated in detail. **SG60 and SG80 are met.**

However, it cannot be stated that all the main interactions have been investigated in detail (e.g. benthic bycatch is not collected in this fishery). **SG 100 is not met.**

	Understanding of component functions			
c	Guide post		The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are **known**.	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are **understood**.
	Met?		**Yes**	**No**
Rationale				

The on-going monitoring programmes conducted in the Barents Sea provide a comprehensive understanding of the key elements of the ecosystems of the Barents Sea, including species roles for target and other species, prey-predator relationships, main biotopes, habitat distribution and function, etc. Therefore, the main functions of the relevant primary, secondary, ETP species and habitats affected by the UoA are known. **SG80 is met.**

However, the are some knowledge gaps on the distribution and status of VMEs and the main functions of these components as some areas have not been explore yet. **SG100 is not met.**

	Information relevance			
d	Guide post		Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	Adequate information is available on the impacts of the UoA on the components **and elements** to allow the main consequences for the ecosystem to be inferred.
	Met?		**Yes**	**No**
Rationale				

A number of studies have been conducted in the Barents Sea, using ecosystem models, to understand the main ecosystem drivers in that ecosystem. Therefore, there is a good of the components and element in the marine ecosystem.

Information on fishing effort, landings and impacts on bycatch species are recorded in logbooks and collected by the authorities. Information about the areas of operation of the fishery is also recorded using VMS tracking systems. UoA impacts on the components (non-target catches including ETP species and habitats) are known, and the resulting main consequences for the Barents Sea ecosystem can be inferred. **SG100 is met for all UoAs.**

	Monitoring			
e	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		**Yes**	**Yes**
Rationale				

As indicated in previous sections, there is a comprehensive on-going monitoring of the Barents Sea by the joint Norwegian/Russian ecosystem survey and other mapping programmes. Ecosystem models are used to evaluate trends and status of fishing stocks, ETP species (including elasmobranch, seabirds, and marine mammal populations) and habitats. Therefore, adequate data continue to be collected to detect any increase in risk level. **SG80 is met.**

Those long-term research programmes provide enough information to support the development of the management strategies currently in place, such as the regional management plans for the Norwegian and the Barents Sea. Therefore, **SG100 is met by all UoAs.**

References

IMR/PINRO 2021. Survey report from the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-November 2020. IMR/PINRO Joint Report Series 1, 2021.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

7.4 Principle 3

7.4.1 Principle 3 background

Jurisdiction

The fishery is conducted by vessels under Faroese and Icelandic flags and takes place in the Norwegian and Russian EEZs in the Barents Sea and in the Protection Zone around Svalbard, where Norwegian fishery regulations apply and the Norwegian Coast Guard conducts monitoring, control and surveillance (MCS). TACs and technical regulations for the cod and haddock stocks are determined by the Joint Norwegian–Russian Fisheries Commission (JNRFC), while saithe is managed by Norway exclusively. Quota shares are given to the Faroe Islands and Iceland through bilateral agreements with Norway and Russia. The catch is landed in the Faroe Islands, Iceland and Norway.

Hence, from a law of the sea perspective,

- cod and haddock are shared stocks, while saithe is under sole national jurisdiction,
- the Faroe Islands and Iceland are flag states and port states in the fishery, while Norway and Russia are coastal states,
- in addition to national management, there is an international management level in the JNFRF and the bilateral agreements between the coastal and the flag/port states.

In the scoring tables below, the international component of the management system is assessed throughout P3, as is the national management system of the two flag states. The national systems of the two coastal states are assessed for those components that directly affect the management of the UoA. This is the case for the overall management structure, objectives, decision-making processes, MCS and management review, but less so for consultation mechanisms at national level.

Legislation and management system

Barents Sea cod and haddock are shared stocks between Norway and Russia. Norway and the Soviet Union agreed in 1975 to set up a Joint Norwegian–Soviet (later: –Russian) Fisheries Commission (JNRFC) and to treat cod and haddock as joint stocks to be split 50/50 between them. Capelin, Greenland halibut and red fish have later been added to the list, with varying distribution keys, all in Norway's favour. The Commission sets TAC for the joint stocks and coordinates research, regulatory and enforcement cooperation between the parties. Within the context of the Commission, the parties also exchange quota shares of joint and exclusive stocks. Saithe is a Norwegian exclusive stock, but a quota is given to Russia in quota exchange between the two countries.

Norway and Russia set their own fishing rules in their respective maritime zones, and since the mid-1990s the two countries have worked actively to harmonise regulations between them. Both countries have well-established systems for fisheries management, evolved over more than a century and now codified in the Norwegian 2008 Marine Resources Act and the 2004 Russian Federal Fisheries Act, respectively, and supplementary legislation. The most important practical fishing rules are found in the Norwegian Regulation on the Execution of Marine Fisheries, which is updated annually, and the Russian Rules for Fishing in the Northern Fishery Basin of the Russian Federation, which were adopted in 2014 and last revised in 2021. These regulatory documents in both countries set rules on closed areas, fishing gear, by-catch and minimal allowable size of different species, among other things.

In Norway, the executive body at governmental level is the Ministry of Trade, Industry and Fisheries, while the practical regulation of fisheries is delegated to the Directorate of Fisheries. Enforcement at sea is taken care of by the Coast Guard, which is part of the Royal Norwegian Navy, but performs tasks on behalf of several ministries, including the Ministry of Trade, Industry and Fisheries. Scientific research is conducted by the Institute of Marine Research. Fisheries management authorities coordinate their regulatory work with that of other bodies of governance, for instance the Ministry of Climate and Environment and the Norwegian Environmental Agency, which are responsible for the implementation of the integrated management plans for different marine areas under Norwegian jurisdiction.

In Russia, fisheries policy falls under the purview of the Ministry of Agriculture (Minselkhoz). The implementing body for fisheries management under the Ministry is the Federal Fisheries Agency (FFA – in Russian: Rosrybolovstvo), which is the successor of the former State Committee for Fisheries (abolished in 2004), and in turn the Soviet Ministry of Fisheries. The Federal Security Service (FSB) is responsible for enforcement at sea. The FFA has 18 territorial administrations (in Russian: *upravlenia*), most of which cover several federal subjects. The territorial administrations are responsible for licensing, monitoring of quota uptake, and the administration of closed areas, amongst other things. The UoAs in the fishery are subject to the control of the Severomorsk Territorial Administration. Within the Russian Government, the Ministry of Agriculture interacts with other federal ministries, e.g. with the Ministry of Natural Resources

and Environment (Minprirody) through its implementing Agency for Monitoring of Natural Resources (Rosprirodnadzor), which carries out environmental impact assessments of fisheries regulations. In Murmansk Oblast (country), the Ministry of Fisheries and Agriculture (at the Governor's office, the executive branch of government at regional level in Russia) is responsible for inland fisheries, recreational fisheries and the distribution of the indigenous peoples' quota (see section on management objectives below).

The Faroe Islands is part of the Kingdom of Denmark, but has had home rule since 1948, including full autonomy in all matters related to fisheries management. It has a well-established system for fisheries management in place, codified in the 2020 Marine Resources Act and a plethora of supporting legislation. Under the Government of the Faroe Islands (Landsstýri), the Ministry of Fisheries (Fiskimálaráðið) has the power to issue executive orders to regulate the fisheries, while scientific advice is produced by the Faroe Marine Research Institute (Havstovan) and enforcement taken care of by the national Fisheries Inspection Service (Vørn – Fiskiveiðieftirlitið), both subordinate to the Ministry. The authority to decide the number of fishing days each season rests with the Faroese Parliament (Løgtingið – in Danish: Lagting), which, of course, also is the state organ authorized to issue formal law.

In Iceland, the system for fisheries management is codified in the 1990 Act on Fisheries Management, amended in 2006 (Fisheries Management Act). The Act details procedures for the determination of TAC and allocation of harvest rights, including permits and catch quotas. It also lays out the system for individual transferable quotas in some detail, as well as procedures for monitoring, control and surveillance and the application of sanctions. The Ministry of Industries and Innovation (Atvinnuvega- og nýsköpunarráðuneytið) – which has two ministers: one for Tourism, Industry and Innovation and one for Fisheries and Agriculture – is the policy-making body in Icelandic fisheries management and sets annual TAC based on scientific recommendations from the Marine Research Institute (Hafrannsóknastofnun). The Minister of Fisheries and Agriculture, in turn, is responsible for two departments: one for fisheries and aquaculture and one for food and agriculture. The Directorate of Fisheries (Fiskistofa) is the implementing body within the management system, formally subordinate to the Ministry of Industries and Innovation as an agency. It issues fishing licenses, allocates annual vessel quotas and oversees the daily operation of the individual transferable quota system. The Directorate is also responsible for monitoring, control and surveillance, in cooperation with the Coast Guard (Landhelgisgæsla Íslands), which is a civilian law enforcement agency under the Ministry of the Interior.

Management objectives

The precautionary approach has been in practical use by the JNRFC since the late 1990s, when ICES' precautionary reference points were adopted for the Barents Sea stocks. The harvest control rule established by the JNRFC in 2002 is explicitly founded on the precautionary approach. Likewise, the 2010 agreement between Norway and Russia on marine delimitation and cooperation in the Barents Sea explicitly states that fisheries management in the area shall be based on the precautionary approach.

The 2008 Marine Resources Act requires that Norwegian fisheries management be guided by the precautionary approach, in line with international treaties and guidelines, and by an ecosystem approach that takes into account habitats and biodiversity. The same objectives are found in the most relevant policy documents, such as the integrated management plan for the Barents and Norwegian Seas.

Russian fisheries law defines protection and rational use of aquatic biological resources as the main goal of the country's fisheries management. 'Protection and rational use' was an established concept in Soviet legislation on the protection of the environment and exploitation of natural resources, and has remained so in the Russian Federation. 'Rational use' bears resemblance to the internationally recognised ideal of sustainability, insofar as the emphasis is on long-term and sustained use of the resource, supported by science for socio-economic purposes. The Federal Fisheries Act states that the protection of aquatic biological resources shall be given priority to their rational use. The precautionary approach is not mentioned explicitly, but the requirement to protect aquatic biological resources and take the best scientific knowledge into account equals the requirements of the precautionary approach, as laid out in the FAO Code of Conduct and its technical guidelines.

The objectives of Faroese and Icelandic fisheries management, as stated in their respective fisheries acts, are to ensure conservation and efficient utilisation of marine living resources. Just like for Russia, the precautionary approach is not mentioned explicitly in either act, but the requirement to protect marine resources and take the best scientific knowledge into account, among other things, equals the requirements of the precautionary approach, as laid out in the FAO Code of Conduct and its technical guidelines.

All four states also have as one of their fisheries management objectives to protect the interests of people dependent on fishing.

In Norway, the fisheries management system includes various mechanisms that generally respect and observe the rights of the coastal population along the country's northern, western and southern coastline. For the most important species, significantly and proportionately larger quota shares area allotted to coastal fisheries than to the ocean going fleet, with particular attention to the traditional fisheries of the indigenous Sami population in the northernmost part of the country. The Sami Parliament, which is a consultative body for the Sami population on Norwegian territory, is consulted on all management measures, including the distribution of quotas of stocks that are of particular historic importance to the Sami. The Government has formally committed to this through the 2005 Royal Decree on Consultations with the Sami Parliament.

In Russia, the rights of fishery-dependent communities are explicitly stated in the Federal Fisheries Act. The Act states that 'the small indigenous peoples of the North, Siberia and the Far East' (ethnic groups with a 'traditional' lifestyle consisting of less than 50,000 people) shall be given access to fish resources in order to secure their livelihood. It gives 'fisheries to protect the traditional lifestyle of small indigenous peoples of the North Siberia and the Far East' extended rights compared to the other types of fisheries listed in the Act (e.g., 'industrial fisheries', 'coastal fisheries' and 'fisheries for scientific and enforcement purposes'). In the Northern basin, a fixed quota of cod and haddock (300 and 75 tonnes, respectively) is given to the Saami, based on their traditional fishing rights in the region.

In the Faroe Islands, one of the objectives of the Marine Resources Act is to ensure economic sustainability and secure optimal socio-economic benefits from fisheries. The Faroe Islands is highly dependent on fisheries, and the rights of traditional users are reflected in the current distribution of quota shares, which is based on historical fishing. Fishing vessels under Faroese flag must be at least two-thirds Faroese owned and subject to taxation in the Faroe Islands.

In Iceland, one of the main objectives is to ensure stable employment and settlement throughout Iceland. According to the Fisheries Management Act, the Minister of Fisheries each fishing year shall have available harvest rights amounting to up to 12,000 tonnes which he or she may use to offset major economic or social disturbances that may occur in times of sizeable fluctuations in catch quotas, or for regional support to smaller communities that have experienced significant reduction in employment as a result of unexpected cutbacks in quotas. Such additional quotas can be allocated for up to three years at a time. The Act further grants all citizens the right to fish in Icelandic waters provided the catch is for their own consumption. Overall, distribution of harvest rights is considered to be consistent with the social and cultural context of Icelandic fisheries.

Consultation mechanisms

The Faroe Islands has a long tradition of continuous consultation and close cooperation between government agencies and user-group organisations, now codified in the Marine Resources Act and supplementary legislation. Consultations take place both through a number of formal standing advisory committees, including one overarching Advisory Board, and in focused consultative meetings on specific issues. Fishermen can be represented at an individual, company of production organisation (PO) level, or through the Faroese Fishermen's Association. There is also a written hearing process before regulations are revised or new regulations introduced, a procedure required by law. The Marine Research Institute interacts with both management authorities and stakeholders. They are consulted by the Ministry of Fisheries on a regular basis, and they also seek advice from the fishing industry in connection with their quota recommendations, traveling around the country to explain the rationale for their recommendations. There are no NGOs in the Faroe Islands that engage in fisheries specifically.

Likewise, Iceland also has a long tradition of consultation and cooperation between government agencies and user-group organisations. Lines of communication are short in Iceland and much consultation takes place informally, in direct and often spontaneous contact between representatives of user groups and authorities. At a more formal level, all major interest organizations in the fishing industry are regularly invited to sit on committees established to review changes in legislation and management, and they meet for regular consultations with the Ministry, the Directorate and the Parliament's (Alþingi) Permanent Committee for Fisheries and Agriculture. These include, but are not restricted to, Fisheries Iceland (Samtök fyrirtækja í sjávarútvegi – SFS), which was established in 2014 as the result of a merger between two of the most influential user-groups in Icelandic fisheries: the Federation of Icelandic Fishing Vessel Owners and the Federation of Icelandic Fish Processing Plants. Other stakeholders include the National Association of Small Boat Owners and the Icelandic Seamen's Federation. Local authorities also engage actively in fisheries issues and have easy access to the management system. All new legislation and major management initiatives are subject to public hearing, with drafts available online. The public consultations portal Samráðsgátt ensures transparency and opportunities for the public and stakeholders to participate in policy formulation, establishing regulatory frameworks and the decision making of the authorities. The portal contains planned legislation, drafts of legislative bills and regulations, documents on policy formulation and more. In addition to open consultation on the Internet, there may be other forms of consultation processes, such as the participation of principal stakeholders in committee work or special invitations for their opinion.

There are no environmental NGOs in Iceland that target fisheries specifically at the moment. Major international NGOs that usually engage actively in discussions about fisheries management, such as Greenpeace and WWF, do not have offices in Iceland. Local NGOs tend to prioritize nature protection on land. One exception is BirdLife Iceland (Fuglavernd), which is, among other things, concerned with bird interaction in gillnet fisheries. Also, more generally oriented NGOs such as Icelandic Environmental Association (Landvernd) and Iceland Nature Conservation Association (Náttúruverndarsamtök Íslands) are engaged in marine issues more widely, such as marine protected areas and integrated and integrated ocean management.

Consultation processes cover policies and regulatory issues and include discussions of the annual scientific recommendations by the Marine Research Institute. Shortly after presenting the recommendations to the Ministry, representatives of the Institute enter into dialogue with the fishing industry regarding the status of the stocks and the nature of the recommendations. The Ministry also consults with the industry before setting the final TACs.

Monitoring, control and surveillance (MCS)

In Norway, the Coast Guard operates 15 vessels, of which five patrol the coastal area and the rest the wider EEZ – four of the latter have a helicopter on board. These Coast Guard vessels are the largest in the entire Royal Norwegian Navy. They perform spot checks at sea (in the EEZ and the Protection Zone around Svalbard), including from helicopters during fishing activities and inspections at check points that foreign vessels have to pass when entering or leaving the EEZ and in connection with transshipments in Norwegian waters, which have to be reported in advance. Coast Guard inspectors board fishing vessels and control the catch from last haul (e.g. catch composition and fish size) and fishing gear (e.g. mesh size) on deck and the volume of fish in the holds. All landings in Norway are registered by the Norwegian Fishermen's Sales Organisation and checked towards catch information sent electronically by all fishing vessels to the Norwegian Directorate of Fisheries after each haul, as well as before entering the Norwegian EEZ. The Norwegian Food Safety Authority checks all landings by foreign vessels in Norwegian ports, while the Directorate of Fisheries conducts physical inspections of at least 15 % of these landings Both landing and at-sea control is conducted using a risk-based framework aimed at utilising resources to optimise compliance at any given moment.

In Russia, the FFA (in the northern basin: Severomorsk Territorial Administration, as the Agency's regional branch) keeps track of how much fish each vessel and company (quotas are given to companies, not vessels in Russia) has fished at any moment, based on daily reports from each fishing vessels and accumulated reports each 15th day from all fishing companies, as well as VMS data. The Inspection Service of the Russian Border Guard, which is part of the Federal Security Service (FSB), conducts inspections at sea and in port. Fish caught in the Russian Exclusive Economic Zone (REZ) must be taken to Murmansk for customs clearance, but some of it is subsequently transshipped for export. The Border Guard conducts random inspections at sea during fishing, following the same procedures as the Norwegian Coast Guard, with inspection of documentation, fish from last haul, gear and catch in holds. It also conducts physical inspections of all transhipments at sea and at the control points that all foreign vessels – and Russian vessels having fished outside the REZ – have to go through when entering and leaving the REZ. Both Norwegian and Russian inspectors have the authority to close an area with too much juvenile or bycatch (real-time closure).

Enforcement bodies on both sides – the Coast Guard and the Directorate of Fisheries in Norway and the Severomorsk Territorial Administration of the FFA and the Border Guard in Russia – cooperate closely in the enforcement of fisheries regulations in the Barents Sea, including running exchange of inspection data and more analytical material related to compliance, as well as regular exchange of inspectors both at sea and in port. Inspection procedures have also been harmonised between the two countries. Both Norwegian and Russian enforcement authorities operate on a risk-based framework and give priority to discard of fish, e.g. using helicopters for impromptu inspection. Both work proactively with the fishing industry to avoid discard and regularly organise seminars and meetings with the industry on this topic.

Inspection information is shared with enforcement authorities in the flag/port states of the fishery: the Faroe Islands and Iceland. In the Faroe Islands, fishing vessels are required to keep a logbook and report catches to the Fisheries Inspection Service on a daily basis. Electronical logbooks have been introduced for all vessels above 15 BT (in practice all vessels that do not deliver their catch every day), and VMS is obligatory. The Fisheries Inspection Service carries out 300-350 inspections per year in the Faroese Economic Zone. It has two inspection vessels at its disposal, and there is at any time a vessel from the Royal Danish Navy present in Faroese waters, which also enforces Faroese fisheries regulations. One of the Faroese inspection vessels has a helicopter on board, which enables inspectors to conduct impromptu inspections. The Ministry of Fisheries also has its own helicopter, which can be used for fishery inspections. At-sea inspections include control of the catch from the last haul, the fishing gear and fish in the holds. The inspectors have the possibility to close an area with too much juvenile or bycatch for a period of up to two weeks (real-time closure). All landings have to be reported 12 hours in advance in order to give the inspectors the possibility to check the landed catch. Both landing and at-sea control is conducted using a risk-based framework.

In Iceland, MCS is taken care of by the Directorate of Fisheries, in collaboration with the Coast Guard, the Marine Research Institute and coastal municipalities. The enforcement system is based on reports from the vessels, physical inspections at sea and weighing in harbour, as well as information exchange with other states' enforcement authorities. The structure and procedures of the enforcement system are codified in the Fisheries Management Act, while requirements to the weighing system are laid out in the Act concerning the Treatment of Commercial Marine Stocks and in the Regulation on Weighing and Recording of Catch. Electronic logbook and mandatory, and vessels report catches to the Directorate of Fisheries using Electronic Reporting Systems (ERS). VMS is obligatory for all vessels regardless of size, also inshore. Inspectors from the Directorate may accompany fishing vessels on trips or operate from Coast Guard vessels. The Coast Guard has three offshore patrol vessels, as well as a number of smaller boats, helicopters and a surveillance aircraft. At-sea inspections include control of the logbook, catch and gear. If a certain amount of the catch is found to be below size limit, the inspector can initiate a short-term close (usually two weeks) for the fishery of that particular species, vetted by the Marine Research Institute and confirmed by the Directorate of Fisheries. Inspections are conducted using a risk-based framework ('business intelligence software') aimed at utilizing resources to optimize compliance. Most importantly, 100 % of the landed fish is weighed by an authorized 'weighmaster', employed by the municipality and hence independent of both buyer and seller. Landing data are immediately added to the Directorate of Fisheries' catch database. The Directorate operates a dynamic and interactive website, where stakeholders at all times can monitor the precise quota status for each species and observe the performance of individual vessels, their catch from each fishing trip and vessel quota status. The fact that the vast majority of catch is exported provides a further control mechanism enabling a mass balance comparison of fish in (i.e. landing declarations) with fish out (i.e. production or export volumes). The Directorate publishes data on its website on individual vessels' catch composition on trips with and without inspectors on board. This gives an indication of discarding in the fishery and also provides deterrence in itself ('social shaming').

Sanctions to deal with non-compliance in Norwegian and Russian waters exist in both countries' systems for fisheries management, as well as in their wider legal systems. Both make wide use of administrative fines and refer serious cases to the judicial system. Similar provisions apply in the flag/port states the Faroe Islands and Iceland.

In Norway, statutory authority for the use of sanctions in the event of infringements of fisheries regulations is given in Chapters 11 and 12 of the Marine Resources Act. Intentional or negligent violations are punished with fines or prison (not applicable to foreign citizens) up to one year, while infringements committed with gross intent or negligence may be punished with prison up to six years. In the judgement of the seriousness of the infringement, the economic gain of the violation, among other things, is to be taken into consideration. Alternatively, catch, gear, vessels or other properties can be confiscated. The Norwegian enforcement agencies use a graduated sanctioning system, with sanctions ranging from oral warnings, written warnings and administrative fines to formal prosecution. If the fishers do not accept the fines issued by the enforcement or prosecution authority, the case goes to court. The decision of a lower-level court can be appealed to higher-lever courts.

In Russia, the Federal Fisheries Act requires the withdrawal of quota rights in the following situations, inter alia: i) the company fails to take 50 % of its quota two years in a row; ii) the company has committed two serious violations of the fisheries regulations within one calendar year; iii) the company has failed to go to Russian port with catch taken in the REZ; iv) the vessel has switched off the VMS system for more than 48 hours within a calendar year without approval from the authorities. The Code of the Russian Federation on Administrative Infractions specifies sanctions and the level of fines that can be issued administratively by enforcement bodies. According to Art. 8.17(2), failure to comply with rules and requirements relating to fishing activities in the inland waters, in the territorial sea, on the continental shelf, in the EEZ and on the high sea, can be met by the following sanctions: For citizens (individuals): 50-100 % of the value of the illegally caught catch, with or without confiscation of vessel and fishing gear; for executive officers (e.g. skippers/captains): 100-150 % the value of the catch, with or without confiscation of vessel and fishing gear; and for legal entities (e.g. shipowner or operator of a vessel): 200-300 % of the catch, with or without confiscation of vessel and fishing gear. The Criminal Code requires that illegal fishing such as causing 'large damage', conducted in spawning areas or migration ways leading to such areas, or in MPAs, be penalised by either fines up to RUR 300,000 or an amount corresponding to 1-2 years' income for the violator, compulsory work of no less than 480 hours, corrective work for at least two years or arrest for at least 6 months.

In the Faroes Islands, the enforcement system uses a graduated sanctioning system, with sanctions ranging from temporary withdrawal of license, confiscation of gear and fines to formal prosecution and possibly permanent withdrawal of license. If the fishers do not accept the fines issued by the enforcement or prosecution authority, they can take the case to court. The decision of a lower-level court can then be appealed to higher-level courts. For a first-time offence, a warning is given if the infringement is not of a very serious nature. If it is repeated, the license will normally be withdrawn and/or the fishing gear will be confiscated. The duration of the withdrawal depends on the seriousness of the infringement, but typically the license will be withdrawn for a two-week period. If the offence is repeated again, a fine will be introduced in addition to the withdrawal of the license or the case will be brought to court.

In Iceland, the sanctioning system is codified in the Fisheries Management Act and the Act concerning the Treatment of Commercial Marine Stocks. A system for graduated sanctions is applied. For a first-time offence, a warning ('reprimand') is given if the infringement is of a less serious nature (Fisheries Management Act, Art. 24). In the other end of the spectrum, serious or repeated deliberate violations can be liable to imprisonment of up to six years (Art. 25). Fines for first offences shall not exceed ISK 4,000,000,-, depending upon the nature and scope of the violation. Repeated offences shall be fined by a minimum of ISK 400,000 and a maximum of ISK 8,000,000,- (Art. 25). Withdrawal of fishing permit can be applied in a number of situations. As an example (cf. the Act concerning the Treatment of Commercial Marine Stocks, Art. 14), if information of the Directorate of Fisheries suggests that a vessel has caught in excess of its catch quotas for any species, the Directorate must notify this to the vessel operator and master of the vessel concerned, stating in addition that the vessel's commercial fishing permit is suspended on the fourth working day thereafter unless sufficient catch quotas have been transferred to the vessel within that time. If the recipient of the notification is of the opinion that the information of the Directorate of Fisheries concerning the vessel's catch is incorrect and that the vessel has not caught in excess of its catch quotas, he/she must convey such objections to the Directorate of Fisheries within three days. If a permit is suspended for the second time during the same fishing year due to catch exceeding catch quotas, the Directorate of Fisheries shall suspend a vessel's commercial fishing permit for two weeks in addition to the time resulting from the suspension provided for in the first paragraph, for six weeks if it occurs for the third time and for twelve weeks if it occurs more often. As another example (Fisheries Management Act, Art. 17), the Directorate of Fisheries shall suspend the commercial fishing permits of vessels failing to submit catch logbooks; such suspensions shall remain in force until submissions are received or explanations provided for the reasons for failure to submit. In the first instance of a violation which is liable to suspension of fishing permit, the suspension shall apply for at least one week and no longer than 12 weeks, depending upon the nature and scope of the violation. In the case of repeated violations, a suspension shall apply for at least four weeks and not longer than one year (Act concerning the Treatment of Commercial Marine Stocks, Art. 15). If a vessel's commercial fishing permit has repeatedly been suspended, as provided for in Articles 14 and 15 of this Act, the Directorate of Fisheries may decide that a fishing inspector shall be stationed aboard the vessel at the expense of the vessel operator for a specific period of up to two months. The vessel operation must then pay all cost arising from the presence of the fishing inspector aboard, including salary cost (Art. 16). If there is suspicion of more serious infringements, the case may be transferred to the Ministry (Art. 18) or to a court (Art. 20). All decisions on the suspension of harvest rights are to be made publicly available (Art. 21).

Review of the management system

The working of the JNRFC has been subject to several comprehensive evaluations over the last decade or so. After its session in 2004, it commissioned an anniversary edition from an independent researcher to be published at its 30 years anniversary in 2006. Furthermore, the Russian Auditor General invited his Norwegian counterpart to conduct a parallel audit of the Barents Sea fisheries in 2005. After this work was finished in 2007, the two parties continued to monitor developments and published a follow-up report in 2011. The fishery-specific management system is also subject to various forms of review by ICES. For instance, ICES has reviewed the harvest control rules for cod and haddock. There is a comprehensive system of routine monitoring of information relevant for management decision making and stock assessment purposes, although not of the management system as such.

In Norway, management authorities receive feedback on management practices from the industry and other interested stakeholders, including NGOs, at the Regulatory Meetings that take place twice a year (see PI 3.1.2 above). The enforcement component of the management system is subject to continuous evaluation at meetings between the various bodies involved in enforcement activities, where priorities are hammered out on the basis of risk-based monitoring of past experience. The international side to the Norwegian fisheries management system is reviewed by the Parliament upon submission by the Government (through the Ministry of Trade, Industry and Fisheries) of annual reports on the agreements concluded with other states for the coming year, and the previous year's fishing in accordance with such agreements. The Office of the Auditor General conducts annual reviews of the financial performance of the fishery management system.

In Russia, there are various mechanisms in place to evaluate key parts of the fishery-specific management system, but at varied levels of ambition and coverage. At the fishery council meetings, found at federal, basin and regional levels, management authorities receive feedback on management practices from the industry and other interested stakeholders, including NGOs. The FFA and the Ministry of Agriculture report annually to the Government and the Presidential Administration about their work, with emphasis on achievements in the fishing industry. Other federal agencies also review parts of the fisheries management system. For instance, the Auditor General evaluates how allocated funds are spent, and the Anti-Monopoly Service how competition and investment rules are observed. Within FFA, there is regular review of the performance of the Agency's regional offices. In the establishment of TACs, the scientific advice from PINRO is peer reviewed by the federal fisheries research institute, VNIRO, and then forwarded to FFA and the federal natural resources monitoring agency Rosprirodnadzor for comments. It is also presented to the general public for discussion at public hearings, announced in the local press.

In the Faroe Islands, the main management bodies, such as the Ministry of Fisheries, the Fishery Inspection Service and the Marine Research Institute, review their achievements the preceding year when they produce plans and targets for the coming year. Especially for the Inspection Service, running self-review is implicit in the continuous risk analysis that takes place in deciding where to put enforcement efforts at any given time. The Parliament also conducts its own reviews of how the fisheries management system works on a year-to-year basis. Regulations are evaluated by the Fisheries Advisory Board every time a new regulatory measure is introduced. The Auditor General reviews the effectiveness of management bodies in financial terms. The Fisheries Inspection Service is certified according to the ISO 9001 quality management system standard.

In Iceland, there is a constant process of internal review and consultation, including of scientific advice within the Ministry of Industries and Innovation and the Fisheries Directorate, and there is a patchwork review of technical regulations and enforcement measures. Regulatory measures taken by the Ministry and Directorate are continuously reviewed by the Icelandic Parliament, in committee hearings but more often at ad hoc meetings, which reflects that Iceland is a small and fishery-dependent country, with short lines of communication. The National Audit Office (Ríkisendurskoðun) is an independent body operating under the auspices of the Parliament, as part of the legislature's monitoring of the executive branch. In addition to traditional financial audits, the office conducts so-called performance reviews, aimed at evaluating the effectiveness of the executive's implementation of parliamentary decisions, including within fisheries management.

7.4.2 Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: - Is capable of delivering sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework		
Scoring Issue		SG 60	SG 80	SG 100
a	Compatibility of laws or standards with effective management			
	Guide post	There is an effective national legal system **and a framework for cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and **organised and effective cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and **binding procedures governing cooperation with other parties** which delivers management outcomes consistent with MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

The fishery is conducted by vessels under Faroese and Icelandic flags and takes place in the Norwegian and Russian EEZs in the Barents Sea and in the Protection Zone around Svalbard, where Norwegian fishery regulations apply and the Norwegian Coast Guard conducts monitoring, control and surveillance (MCS). TACs and technical regulations for the cod and haddock stocks are determined by the Joint Norwegian–Russian Fisheries Commission (JNRFC), while saithe is managed by Norway exclusively. Quota shares are given to the Faroe Islands and Iceland through bilateral agreements with Norway and Russia. The catch is landed in the Faroe Islands and Norway. Hence, from a law of the sea perspective the Faroe Islands and Iceland are flag states and port states in the fishery, while Norway and Russia are coastal states. The international component of the management system is assessed throughout P3, as is national management system of the two flag states. The national systems of the two coastal states are assessed for those components that directly affect the management of the UoA. This is the case for the overall management structure, objectives, decision-making processes, MCS and management review, but less so for consultation mechanisms at national level.

Barents Sea cod and haddock are shared stocks between Norway and Russia. Norway and the Soviet Union agreed in 1975 to set up a Joint Norwegian–Soviet (later: –Russian) Fisheries Commission (JNRFC) and to treat cod and haddock as joint stocks to be split 50/50 between them. Capelin, Greenland halibut and red fish have later been added to the list, with varying distribution keys, all in Norway's favour. The Commission sets TAC for the joint stocks and coordinates research, regulatory and enforcement cooperation between the parties. Within the context of the Commission, the parties also exchange quota shares of joint and exclusive stocks. Saithe is a Norwegian exclusive stock, but a quota is given to Russia in quota exchange between the two countries.

Norway and Russia set their own fishing rules in their respective maritime zones, and since the mid-1990s the two countries have worked actively to harmonise regulations between them. Both countries have well-established systems for fisheries management, evolved over more than a century and now codified in the Norwegian 2008 Marine Resources Act and the 2004 Russian Federal Fisheries Act, respectively, and supplementary legislation. The most important practical fishing rules are found in the Norwegian Regulation on the Execution of Marine Fisheries, which is updated annually, and the Russian Rules for Fishing in the Northern Fishery Basin of the Russian Federation, which were adopted in 2014 and last revised in 2021. These regulatory documents in both countries set rules on closed areas, fishing gear, by-catch and minimal allowable size of different species, among other things.

In Norway, the executive body at governmental level is the Ministry of Trade, Industry and Fisheries, while the practical regulation of fisheries is delegated to the Directorate of Fisheries. Enforcement at sea is taken care of by the Coast

Guard, which is part of the Royal Norwegian Navy, but performs tasks on behalf of several ministries, including the Ministry of Trade, Industry and Fisheries. Scientific research is conducted by the Institute of Marine Research. Fisheries management authorities coordinate their regulatory work with that of other bodies of governance, for instance the Ministry of Climate and Environment and the Norwegian Environmental Agency, which are responsible for the implementation of the integrated management plans for different marine areas under Norwegian jurisdiction.

In Russia, fisheries policy falls under the purview of the Ministry of Agriculture (Minselkhoz). The implementing body for fisheries management under the Ministry is the Federal Fisheries Agency (FFA – in Russian: Rosrybolovstvo), which is the successor of the former State Committee for Fisheries (abolished in 2004), and in turn the Soviet Ministry of Fisheries. The Federal Security Service (FSB) is responsible for enforcement at sea. The FFA has 18 territorial administrations (in Russian: *upravlenia*), most of which cover several federal subjects. The territorial administrations are responsible for licensing, monitoring of quota uptake, and the administration of closed areas, amongst other things. The UoA fishery is subject to the control of the Severomorsk Territorial Administration. Within the Russian Government, the Ministry of Agriculture interacts with other federal ministries, e.g. with the Ministry of Natural Resources and Environment (Minprirody) through its implementing Agency for Monitoring of Natural Resources (Rosprirodnadzor), which carries out environmental impact assessments of fisheries regulations. In Murmansk Oblast (country), the Ministry of Fisheries and Agriculture (at the Governor's office, the executive branch of government at regional level in Russia) is responsible for inland fisheries, recreational fisheries and the distribution of the indigenous peoples' quota (see SI 3.1.1c below).

The Faroe Islands is part of the Kingdom of Denmark, but has had home rule since 1948, including full autonomy in all matters related to fisheries management. It has a well-established system for fisheries management in place, codified in the 2020 Marine Resources Act and a plethora of supporting legislation. Under the Government of the Faroe Islands (Landsstýri), the Ministry of Fisheries (Fiskimálaráðið) has the power to issue executive orders to regulate the fisheries, while scientific advice is produced by the Faroe Marine Research Institute (Havstovan) and enforcement taken care of by the national Fisheries Inspection Service (Vørn – Fiskiveiðieftirlitið), both subordinate to the Ministry. The authority to decide the number of fishing days each season rests with the Faroese Parliament (Løgtingið – in Danish: Lagting), which, of course, also is the state organ authorized to issue formal law.

In Iceland, the system for fisheries management is codified in the 1990 Act on Fisheries Management, amended in 2006 (Fisheries Management Act). The Act details procedures for the determination of TAC and allocation of harvest rights, including permits and catch quotas. It also lays out the system for individual transferable quotas in some detail, as well as procedures for monitoring, control and surveillance and the application of sanctions. The Ministry of Industries and Innovation (Atvinnuvega- og nýsköpunarráðuneytið) – which has two ministers: one for Tourism, Industry and Innovation and one for Fisheries and Agriculture – is the policy-making body in Icelandic fisheries management and sets annual TAC based on scientific recommendations from the Marine Research Institute (Hafrannsóknastofnun). The Minister of Fisheries and Agriculture, in turn, is responsible for two departments: one for fisheries and aquaculture and one for food and agriculture. The Directorate of Fisheries (Fiskistofa) is the implementing body within the management system, formally subordinate to the Ministry of Industries and Innovation as an agency. It issues fishing licenses, allocates annual vessel quotas and oversees the daily operation of the individual transferable quota system. The Directorate is also responsible for monitoring, control and surveillance, in cooperation with the Coast Guard (Landhelgisgæsla Íslands), which is a civilian law enforcement agency under the Ministry of the Interior.

Hence, there is an effective national legal system in place in all flag, coastal and port states in the fishery, and a framework for cooperation between the parties to deliver management outcomes consistent with MSC Principles 1 and 2. **SG 60 is met.**

The cooperation between Norway and the Russia in the Barents Sea, as well as between the two coastal states and the two flag/port states, is organised and effective. **SG 80 is met.**

The cooperation also contains binding procedures insofar as it is based on national law and binding international agreements. **SG 100 is met.**

	Resolution of disputes			
b	Guide post	The management system incorporates or is subject by law to a **mechanism** for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes which is **considered to be effective** in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes that is appropriate to the context of the fishery and has been **tested and proven to be effective**.

	Met?	**Yes**	**Yes**	**Yes**
Rationale				

At national level in Norway, Russia, the Faroe Islands and Iceland, there are effective, transparent dispute resolution mechanisms in place, as fishers can take their case to court if they do not accept the rationale behind an infringement accusation by enforcement authorities or the fees levied against them. Verdicts at the lower court levels can be appealed to higher levels. In both countries, however, most disputes are solved within the national systems for fisheries management, not requiring judicial treatment. There are well-established systems of consultation with user groups in all states (see SI 3.1.2b below), transparent for actors within the fishing industry.

At the international level, the JNRFC has a fine-meshed system of consultations between Norway and Russia at different levels of its administrative structure. The Permanent Committee, established in 1993, is of particular importance in clearing out differences that arise between the parties at the level of the Commission itself. The Permanent Committee also has several working groups where delegates from the two countries are set to find compromise when agreement cannot be reached in the Commission or the Permanent Committee. This has proven to be a very effective mechanism for resolving disputes between the two countries, where both parties take a pragmatic approach and intend to find compromise even if that takes several years in some instances. The system is transparent in that protocols from sessions in the JNRFC and minutes from meetings in the Permanent Committee and the working groups are publicly available on the Commission's website. Disputes between the coastal states on the one hand and the flag/port states on the other, can be solved under the bilateral agreements between each of the parties.

At a wider international level, a state can institute proceedings against another state through mechanisms such as the International Court of Justice (ICJ) and the International Tribunal for the Law of the Sea (ITLOS) or bring a dispute to international arbitration. At the regional level, the North-East Atlantic Fisheries Commission (NEAFC) in 2004 adopted a recommendation for compulsory dispute settlement. It has not been necessary in the fishery under assessment to resort to these mechanisms as all disputes have been resolved in the Permanent Committee and its working groups.

Hence, the management system incorporates or is subject by law (national legislation in the flag, coastal and port states as well as binding treaty between the parties) to a mechanism for the resolution of legal disputes. **SG 60 is met.**

These mechanisms are transparent and considered to be effective in dealing with most issues and is appropriate to the context of the UoA. **SG 80 is met.**

It has been tested and proven to be effective since disputes at national level as well as between the states involved in the management of the fishery have indeed been resolved within the regime. **SG 100 is met.**

	Respect for rights			
c	Guide post	The management system has a mechanism to **generally respect** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **observe** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **formally commit** to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

In Norway, the fisheries management system includes various mechanisms that generally respect and observe the rights of the coastal population along the country's northern, western and southern coastline. For the most important species, significantly and proportionately larger quota shares area allotted to coastal fisheries than to the ocean going fleet, with particular attention to the traditional fisheries of the indigenous Sami population in the northernmost part of the country. The Sami Parliament, which is a consultative body for the Sami population on Norwegian territory, is consulted on all management measures, including the distribution of quotas of stocks that are of particular historic importance to the Sami. The Government has formally committed to this through the 2005 Royal Decree on Consultations with the Sami Parliament.

In Russia, the rights of fishery-dependent communities are explicitly stated in the Federal Fisheries Act. The Act states that 'the small indigenous peoples of the North, Siberia and the Far East' (ethnic groups with a 'traditional' lifestyle consisting of less than 50,000 people) shall be given access to fish resources in order to secure their livelihood. It gives 'fisheries to protect the traditional lifestyle of small indigenous peoples of the North Siberia and the Far East' extended rights compared to the other types of fisheries listed in the Act (e.g., 'industrial fisheries', 'coastal fisheries' and 'fisheries for scientific and enforcement purposes'). In the Northern basin, a fixed quota of cod and haddock (300 and 75 tonnes, respectively) is given to the Saami, based on their traditional fishing rights in the region.

In the Faroe Islands, one of the objectives of the Marine Resources Act is to ensure economic sustainability and secure optimal socio-economic benefits from fisheries. The Faroe Islands is highly dependent on fisheries, and the rights of traditional users are reflected in the current distribution of quota shares, which is based on historical fishing. Fishing vessels under Faroese flag must be at least two-thirds Faroese owned and subject to taxation in the Faroe Islands.

In Iceland, one of the main objectives is to ensure stable employment and settlement throughout Iceland. According to the Fisheries Management Act, the Minister of Fisheries each fishing year shall have available harvest rights amounting to up to 12,000 tonnes which he or she may use to offset major economic or social disturbances that may occur in times of sizeable fluctuations in catch quotas, or for regional support to smaller communities that have experienced significant reduction in employment as a result of unexpected cutbacks in quotas. Such additional quotas can be allocated for up to three years at a time. The Act further grants all citizens the right to fish in Icelandic waters provided the catch is for their own consumption. Overall, distribution of harvest rights is considered to be consistent with the social and cultural context of Icelandic fisheries.

Hence, the management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2. **SG 60 is met**.

The system has a mechanism to observe such rights, so **SG 80 is also met.**

Since it is founded in law, the mechanism formally commits to these rights, and **SG 100 is met.**

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		**The management system has effective consultation processes that are open to interested and affected parties** **The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties**		
Scoring Issue		SG 60	SG 80	SG 100
a	Roles and responsibilities			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **generally understood**.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for key areas** of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for all areas** of responsibility and interaction.
	Met?	**Yes**	**Yes**	**No**
Rationale				

As laid out under SI 3.1.1a above, governance functions are split between the Ministry of Trade, Industry and Fisheries, the Directorate of Fisheries, the Institute of Marine Research and the Coast Guard in Norway; the Ministry of Agriculture, the Federal Fisheries Agency and its regional offices, VNIRO and its regional departments and the Federal Security Service (FSB) in Russia; the Ministry of Fisheries, the Marine Research Institute and the Fisheries Inspection Service in the Faroe Islands; and the Ministry of Industries and Innovation, the Directorate of Fisheries, the Marine Research Institute and the Coast Guard in Iceland. Different user groups are well integrated in the management process and generally understand the functions, roles and responsibilities of the various actors involved in the management process; see SI 3.1.2b below. **SG 60 is met.**

These functions, roles and responsibilities are explicitly defined in the respective fisheries acts and supporting legislation and well understood for key areas of responsibility and interaction. **SG 80 is met.**

At ACDR stage, it cannot be concluded that these are well understood for *all* areas. **SG 100 is not met.**

b	Consultation processes			
	Guide post	The management system includes consultation processes that **obtain relevant information** from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information and **explains how it is used or not used**.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The Faroe Islands has a long tradition of continuous consultation and close cooperation between government agencies and user-group organisations, now codified in the Marine Resources Act and supplementary legislation. Consultations take place both through a number of formal standing advisory committees, including one overarching Advisory Board, and in focused consultative meetings on specific issues. Fishermen can be represented at an individual, company of production organisation (PO) level, or through the Faroese Fishermen's Association. There is also a written hearing process before regulations are revised or new regulations introduced, a procedure required by law. The Marine Research Institute interacts with both management authorities and stakeholders. They are consulted by the Ministry of

Fisheries on a regular basis, and they also seek advice from the fishing industry in connection with their quota recommendations, traveling around the country to explain the rationale for their recommendations. There are no NGOs in the Faroe Islands that engage in fisheries specifically.

Likewise, Iceland also has a long tradition of consultation and cooperation between government agencies and user-group organisations. Lines of communication are short in Iceland and much consultation takes place informally, in direct and often spontaneous contact between representatives of user groups and authorities. At a more formal level, all major interest organizations in the fishing industry are regularly invited to sit on committees established to review changes in legislation and management, and they meet for regular consultations with the Ministry, the Directorate and the Parliament's (Alþingi) Permanent Committee for Fisheries and Agriculture. These include, but are not restricted to, Fisheries Iceland (Samtök fyrirtækja í sjávarútvegi – SFS), which was established in 2014 as the result of a merger between two of the most influential user-groups in Icelandic fisheries: the Federation of Icelandic Fishing Vessel Owners and the Federation of Icelandic Fish Processing Plants. Other stakeholders include the National Association of Small Boat Owners and the Icelandic Seamen's Federation. Local authorities also engage actively in fisheries issues and have easy access to the management system. All new legislation and major management initiatives are subject to public hearing, with drafts available online. The public consultations portal Samráðsgátt ensures transparency and opportunities for the public and stakeholders to participate in policy formulation, establishing regulatory frameworks and the decision making of the authorities. The portal contains planned legislation, drafts of legislative bills and regulations, documents on policy formulation and more. In addition to open consultation on the Internet, there may be other forms of consultation processes, such as the participation of principal stakeholders in committee work or special invitations for their opinion.

There are no environmental NGOs in Iceland that target fisheries specifically at the moment. Major international NGOs that usually engage actively in discussions about fisheries management, such as Greenpeace and WWF, do not have offices in Iceland. Local NGOs tend to prioritize nature protection on land. One exception is BirdLife Iceland (Fuglavernd), which is, among other things, concerned with bird interaction in gillnet fisheries. Also, more generally oriented NGOs such as Icelandic Environmental Association (Landvernd) and Iceland Nature Conservation Association (Náttúruverndarsamtök Íslands) are engaged in marine issues more widely, such as marine protected areas and integrated and integrated ocean management.

Consultation processes cover policies and regulatory issues and include discussions of the annual scientific recommendations by the Marine Research Institute. Shortly after presenting the recommendations to the Ministry, representatives of the Institute enter into dialogue with the fishing industry regarding the status of the stocks and the nature of the recommendations. The Ministry also consults with the industry before setting the final TACs.

Hence, the management system includes consultation processes that regularly seek and accept relevant information, including local knowledge, and demonstrates consideration of the information obtained. **SG 60 and SG 80 are met.**

Before the site visit, it cannot be concluded that the authorities explain how this information is used or not used. **SG 100 is not met.**

	Participation			
c	Guide post		The consultation process **provides opportunity** for all interested and affected parties to be involved.	The consultation process provides **opportunity and encouragement** for all interested and affected parties to be involved, and **facilitates** their effective engagement.
	Met?		**Yes**	**No**
Rationale				

As follows from SI 3.1.2b above, the consultation processes provide opportunity for all interested and affected parties to be involved. Meetings are publicly announced, and the various hearing opportunities available online also facilitate public involvement. **SG 80 is met.**

It has not been adequately documented that authorities not only provide opportunity, but actively encourage all parties to be involved and facilitate their effective engagement. **SG 100 is not met.**

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach, are **implicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach are **explicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are **explicit** within **and required by** management policy.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

The precautionary approach has been in practical use by the JNRFC since the late 1990s, when ICES' precautionary reference points were adopted for the Barents Sea stocks. The harvest control rule established by the JNRFC in 2002 is explicitly founded on the precautionary approach. Likewise, the 2010 agreement between Norway and Russia on marine delimitation and cooperation in the Barents Sea explicitly states that fisheries management in the area shall be based on the precautionary approach.

The 2008 Marine Resources Act requires that Norwegian fisheries management be guided by the precautionary approach, in line with international treaties and guidelines, and by an ecosystem approach that takes into account habitats and biodiversity. The same objectives are found in the most relevant policy documents, such as the integrated management plan for the Barents and Norwegian Seas.

Russian fisheries law defines protection and rational use of aquatic biological resources as the main goal of the country's fisheries management. 'Protection and rational use' was an established concept in Soviet legislation on the protection of the environment and exploitation of natural resources, and has remained so in the Russian Federation. 'Rational use' bears resemblance to the internationally recognised ideal of sustainability, insofar as the emphasis is on long-term and sustained use of the resource, supported by science for socio-economic purposes. The Federal Fisheries Act states that the protection of aquatic biological resources shall be given priority to their rational use. The precautionary approach is not mentioned explicitly, but the requirement to protect aquatic biological resources and take the best scientific knowledge into account equals the requirements of the precautionary approach, as laid out in the FAO Code of Conduct and its technical guidelines.

The objectives of Faroese and Icelandic fisheries management, as stated in their respective fisheries acts, are to ensure conservation and efficient utilisation of marine living resources. Just like for Russia, the precautionary approach is not mentioned explicitly in either act, but the requirement to protect marine resources and take the best scientific knowledge into account, among other things, equals the requirements of the precautionary approach, as laid out in the FAO Code of Conduct and its technical guidelines.

Hence, clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within management policy. **SG 60 and SG 80 are met.**

These objectives are required by binding legislation in all states involved in the management of the fishery as well as in binding international agreement between the states. **SG 100 is met.**

References

Act on Fisheries Management No. 38/1999, amended as Act No. 116/2006 (Iceland)

Act on Management of Marine Resources (Marine Resources Act) (Faroe Islands), 1 January 2020

Act on Management of Wild Marine Resources (Marine Resources Act) (Norway), LOV-2008-06-06-37, 2008

Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement), New York, 4 August 1995

Code of Conduct for Responsible Fisheries, FAO, Rome, 31 October 1995

Federal Act on Fisheries and Protection of Aquatic Biological Resources (Federal Fisheries Act), N 166-ФЗ, Federal Assembly of the Russian Federation, 2004 (last revised 2014)

Precautionary Approach to Capture Fisheries and Species Introductions, FAO Technical Guidelines for Responsible Fisheries, No. 2, FAO, Rome, 1996

Protocols from the annual sessions of the JNRFC, available in Norwegian and Russian on the Commission's website (www.jointfish.org)

Treaty between the Kingdom and Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean, 2010. Available in English translation at the website of the Norwegian Ministry of Foreign Affairs (https://www.regjeringen.no/globalassets/upload/ud/vedlegg/folkerett/avtale_engelsk.pdf)

Update of the [Integrated] Management Plan for the Marine Environment in the Barents Sea and the Marine Area outside Lofoten, Meld. St. 10 (2010–2011), Ministry of Climate and Environment, Norway, 2011

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	**Objectives**, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **implicit** within the fishery-specific management system.	**Short and long-term objectives**, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.	**Well defined and measurable short and long-term objectives**, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.
	Met?	**Yes**	**Yes**	**Partial**

Rationale

Short- and long-term objectives are explicit in the annual protocols and research programmes of the JNRFC, as well as national legislation in Norway and Russia; see SI 3.1.1a above. The Commission uses precautionary reference points established by ICES as the basis for establishment of TACs. In the basic principles of the Commission, defined in 2002, it is stated that the Commission will follow the provisions for a responsible fishery as expressed in the FAO Code of Conduct for Responsible Fisheries. As main management objectives are defined: i) to attain high sustainable catches from exploited stocks in the ecosystems of the Barents and Norwegian seas without decreasing their productivity; ii) to keep exploited stocks within safe biological limits while maintaining the biodiversity and productivity of marine ecosystems; and iii) to ensure sustainable development of the fisheries industry while exploiting the stocks within safe biological limits. Among the 'management obligations' listed is the requirement to apply the precautionary approach and base the Commission's work on the best scientific data available.

Objectives which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2 are in place in the fishery-specific management system, e.g. in the basic principles of the JNRFC and national legislation in Norway and Russia. **SG 60 is met.**

This includes objectives to maintain fish stocks at sustainable levels (here: both target stocks and other retained species) and protect other parts of the ecosystem, such as habitats. These objectives are short- and long-term and measurable, in the sense that performance against them can be measured through the enforcement bodies' recording and inspection routines (see PI 3.2.3). **SG 80 is met.**

P1 objectives are well defined, but P2 objectives are less so, warranting **a partial score at SG 100**.

References

Act on Management of Wild Marine Resources (Marine Resources Act) (Norway), LOV-2008-06-06-37, 2008

Agreement between Norway and the Soviet Union on Mutual Fisheries Relations, signed in Moscow 15 October 1976. Available in *Overenskomster med fremmede stater* ('Agreements with Foreign States'), Ministry of Foreign Affairs, Norway, 1977, p. 974

Agreement between Norway and the Soviet Union on Cooperation within the Fishing Industry, signed in Moscow 11 April 1975. Available in *Overenskomster med fremmede stater* ('Agreements with Foreign States'), Ministry of Foreign Affairs, Norway, 1975, p. 546

Federal Act on Fisheries and Protection of Aquatic Biological Resources (Federal Fisheries Act), N 166-ФЗ, Federal Assembly of the Russian Federation, 2004 (last revised 2014)

Fishing rules for the Northern Basin, Ministry of Agriculture of the Russian Federation, 13th May 2021, No. 292 (effective from 1st September 2021)

Regulation on Participation in Fisheries, J-3-2021 Directorate of Fisheries, Norway, 6 January 2021
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Regulation on the Execution of Marine Fisheries, J-31-2021, Directorate of Fisheries, Norway, 2 February 2021

Treaty between the Kingdom and Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean, 2010. Available in English translation at the website of the Norwegian Ministry of Foreign Affairs (https://www.regjeringen.no/globalassets/upload/ud/vedlegg/folkerett/avtale_engelsk.pdf)

Update of the [Integrated] Management Plan for the Marine Environment in the Barents Sea and the Marine Area outside Lofoten, Meld. St. 10 (2010–2011), Ministry of Climate and Environment, Norway, 2011

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring Issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guide post	There are **some** decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are **established** decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	**Yes**	**Yes**	
Rationale				

There are decision-making processes in the JNRFC and its Permanent Committee and working groups that result in measures and strategies to achieve the fishery-specific objectives. Any potential problem is first raised in direct contact between Norwegian and Russian fishery authorities, then possibly referred to further discussion in the Joint Commission, which meets 1-2 a year, or in its Permanent Committee, which meets 3-4 times annually, or working groups. There are numerous examples of this to be found in the protocols from sessions in the JNRFC; one is how the brief periods of documented overfishing took place in the early 1990s and the mid-2000s. Decisions by the JNRFC are subsequently implemented in federal and regional fishery regulations in Russia as well as Norwegian national legislation.

Likewise, there are decision-making procedures in place at national level in Norway, Russia, the Faroe Islands and Iceland (see PIs 3.1.1 and 3.1.2 above) which ensure the establishment of TACs on the basis of scientific advice, technical regulation of the fisheries (such as gear regulations) and closure of areas; cf. P1 and P2 above.

Hence, there are decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives. This applies to the UoA fishery as it does to the other Barents Sea fisheries; see PIs 3.1.1 and 3.1.2 above. **SG 60 is met.**

These processes are well-established, evolved over several decades and now codified in the 2004 Federal Fisheries Act and secondary legislation. **SG 80 is met.**

b	Responsiveness of decision-making processes			
	Guide post	Decision-making processes respond to **serious issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to **serious and other important issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to **all issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The well-established decision-making procedures at national level in the states involved in the management of the fishery respond to issues identified in research, monitoring, evaluation or by groups with an interest in the fishery through the arenas for regular consultations between governmental agencies and the public; see PI 3.1.2 above, as well as between management and science. Reports from meetings between stakeholders and authorities show that serious and other important issues are responded to in a transparent, timely and adaptive manner, including questions related to the scientific base, quotas and technical regulations.

The JNRFC is governed by the harvest control rule, which in its formulation and assessment takes into account a range of ecosystem considerations of the mixed nature of the fishery. Furthermore, relevant ICES working group reports include consideration of by-catch, endangered species and effects of fishing gear on habitats, and these are taken into account in decision making. **SG 60 is met.**

Not only serious issues are responded to. The protocols from the sessions in the JNRFC are extensive, several hundred pages with attachments like minutes from meetings in the Commission's Permanent Committee, sub-committees and working groups, documenting response to a wide arrays of management areas, spanning from science to regulation and enforcement. **SG 80 is also met.**

However, it follows from the protocols of the JNRFC that P2 issues are not given the same degree of attention as P1 issues within the Commission. **SG 100 is not met.**

	Use of precautionary approach			
c	Guide post		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		**Yes**	
Rationale				

The JNRFC formally states that it uses the precautionary approach (see reference in PIs 3.1.3 and 3.2.1 to the 2002 basic principles of the Commission and the 2010 agreement between Norway and Russia on maritime delimitation and cooperation in the Barents Sea) and bases its management on best available scientific information. ICES have evaluated both the cod and haddock harvest control rules as precautionary.

Decision-making processes at the national level in the coastal states Norway and Russia are based on scientific recommendations from the Institute of Marine Research and PINRO. National fisheries acts require fisheries management to be based on the precautionary approach (see PI 3.1.3 above). **SG 80 is met.**

	Accountability and transparency of management system and decision-making process			
d	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	**Information on the fishery's performance and management action is available on request**, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders **provides comprehensive information on the fishery's performance and management actions** and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The protocols from meetings in the JNRFC are published on the websites of national fisheries management authorities, in Norwegian and Russian, along with press releases further substantiating the decisions. The Commission also has a website itself (**Error! Hyperlink reference not valid.**), where all protocols are downloadable. At the national level in Russia, information is available on the fishery's performance and management action on the websites of the Russian Federal Fisheries Agency and its regional office in the Northern basin, Severomorsk Territorial Administration. Similarly, in Norway such information is available at the website of the Directorate of Fisheries. Some information on the fishery's performance and management action is generally available, so **SG 60 is met.**

In the sources of information listed above, explanations are provided for actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. Not only serious issues are responded to. This meets the requirement of making explanations for action available to the public, so **SG 80 is met.**

In order to achieve a 100 score on this SI, the information must be provided through 'formal reporting', and it must be 'comprehensive'. In the opinion of the assessment team, availability on the respective management authorities' websites counts as formal reporting appropriate to the context of the fishery, as much as written letters to stakeholders would have done. However, information on inspections and infringements is only sporadically available, so the information cannot be characterised as comprehensive. **SG 100 is not met.**

	Approach to disputes			
e	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

Disputes between Norway and Russia are solved in the JNRFC, or in its Permanent Committee or working groups (see SI 3.1.1b above) and disputes between the flag/port and coastal states in the bilateral negotiations between the states. The national systems for fisheries management in all states involved in the management of the fishery are not subject to continuing court challenges or indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery. **SG 60 is met.**

When occasionally taken to court by fishing companies, management authorities comply with the judicial decision in a timely manner, in accordance with the formal procedures laid down in the fisheries acts and general legislation on the distribution of power in the respective country **SG 80 is met.**

The management authorities work proactively to avoid legal disputes. This is done partly through the tight cooperation with user groups at the regulatory level (see PI 3.1.2 above), ensuring as high legitimacy as possible for regulations and other management decisions. Regulatory and enforcement authorities offer advice to the fleet on how to avoid infringements, keeping them updated on changes in regulations in both Russian and Norwegian waters. They also have the authority to issue administrative penalties for minor infringements (serious enough to be met by a reaction above a written warning), thus referring only the more serious cases to prosecution by the police and possible transfer to the court system. Since the management system acts proactively to avoid legal disputes and rapidly implements judicial decisions, **SG 100 is met.**

References

Act on Management of Wild Marine Resources (Marine Resources Act) (Norway), LOV-2008-06-06-37, 2008

Agreement between Norway and the Soviet Union on Mutual Fisheries Relations, signed in Moscow 15 October 1976. Available in *Overenskomster med fremmede stater* ('Agreements with Foreign States'), Ministry of Foreign Affairs, Norway, 1977, p. 974

Agreement between Norway and the Soviet Union on Cooperation within the Fishing Industry, signed in Moscow 11 April 1975. Available in *Overenskomster med fremmede stater* ('Agreements with Foreign States'), Ministry of Foreign Affairs, Norway, 1975, p. 546

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Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	MCS implementation			
	Guide post	Monitoring, control and surveillance **mechanisms** exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance **system** has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A **comprehensive** monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The UoA fishery takes place in waters under Norwegian and Russian jurisdiction, and the catch is landed in the Faroe Islands and Iceland. The monitoring, control and surveillance (MCS) systems of all four states must be assessed under the current PI.

In Norway, the Coast Guard operates 15 vessels, of which five patrol the coastal area and the rest the wider EEZ – four of the latter have a helicopter on board. These Coast Guard vessels are the largest in the entire Royal Norwegian Navy. They perform spot checks at sea (in the EEZ and the Protection Zone around Svalbard), including from helicopters during fishing activities and inspections at check points that foreign vessels have to pass when entering or leaving the EEZ and in connection with transhipments in Norwegian waters, which have to be reported in advance. Coast Guard inspectors board fishing vessels and control the catch from last haul (e.g. catch composition and fish size) and fishing gear (e.g. mesh size) on deck and the volume of fish in the holds. All landings in Norway are registered by the Norwegian Fishermen's Sales Organisation and checked towards catch information sent electronically by all fishing vessels to the Norwegian Directorate of Fisheries after each haul, as well as before entering the Norwegian EEZ. The Norwegian Food Safety Authority checks all landings by foreign vessels in Norwegian ports, while the Directorate of Fisheries conducts physical inspections of at least 15 % of these landings Both landing and at-sea control is conducted using a risk-based framework aimed at utilising resources to optimise compliance at any given moment.

In Russia, the FFA (in the northern basin: Severomorsk Territorial Administration, as the Agency's regional branch) keeps track of how much fish each vessel and company (quotas are given to companies, not vessels in Russia) has fished at any moment, based on daily reports from each fishing vessels and accumulated reports each 15th day from all fishing companies, as well as VMS data. The Inspection Service of the Russian Border Guard, which is part of the Federal Security Service (FSB), conducts inspections at sea and in port. Fish caught in the Russian Exclusive Economic Zone (REZ) must be taken to Murmansk for customs clearance, but some of it is subsequently transshipped for export. The Border Guard conducts random inspections at sea during fishing, following the same procedures as the Norwegian Coast Guard, with inspection of documentation, fish from last haul, gear and catch in holds. It also conducts physical inspections of all transhipments at sea and at the control points that all foreign vessels – and Russian vessels having fished outside the REZ – have to go through when entering and leaving the REZ. Both Norwegian and Russian inspectors have the authority to close an area with too much juvenile or bycatch (real-time closure).

Enforcement bodies on both sides – the Coast Guard and the Directorate of Fisheries in Norway and the Severomorsk Territorial Administration of the FFA and the Border Guard in Russia – cooperate closely in the enforcement of fisheries regulations in the Barents Sea, including running exchange of inspection data and more analytical material related to compliance, as well as regular exchange of inspectors both at sea and in port. Inspection procedures have also been harmonised between the two countries. Both Norwegian and Russian enforcement authorities operate on a risk-based framework and give priority to discard of fish, e.g. using helicopters for impromptu inspection. Both work proactively with the fishing industry to avoid discard and regularly organise seminars and meetings with the industry on this topic.

Inspection information is shared with enforcement authorities in the flag/port states of the fishery: the Faroe Islands and Iceland. In the Faroe Islands, fishing vessels are required to keep a logbook and report catches to the Fisheries

Inspection Service on a daily basis. Electronical logbooks have been introduced for all vessels above 15 BT (in practice all vessels that do not deliver their catch every day), and VMS is obligatory. The Fisheries Inspection Service carries out 300-350 inspections per year in the Faroese Economic Zone. It has two inspection vessels at its disposal, and there is at any time a vessel from the Royal Danish Navy present in Faroese waters, which also enforces Faroese fisheries regulations. One of the Faroese inspection vessels has a helicopter on board, which enables inspectors to conduct impromptu inspections. The Ministry of Fisheries also has its own helicopter, which can be used for fishery inspections. At-sea inspections include control of the catch from the last haul, the fishing gear and fish in the holds. The inspectors have the possibility to close an area with too much juvenile or bycatch for a period of up to two weeks (real-time closure). All landings have to be reported 12 hours in advance in order to give the inspectors the possibility to check the landed catch. Both landing and at-sea control is conducted using a risk-based framework.

In Iceland, MCS is taken care of by the Directorate of Fisheries, in collaboration with the Coast Guard, the Marine Research Institute and coastal municipalities. The enforcement system is based on reports from the vessels, physical inspections at sea and weighing in harbour, as well as information exchange with other states' enforcement authorities. The structure and procedures of the enforcement system are codified in the Fisheries Management Act, while requirements to the weighing system are laid out in the Act concerning the Treatment of Commercial Marine Stocks and in the Regulation on Weighing and Recording of Catch. Electronic logbook and mandatory, and vessels report catches to the Directorate of Fisheries using Electronic Reporting Systems (ERS). VMS is obligatory for all vessels regardless of size, also inshore. Inspectors from the Directorate may accompany fishing vessels on trips or operate from Coast Guard vessels. The Coast Guard has three offshore patrol vessels, as well as a number of smaller boats, helicopters and a surveillance aircraft. At-sea inspections include control of the logbook, catch and gear. If a certain amount of the catch is found to be below size limit, the inspector can initiate a short-term close (usually two weeks) for the fishery of that particular species, vetted by the Marine Research Institute and confirmed by the Directorate of Fisheries. Inspections are conducted using a risk-based framework ('business intelligence software') aimed at utilizing resources to optimize compliance. Most importantly, 100 % of the landed fish is weighed by an authorised 'weighmaster', employed by the municipality and hence independent of both buyer and seller. Landing data are immediately added to the Directorate of Fisheries' catch database. The Directorate operates a dynamic and interactive website, where stakeholders at all times can monitor the precise quota status for each species and observe the performance of individual vessels, their catch from each fishing trip and vessel quota status. The fact that the vast majority of catch is exported provides a further control mechanism enabling a mass balance comparison of fish in (i.e. landing declarations) with fish out (i.e. production or export volumes). The Directorate publishes data on its website on individual vessels' catch composition on trips with and without inspectors on board. This gives an indication of discarding in the fishery and also provides deterrence in itself ('social shaming').

Thus, control and surveillance mechanisms exist and are implemented in the fishery, and there is a reasonable expectation that they are effective. **SG 60 is met.**

These measures qualify as a system and have demonstrated an ability to enforce relevant management measures, strategies and rules; see SI 3.2.3c below on compliance. **SG 80 is met.**

Hence, the system is comprehensive, and the Norwegian component has demonstrated a consistent ability to enforce regulations; see SI 3.2.3c below on compliance. Information on inspections and infringements is not publicly available from Russian enforcement authorities. Nor has the assessment team at ACDR stage had the opportunity to consult with Faroese or Icelandic MCS authorities about their perceptions about enforcement in the fishery. **SG 100 is not met.**

	Sanctions			
b	Guide post	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, **are consistently applied** and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and **demonstrably** provide effective deterrence.
	Met?	**Yes**	**Yes**	**No**
Rationale				

Sanctions to deal with non-compliance in Norwegian and Russian waters exist in both countries' systems for fisheries management, as well as in their wider legal systems. Both make wide use of administrative fines and refer serious cases to the judicial system. Similar provisions apply in the flag/port states the Faroe Islands and Iceland.

In Norway, statutory authority for the use of sanctions in the event of infringements of fisheries regulations is given in Chapters 11 and 12 of the Marine Resources Act. Intentional or negligent violations are punished with fines or prison

(not applicable to foreign citizens) up to one year, while infringements committed with gross intent or negligence may be punished with prison up to six years. In the judgement of the seriousness of the infringement, the economic gain of the violation, among other things, is to be taken into consideration. Alternatively, catch, gear, vessels or other properties can be confiscated. The Norwegian enforcement agencies use a graduated sanctioning system, with sanctions ranging from oral warnings, written warnings and administrative fines to formal prosecution. If the fishers do not accept the fines issued by the enforcement or prosecution authority, the case goes to court. The decision of a lower-level court can be appealed to higher-lever courts.

In Russia, the Federal Fisheries Act requires the withdrawal of quota rights in the following situations, inter alia: i) the company fails to take 50 % of its quota two years in a row; ii) the company has committed two serious violations of the fisheries regulations within one calendar year; iii) the company has failed to go to Russian port with catch taken in the REZ; iv) the vessel has switched off the VMS system for more than 48 hours within a calendar year without approval from the authorities. The Code of the Russian Federation on Administrative Infractions specifies sanctions and the level of fines that can be issued administratively by enforcement bodies. According to Art. 8.17(2), failure to comply with rules and requirements relating to fishing activities in the inland waters, in the territorial sea, on the continental shelf, in the EEZ and on the high sea, can be met by the following sanctions: For citizens (individuals): 50-100 % of the value of the illegally caught catch, with or without confiscation of vessel and fishing gear; for executive officers (e.g. skippers/captains): 100-150 % the value of the catch, with or without confiscation of vessel and fishing gear; and for legal entities (e.g. shipowner or operator of a vessel): 200-300 % of the catch, with or without confiscation of vessel and fishing gear. The Criminal Code requires that illegal fishing such as causing ‘large damage’, conducted in spawning areas or migration ways leading to such areas, or in MPAs, be penalised by either fines up to RUR 300,000 or an amount corresponding to 1-2 years’ income for the violator, compulsory work of no less than 480 hours, corrective work for at least two years or arrest for at least 6 months.

In the Faroes Islands, the enforcement system uses a graduated sanctioning system, with sanctions ranging from temporary withdrawal of license, confiscation of gear and fines to formal prosecution and possibly permanent withdrawal of license. If the fishers do not accept the fines issued by the enforcement or prosecution authority, they can take the case to court. The decision of a lower-level court can then be appealed to higher-level courts. For a first-time offence, a warning is given if the infringement is not of a very serious nature. If it is repeated, the license will normally be withdrawn and/or the fishing gear will be confiscated. The duration of the withdrawal depends on the seriousness of the infringement, but typically the license will be withdrawn for a two-week period. If the offence is repeated again, a fine will be introduced in addition to the withdrawal of the license or the case will be brought to court.

In Iceland, the sanctioning system is codified in the Fisheries Management Act and the Act concerning the Treatment of Commercial Marine Stocks. A system for graduated sanctions is applied. For a first-time offence, a warning (‘reprimand’) is given if the infringement is of a less serious nature (Fisheries Management Act, Art. 24). In the other end of the spectrum, serious or repeated deliberate violations can be liable to imprisonment of up to six years (Art. 25). Fines for first offences shall not exceed ISK 4,000,000,-, depending upon the nature and scope of the violation. Repeated offences shall be fined by a minimum of ISK 400,000 and a maximum of ISK 8,000,000,- (Art. 25). Withdrawal of fishing permit can be applied in a number of situations. As an example (cf. the Act concerning the Treatment of Commercial Marine Stocks, Art. 14), if information of the Directorate of Fisheries suggests that a vessel has caught in excess of its catch quotas for any species, the Directorate must notify this to the vessel operator and master of the vessel concerned, stating in addition that the vessel’s commercial fishing permit is suspended on the fourth working day thereafter unless sufficient catch quotas have been transferred to the vessel within that time. If the recipient of the notification is of the opinion that the information of the Directorate of Fisheries concerning the vessel’s catch is incorrect and that the vessel has not caught in excess of its catch quotas, he/she must convey such objections to the Directorate of Fisheries within three days. If a permit is suspended for the second time during the same fishing year due to catch exceeding catch quotas, the Directorate of Fisheries shall suspend a vessel’s commercial fishing permit for two weeks in addition to the time resulting from the suspension provided for in the first paragraph, for six weeks if it occurs for the third time and for twelve weeks if it occurs more often. As another example (Fisheries Management Act, Art. 17), the Directorate of Fisheries shall suspend the commercial fishing permits of vessels failing to submit catch logbooks; such suspensions shall remain in force until submissions are received or explanations provided for the reasons for failure to submit. In the first instance of a violation which is liable to suspension of fishing permit, the suspension shall apply for at least one week and no longer than 12 weeks, depending upon the nature and scope of the violation. In the case of repeated violations, a suspension shall apply for at least four weeks and not longer than one year (Act concerning the Treatment of Commercial Marine Stocks, Art. 15). If a vessel’s commercial fishing permit has repeatedly been suspended, as provided for in Articles 14 and 15 of this Act, the Directorate of Fisheries may decide that a fishing inspector shall be stationed aboard the vessel at the expense of the vessel operator for a specific period of up to two months. The vessel operation must then pay all cost arising from the presence of the fishing inspector aboard, including salary cost (Art. 16). If there is suspicion of more serious infringements, the case may be transferred to the Ministry (Art. 18) or to a court (Art. 20). All decisions on the suspension of harvest rights are to be made publicly available (Art. 21).

Hence, sanctions to deal with non-compliance exist and there is evidence that they are applied. **SG 60 is met.**

Sanctions are consistently applied and thought to provide effective deterrence; see SI 3.2.3c below on compliance. **SG 80 is met.**

As follows from SI 3.2.3a above and SI 3.2.3c below, sanctions demonstrably provide effective deterrence in waters under Norwegian jurisdiction, but there is no publicly available information which documents that that is the case in the Russian EEZ also. **Nor has the assessment team at ACDR stage had the possibility to consult with Faroese or Icelandic MCS authorities**. **SG 100 is not met.**

	Compliance			
c	Guide post	Fishers are **generally thought** to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	**Some evidence exists** to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a **high degree of confidence** that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	**Yes**	**Yes**	**No**

Rationale

The Norwegian Coast Guard carried out 1139 inspections in waters under Norwegian jurisdiction in 2019. 52 inspections (4.6 %) resulted in a fine or prosecution. In 2020, 1155 inspections were carried out, of which 49 (4.2 %) resulted in fine or prosecution.

Fishers are generally thought to comply with the requirements of the management system, including, when required, providing information of importance to the effective management of the fishery. **SG 60 is met.**

Information from Norwegian enforcement authorities, from areas where most of the fish is caught, provides some evidence that fishers comply. **SG 80 is met.**

Since no information from Russian enforcement authorities has been made available to the assessment team and **Faroese and Icelandic MCS authorities have not yet been consulted at ACDR stage, it cannot be concluded with a high degree of certainty that fishers comply in the entire area covered by the UoA**. **SG 100 is not met.**

	Systematic non-compliance			
d	Guide post		There is no evidence of systematic non-compliance.	
	Met?		**Yes**	

Rationale

Based on information from Norwegian enforcement authorities (see SI 3.2.3c above), fishers generally comply with regulations. The assessment team has not been provided with any evidence of systematic non-compliance in the fishery either. **SG 80 is met.**

References

Act on Management of Wild Marine Resources (Marine Resources Act) (Norway), LOV-2008-06-06-37, 2008

Federal Act on Fisheries and Protection of Aquatic Biological Resources (Federal Fisheries Act), N 166-ФЗ, Federal Assembly of the Russian Federation, 2004 (last revised 2014)

Act on Fisheries Management No. 38/1999, amended as Act No. 116/2006 (Iceland)

Act on Management of Marine Resources (Marine Resources Act) (Faroe Islands), 1 January 2020

Annual Report 2020, Icelandic Directorate of Fisheries

Annual Report 2020, Norwegian Coast Guard

Coast Guard Act, LOV-1997-06-13-42, 1997 (Norway)

Code of the Russian Federation on Administrative Offences, N 195-ФЗ, Federal Assembly of the Russian Federation, 2001 (last revised 2017)

Press release from the Norwegian Coast Guard about activities in 2019, referred in several Norwegian media outlets, e.g. the newspaper Vesterålen on 4th January 2020 (https://www.blv.no/nyheter/travelt-2019-for-kystvakta/)

Press release from the Norwegian Coast Guard about activities in 2020, referred in several Norwegian media outlets, e.g. the newspaper Fiskeribladet on 1st February 2021 (https://www.fiskeribladet.no/nyheter/kystvakten-ga-138-advarsler-for-brudd-pa-regelverk-og-anmeldte-49-forhold-i-fjor/2-1-955006)

Report from the Parallel Review of the Barents Sea Fisheries by the Norwegian and Russian Auditor Generals ('Document No. 3:2 (2007–2008) from the Norwegian Auditor General'), Office of the Auditor General of Norway, 2008

The Office of the Auditor General's Follow-up of the Parallel Audit with the Office of the Auditor General of the Russian Federation relating to the Management of Fish Resources in the Barents Sea and Norwegian Sea, Document 3:8 (2010–2011), Office of the Auditor General of Norway, 2011

Draft scoring range	**≥80**
Information gap indicator	**More information sought. *Confirmation on compliance sought with Faroese and Icelandic enforcement authorities***

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		**There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system**		
Scoring Issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
	Guide post	There are mechanisms in place to evaluate **some** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **key** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **all** parts of the fishery-specific management system.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

The working of the JNRFC has been subject to several comprehensive evaluations over the last decade or so. After its session in 2004, it commissioned an anniversary edition from an independent researcher to be published at its 30 years anniversary in 2006. Furthermore, the Russian Auditor General invited his Norwegian counterpart to conduct a parallel audit of the Barents Sea fisheries in 2005. After this work was finished in 2007, the two parties continued to monitor developments and published a follow-up report in 2011. The fishery-specific management system is also subject to various forms of review by ICES. For instance, ICES has reviewed the harvest control rules for cod and haddock. There is a comprehensive system of routine monitoring of information relevant for management decision making and stock assessment purposes, although not of the management system as such.

In Norway, management authorities receive feedback on management practices from the industry and other interested stakeholders, including NGOs, at the Regulatory Meetings that take place twice a year (see PI 3.1.2 above). The enforcement component of the management system is subject to continuous evaluation at meetings between the various bodies involved in enforcement activities, where priorities are hammered out on the basis of risk-based monitoring of past experience. The international side to the Norwegian fisheries management system is reviewed by the Parliament upon submission by the Government (through the Ministry of Trade, Industry and Fisheries) of annual reports on the agreements concluded with other states for the coming year, and the previous year's fishing in accordance with such agreements. The Office of the Auditor General conducts annual reviews of the financial performance of the fishery management system.

In Russia, there are various mechanisms in place to evaluate key parts of the fishery-specific management system, but at varied levels of ambition and coverage. At the fishery council meetings, found at federal, basin and regional levels (see SI 3.1.2b above), management authorities receive feedback on management practices from the industry and other interested stakeholders, including NGOs. The FFA and the Ministry of Agriculture report annually to the Government and the Presidential Administration about their work, with emphasis on achievements in the fishing industry. Other federal agencies also review parts of the fisheries management system. For instance, the Auditor General evaluates how allocated funds are spent, and the Anti-Monopoly Service how competition and investment rules are observed. Within FFA, there is regular review of the performance of the Agency's regional offices. In the establishment of TACs, the scientific advice from PINRO is peer reviewed by the federal fisheries research institute, VNIRO, and then forwarded to FFA and the federal natural resources monitoring agency Rosprirodnadzor for comments. It is also presented to the general public for discussion at public hearings, announced in the local press.

In the Faroe Islands, the main management bodies, such as the Ministry of Fisheries, the Fishery Inspection Service and the Marine Research Institute, review their achievements the preceding year when they produce plans and targets for the coming year. Especially for the Inspection Service, running self-review is implicit in the continuous risk analysis that takes place in deciding where to put enforcement efforts at any given time. The Parliament also conducts its own reviews of how the fisheries management system works on a year-to-year basis. Regulations are evaluated by the Fisheries Advisory Board every time a new regulatory measure is introduced. The Auditor General reviews the effectiveness of management bodies in financial terms. The Fisheries Inspection Service is certified according to the ISO 9001 quality management system standard.

In Iceland, there is a constant process of internal review and consultation, including of scientific advice within the Ministry of Industries and Innovation and the Fisheries Directorate, and there is a patchwork review of technical regulations and enforcement measures. Regulatory measures taken by the Ministry and Directorate are continuously reviewed by the

Icelandic Parliament, in committee hearings but more often at ad hoc meetings, which reflects that Iceland is a small and fishery-dependent country, with short lines of communication. The National Audit Office (Ríkisendurskoðun) is an independent body operating under the auspices of the Parliament, as part of the legislature's monitoring of the executive branch. In addition to traditional financial audits, the office conducts so-called performance reviews, aimed at evaluating the effectiveness of the executive's implementation of parliamentary decisions, including within fisheries management.

Hence, the fishery has in place mechanisms to evaluate all parts of the management system. **SG 60, SG 80 and SG 100 are met.**

	Internal and/or external review			
b	Guide post	The fishery-specific management system is subject to **occasional internal** review.	The fishery-specific management system is subject to **regular internal** and **occasional external** review.	The fishery-specific management system is subject to **regular internal and external** review.
	Met?	**Yes**	**Yes**	**No**

Rationale

Regular internal review of the fishery-specific management system is performed through the various forms of evaluation in the Norwegian, Russian, Faroese and Icelandic management systems listed under SI 3.2.4a above. **SG 60 is met** – SG 80 is also met for the national component of the management system.

This SI, as opposed to SI 3.2.4a above, does not ask about the extent of reviews (covering some/key/all parts of the management system), but rather about their frequency and whether they are internal or external to the management system. Hence, various forms of evaluation can be taken into consideration under this SI even if they do not comprise the entire management system (the 'holistic' review required to score a 100 at SI 3.2.4a). But some level of interrelationship between these PIs must be assumed, so that external reviews of only peripheral components of the management system should not automatically lead to a positive score on the external review indicator (whether 'occasional' for SG 80 or 'regular' for SG 100), in the opinion of the assessment team.

As follows from SI 3.2.4a above, the JNRFC has been subject to several external reviews, including a specially commissioned anniversary edition in 2006 and a parallel audit by the two countries' Auditors General in 2005–2007, with a follow-up four years later. **SG 80 is met** for both national and international component of the management regime.

Although it is not specified in the MSC Fisheries Standard with what frequency (or at what specific intervals) reviews must be carried out to meet the SG 100 requirement of 'regular' external reviews under this SI, we conclude that the requirement of regular external reviews is not met here. External evaluations seem to be conducted only when particular circumstances require this, and a decade has passed since the last holistic review. **SG 100 is not met.**

References

Hønneland, Geir (2006), *Kvotekamp og kyststatssolidaritet: Norsk-russisk fiskeriforvaltning gjennom 30 år* (Quota Battles and Coastal State Solidarity: Norwegian–Russian Fisheries Management through 30 Years), Bergen: Fagbokforlaget
Report from the Parallel Review of the Barents Sea Fisheries by the Norwegian and Russian Auditor Generals ('Document No. 3:2 (2007–2008) from the Norwegian Auditor General'), Office of the Auditor General of Norway, 2008
The Office of the Auditor General's Follow-up of the Parallel Audit with the Office of the Auditor General of the Russian Federation relating to the Management of Fish Resources in the Barents Sea and Norwegian Sea, Document 3:8 (2010–2011), Office of the Auditor General of Norway, 2011
White Paper No. 13 (2019–2020) on Norway's International Fisheries Agreements for 2020 and Fishing in Accordance with the Agreements in 2018 and 2019, Ministry of Industry, Trade and Fisheries, Norway, 2020

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report stage

Overall Performance Indicator score	
Condition number (if relevant)	

8 Appendices

8.1 Assessment information

8.1.1 Previous assessments – delete if not applicable

The Faroe Islands and Iceland North East Arctic cod, haddock, and saithe fishery was originally certified in August 2012, and Faroe Islands North East Arctic saithe was added via scope extension in January 2016. There were no conditions to the original certificate.
The entire fishery was recertified in August 2017. The 2017 reassessment activities were carried out using the Marine Stewardship Council's (MSC) Fisheries Certification Requirements (FCR) v2.0 and the MSC Guidance for the FCR v2.0. The default assessment tree as set out in the Certification Requirements (CR) v1.3 was used for the reassessment. Again, no conditions were raised as part of the 2017 reassessment

All information on previous assessments to the fishery can be found here: https://fisheries.msc.org/en/fisheries/fisf-faroe-islands-and-iceland-north-east-arctic-cod-haddock-and-saithe/@@assessments

8.1.2 Small-scale fisheries

Table 28 Small scale fisheries

Unit of Assessment (UoA)	Percentage of vessels with length <15m	Percentage of fishing activity completed within 12 nautical miles of shore
1	0	0
2	0	0
3	0	0

8.2 Evaluation processes and techniques

8.2.1 Site visits

The ACDR was prepared as a desk -study based on public available information and input from FISF. Remote reassessment audit was scheduled to be held on week commencing March 14th, 2022.

The CPRDR/PCDR is prepared based on a site visit (city, country) on (date). Stakeholders were informed 30/60 days before the site visit and given the opportunity to provide information in advance. Information from the client and stakeholders was reviewed by the assessment team before the on-site meetings. In some cases, information was not available at the on-site meeting but was supplied within the cut-off date requirements in FCP v.2.2. ***Error! Reference source not found.****below provides details on who was met, and the topics discussed.*

8.2.2 Stakeholder participation

There was no stakeholder participation for the ACDR.

Thirty days prior to the site visit, all stakeholders were informed of the visit and the opportunity to provide advance information to the auditors or to meet with the team during the site visit. DNV received no request for participation at the site visit, and no written submissions regarding the FISF Faroe Islands NEA cod, haddock and saithe fishery.

The participants present at the different stakeholder meetings in (city, country) on the (date) are given in the table below.

Table 29 Stakeholder meetings

8.2.3 Evaluation techniques

The ACDR was based on a desk-top study with information from the client on request, and the client document checklist.

Information on the reassessment process was made publicly available through www.msc.org at given stages of the assessment. DNV published the reassessment announcement along with the Announcement Comment Draft report on (date). These were published on the MSC website and followed by stakeholder notifications by direct emails.

In addition, all relevant stakeholders identified at the beginning of the (original) assessment were reached through direct e-mails and given a possibility to monitor the assessment process and provide feedback to the assessment team. Relevant main stakeholders were interviewed on (date) as outlined in sections 8.2.1 and 8.2.2 above.

Information gathered is presented in this report and in the enclosed scoring tables. As no stakeholder comments were submitted during the stakeholder consultancy period prior to the site visit in (city, country), information gathered during the site visits formed the main basis of the stakeholder consultancy for this assessment.
The interviews were based on audit agenda sent to all involved stakeholders.
(At these meetings, it was confirmed that the fishery has developed as in previous years and that there were no changes in the management, control and enforcement of the fishery.)
The default assessment tree from the MSC Fisheries standard v 2.01 Annex SA was used for the scoring of the reassessment.

Information was reviewed by the assessment team at the scoring meetings held on (date), in (city, country). The team finalised scoring through TEAMS meetings on the (date) as well as by email communication.

After all relevant information was compiled and analysed, the assessment team scored the Unit of Assessment against the Performance Indicator Scoring Guideposts (PISGs) in the final tree. The team discussed evidence together, weighed up the balance of evidence and used their judgement to agree on a final score following MSC FCP v2.2 process and based on consensus. Each scoring issue was scored and then averaged to principle scores. Individual Performance indicators were scored. Scores for individual PIs were assigned in increments of five points. Any divisions of less than five points were justified in the relevant scoring table. Scores for each of the three Principles were reported to the nearest one decimal.

Some scoring issues do not have a scoring guidepost at each of the 60, 80 and 100 levels. The scoring issues and scoring guideposts are cumulative; this means that a PI is scored first at the SG60 levels. If not all of the SG scoring issues meet the 60 requirements, the fishery fails, and no further scoring occurs.
If all of the SG60 scoring issues are met, the fishery meets the 60 level, and the scoring moves to SG80 scoring issues. If no scoring issues meet the requirements at the SG80 level, the fishery receives a score of 60. As the fishery meets increasing numbers of SG80 scoring issues, the score increases above 60 in proportion to the number of scoring issues met; PI scoring occurs at 5-point intervals. If the fishery meets half the scoring issues at the 80 level, the PI would score 70; if it meets a quarter, then it would score 65; and it would score 75 by meeting three-quarters of the scoring issues. If the fishery meets all of the SG80 scoring issues, the scoring moves to the SG100 level. Scoring at the SG100 level follows the same pattern as for SG80.

MSC do not require the SG100s to be assessed (or rationales provided) when all of the scoring issues within the SG80 level are not met, as per FCP v2.2 § 7.17.7.4, except in cases where obtaining a combined scoring element PI score require it (7.10.7). However, if the assessment team judge that it would be useful to assess the SG100s they may do so – ref. interpretation log https://mscportal.force.com/interpret/s/article/Scoring-SG100-if-not-all-SG80-met-7-10-5-3-1527262010218
The assessment has followed the interpretation log and scored all SG100s.

The final scores are based on group consensus within the assessment team. During the scoring process the assessment team discussed the information available for evaluating PIs with the intention to develop a broad opinion of performance of the fishery against each PI thus assuring that the assessment team was aware of the issues for each PI. Subsequently, the assessment team member responsible for each principle discussed the relevant scoring tables and provided provisional scores. The assessment team members reviewed the rationales and scores, and recommended modifications as necessary, including possible changes in scores. PI scores were entered into MSC's Fishery Assessment Scoring Worksheet (Table xx) to arrive at Principle-level scores.

The assessment team recommends the reassessment certification as the weighted average score is 80 or more for all the three Principles and all individual scoring issues are met at the SG60 level.

Conditions are set where the fishery fails to achieve a score of 80 to any Performance Indicators. Conditions with milestones are set to result in improved performance to at least the 80 level within a period set by the assessment team. The client is required to provide a client action plan to be accepted by the assessment team and may use MSC Client Action Plan template v1.0. The client action plan shall detail:
- how conditions and milestones will be addressed
- who will address the conditions
- the specified time- period within which the conditions and milestones will be addressed
- how the action(s) is expected to improve the performance of the UoA
- how the CAB will assess outcomes and milestones in each subsequent surveillance or assessment
- how progress to meeting conditions will be shown to CABs.

Principle scores result from averaging the scores within each component, and then from averaging the component scores within each Principle. If a Principle averages less than 80, the fishery fails.

Based on the evaluation of the fishery presented in this report the assessment team recommends the certification of the (fishery name), with xx conditions and xx recommendations, for the client xxx.

8.3 Peer Review reports

To be drafted at Public Comment Draft Report stage

The CAB shall include in the report unattributed reports of the Peer Reviewers in full using the relevant templates.
The CAB shall include in the report explicit responses of the team that include:

- Identification of specifically what (if any) changes to scoring, rationales, or conditions have been made; and,
- A substantiated justification for not making changes where Peer Reviewers suggest changes, but the team disagrees.

Reference(s): FCP v2.2 Section 7.14

8.4 Stakeholder input

To be drafted at Client and Peer Review Draft Report stage

The CAB shall use the 'MSC Template for Stakeholder Input into Fishery Assessments' to include all written stakeholder input during the stakeholder input opportunities (Announcement Comment Draft Report, site visit and Public Comment Draft Report). Using the 'MSC Template for Stakeholder Input into Fishery Assessments', the team shall respond to all written stakeholder input identifying what changes to scoring, rationales and conditions have been made in response, where the changes have been made, and assigning a 'CAB response code'.

The 'MSC Template for Stakeholder Input into Fishery Assessments' shall also be used to provide a summary of verbal submissions received during the site visit likely to cause a material difference to the outcome of the assessment. Using the 'MSC Template for Stakeholder Input into Fishery Assessments' the team shall respond to the summary of verbal submissions identifying what changes to scoring, rationales and conditions have been made in response, where the changes have been made, and assigning a 'CAB response code'.

Reference(s): FCP v2.2 Sections 7.15, 7.20.5 and 7.22.3

8.5 Conditions

8.5.1 Conditions open at reassessment announcement

There were no conditions raised at initial assessment (2012), scope extension (2016), nor first reassessment (2017).

8.5.2 Conditions – delete if not applicable

To be drafted at Client and Peer Review Draft Report stage

The CAB shall document in the report all conditions in separate tables.

Reference(s): FCP v2.2 Section 7.18, 7.30.5 and 7.30.6

Table X – Condition 1

Performance Indicator	
Score	*State score for Performance Indicator*
Justification	*Cross reference to page number containing scoring template table or copy justification text here.*
Condition	*State condition.*
Condition deadline	*State deadline for the condition.* - *activity (initial assessment/reassessment/scope extension/Surveillance 1/2/3/4* - *date (month and year without day is acceptable)*
Exceptional circumstances ☐	*Check the box if exceptional circumstances apply and condition deadline is longer than the period of certification (FCP v2.2, 7.18.1.6). Provide a justification.*
Milestones	*State milestones and resulting scores where applicable*
Verification with other entities	*Include details of any verification required to meet requirements in FCP v2.2 7.19.8.*
Complete the following rows for reassessments.	
Carried over condition ☐	*Check the box if the condition is being carried over from a previous certificate and include a justification for carrying over the condition (FCP v2.2 7.30.5.1.a)* *Include a justification that progress against the condition and milestones is adequate (FCP v2.2 7.30.5.2). The CAB shall base its justification on information from the reassessment site visit.*
Related condition ☐	*Check the box if the condition relates to a previous condition that was closed during a previous certification period but where a new condition on the same Performance Indicator or Scoring Issue is set.* *Include a justification – why is a related condition being raised? (FCP v2.2 7.30.6 & G7.30.6).*
Condition rewritten ☐	*Check the box if the condition has been rewritten. Include a justification (FCP v2.2 7.30.5.3)*

8.6 Client Action Plan

To be drafted at Public Comment Draft Report stage

The CAB shall include in the report the Client Action Plan from the fishery client to address conditions.

Reference(s): FCP v2.2 Section 7.19

8.7 Surveillance

To be drafted from Client and Peer Review Draft Report

The CAB shall include in the report the program for surveillance, timing of surveillance audits and a supporting rationale.

Reference(s): FCP v2.2 Section 7.28

Table 30 Fishery surveillance program

Surveillance level	Year 1	Year 2	Year 3	Year 4
e.g. Level 5	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit & re-certification site visit

Table 31 Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
e.g. 1	e.g. May 2018	e.g. July 2018	e.g. Scientific advice to be released in June 2018, proposal to postpone audit to include findings of scientific advice

Table 32 Surveillance level justification

Year	Surveillance activity	Number of auditors	Rationale
e.g.3	e.g. On-site audit	e.g. 1 auditor on-site with remote support from 1 auditor	e.g. From client action plan it can be deduced that information needed to verify progress towards conditions 1.2.1, 2.2.3 and 3.2.3 can be provided remotely in year 3. Considering that milestones indicate that most conditions will be closed out in year 3, the CAB proposes to have an on-site audit with 1 auditor on-site with remote support – this is to ensure that all information is collected and because the information can be provided remotely.

8.8 Harmonised fishery assessments

There are several fisheries targeting Barents Sea cod, haddock and saithe that are MSC Fisheries certified or undergoing the assessment process – see Table 33 . This harmonisation process is defined by the Fisheries Certification Process v2.1 and the MSC's Interpretation log. The overlapping fisheries have been identified as fisheries operating within FAO area 27 ICES Subareas 1 and 2. Only MSC fisheries using the same version of the assessment tree (MSC Fisheries Standard v. 2.01 – Annex SA) have been harmonised, as required by FCP v2.1 Annex PB § 1.2.1).

Table 33 Overlapping fisheries

Fishery name	Certification status and date	Status	Assessment tree	FAO Area	ICES area	Gear	Performance Indicators to harmonise
FISF Faroe Islands North East Arctic cod, haddock and saithe	Certified 17.08.2012 DNV	Reassessment ongoing	FS v2.01 Annex SA	27	I & II	Bottom trawl	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
GELA Ltd North East Arctic cod, haddock and saithe	N/A	Reassessment ongoing	FS v2.01 Annex SA	27	I & II	Bottom trawl	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Norway NEA cod offshore (>12nm) fishery	Certified 13.08.2021 DNV	Certified	FS v2.01 Annex SA	27	I & II	Trawl, longline, gillnet, Danish seine, hook & line	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Norway NEA haddock offshore (>12nm) fishery	Certified 26.04.2021 DNV	Certified	FS v2.01 Annex SA	27	I & II	Trawl, longline, gillnet, Danish seine, hook & line	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	Certified 26.01.2016 Lloyds Register	Surveillance	FS v2.01 Annex S	27	Ia, Ib, IIa & IIb	Bottom trawl	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Murmanseld 2 Barents Sea cod and haddock	Certified 05.03.2020 DNV	Surveillance	FCR v2.0 Annex SA	27	I & II	Bottom trawls	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Oceanprom Barents Sea cod and haddock fishery	Certified 11.06.2019 DNV	Surveillance	FCR v.2.0 Annex SA	27	I & II	Hooks & lines-longlines	Principle 1 PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
AGARBA Spain Barents Sea cod	Certified 28.11.2013 Bureau Veritas Certification	Surveillance	FCR v 2.0 Annex SA	27	I & II	Bottom trawl	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Estonia North East Arctic cold water prawn and cod fishery	Certified 07.11.2013 DNV	Surveillance	FCR v 2.0 Annex SA	27	Ia	Bottom trawls-shrimp trawls	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3

Faroe Islands North East Arctic cold water prawn	Certified 05.12.2013 DNV	Surveillance	FCR v2.0 Annex SA	27	I & II	Bottom trawl with sorting grid	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Norway North East Arctic cold water prawn	Certified 09.03.2012 DNV	Surveillance	FCR v2.0 Annex SA	27	I & II	Bottom trawl	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Russia Barents Sea Greenland halibut	Certified 07.04.2020 Lloyds Register	Surveillance	FS v2.01 Annex SA	27	Ia, 1B, Iia & Iib	Bottom Otter trawl	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Russia Barents Sea Red King Crab	Certified 22.02.2018 Lloyds Register	Surveillance	FCR v2.0 Annex SA	27	Russian EEZ	Traps	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
Russia Barents Sea Opilio Trap	Certified 07.04.2020 Lloyds Register	Surveillance	FS v2.01 Annex SA	27	Ia & Ib	Traps (pots)	PI 2.3.1.a & PI 2.4.1.b PI 3.1.1; 3.1.2 & 3.1.3
FIUN Barents & Norwegian Seas cod and haddock	Certified 25.06.2013 Lloyds Register		CR v 1.3	27	Ia, Ib, IIa & IIb	Bottom trawl and Hooks & Lines- longline	NA
Compagnie des Pêches Saint Malo and Euronor cod and haddock	Certified 17.04.2012 Control Union Pesca		CR v 1.3	27	I & II	Bottom trawl	NA
Russian Federation Barents Sea cod, haddock and saithe	Certified 06.05 2014 DNV		CR v1.3	27	I & II	Bottom trawl	NA
UK Fisheries/ DFFU/ Dogger Bank Northeast Arctic cod, haddock and saithe	Certified 03.05.2012 Control Union Pesca		CR v1.3	27	I & II	Bottom trawls-otter trawl	NA
Greenland cod, haddock and saithe trawl fishery	Certified 06.05.2015 Lloyds Register		CR v 1.3	27	I & II	Bottom trawl	NA
Barents Sea cod, haddock and saithe (Ocean Trawlers)	Certified 24.11.2010 Lloyds Register		CR v 1.3	27	I & II	Bottom trawl – otter trawls	NA
Norway North East Arctic saithe fishery	Certified 16.06.2008 DNV		CR v 1.3	27	I & II	Bottom trawls, Gillnets and Entangling Nets - Gillnets, Hooks and Lines, Seine Nets - Boat or vessel seines - Danish seines, Surrounding Nets - With purse lines (purse seines),	NA

The scoring for this fishery was analysed with the scoring of the relevant overlapping fisheries and any differences explained in tables below. No specific harmonization activities in the form of meetings have been conducted.

Table 34 Overlapping fisheries – harmonisation activities

Supporting information	
Harmonisation of the NEA cod, haddock and saithe was mainly done as desk top review of relevant fishery reports.	
Was either FCP v2.1 Annex PB1.3.3.4 or PB1.3.4.5 applied when harmonising?	N/A
Date of harmonisation meeting	N/A
If applicable, describe the meeting outcome	
N/A	

Principle 1
PI 1.1.1, PI 1.2.1, PI 1.2.2, PI 1.2.3 and PI 1.2.4 have been harmonised for the fleets targeting the specific cod, haddock and saithe stocks in the fishing area. MSC certified fisheries targeting the same stock and assessed with default tree from Annex SA are listed in **Table 33**. Scores are harmonised in **Table 35**, **Table 36** and **Table 37**, and differences justified in **Table 40**.

Principle 2
Direct harmonization is not possible with any fishery. There are other MSC certified fisheries operating in the Barents Sea using trawlers and targeting cod, haddock and saithe which could be partially harmonised. Differences in scores (when happening) account for differences in fishing grounds and seasons. Because of differences in fishing grounds direct harmonisation of habitats impacts is not possible.
MSC certified fisheries targeting the same stock and assessed with default tree from Annex SA are listed in **Table 33**.
CAB harmonization activities were conducted in 2021 in relation to PIs 2.3.1.a (limits set to ETP species) and PI 2.4.1.b (consideration of VMEs). CABs are required to harmonise the recognition of VMEs when operating in the same managed area. Following previous conversations with other CABs the team has decided to eliminate “burrowing megafauna” as potential VME for this fishery under reassessment and all other fisheries of this CAB (at surveillances stages). 22 MSC fisheries were identified as operating in the Barents Sea. VMEs identified by each fishery are shown in Table 38 and any scoring differences are explained in **Table 40** below.

Principle 3
The general framework for management of the three target stocks and the general technical measures are defined by JNRFC (NEA Cod and NEA Haddock) and Norway (NEA saithe). At the general management level, there would be a need for harmonisation PI 3.1.1 and for some elements of PIs 3.2.x. As mentioned above, the different overlapping fisheries operate under many different flags (e.g., Norway, Russia, EU-Denmark, EU-Spain, UK). Given the different fishery management systems applicable for each country and the arrangements pertaining to how the industry and management cooperate, scoring differences are possible and acceptable. Further harmonisation activities were not required for Principle 3.

Table 35 Scoring differences Principle 1: Cod

Fishery name	PI 1.1.1	PI 1.2.1	PI 1.2.2	PI 1.2.3	PI 1.2.4
FISF Faroe Islands North East Arctic cod, haddock and saithe **(ACDR)**	≥80	≥80	≥80	≥80	≥80
GELA Ltd North East Arctic cod, haddock and saithe **(ACDR)**	≥80	≥80	≥80	≥80	≥80
Norway NEA cod offshore (>12nm) fishery	100	100	100	90	100
Norway NEA haddock offshore (>12nm) fishery	N/A	N/A	N/A	N/A	N/A
Norway NEA saithe fishery	N/A	N/A	N/A	N/A	N/A
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	100	100	95	95	100
Murmanseld 2 Barents Sea cod and haddock	90	100	100	90	95
Oceanprom Barents Sea cod and haddock fishery	100	100	100	95	100
AGARBA Spain Barents Sea cod	100	100	100	90	100
Barents Sea cod, haddock and saithe **(PCDR)**	100	100	90	90	95
Estonia North East Arctic cold water prawn and cod fishery	100	100	95	90	95
FIUN Barents & Norwegian Seas cod and haddock	100	100	100	90	95
Russian Federation Barents Sea cod, haddock and saithe	100	100	100	100	100
Greenland cod, haddock and saithe trawl fishery	100	100	100	90	100
UK Fisheries Ltd/DFFU/Doggerbank Northeast Arctic cod, haddock and saithe	100	100	100	90	95
Compagnie des Peches Saint Malo and Euronor cod and haddock	100	100	100	90	95

Table 36 Scoring differences Principle 1: Haddock

Fishery name	PI 1.1.1	PI 1.2.1	PI 1.2.2	PI 1.2.3	PI 1.2.4
FISF Faroe Islands North East Arctic cod, haddock and saithe **(ACDR)**	≥80	≥80	≥80	≥80	≥80
GELA Ltd North East Arctic cod, haddock and saithe (ACDR)	≥80	≥80	≥80	≥80	≥80
Norway NEA cod offshore (>12nm) fishery	N/A	N/A	N/A	N/A	N/A
Norway NEA haddock offshore (>12nm) fishery	100	100	95	90	100
Norway NEA saithe fishery	N/A	N/A	N/A	N/A	N/A
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	100	100	95	95	100
Murmanseld 2 Barents Sea cod and haddock	100	100	95	90	95
Oceanprom Barents Sea cod and haddock fishery	100	100	100	95	100

AGARBA Spain Barents Sea cod	N/A	N/A	N/A	N/A	N/A
Barents Sea cod, haddock and saithe **(PCDR)**	90	95	80	90	90
Estonia North East Arctic cold water prawn and cod fishery	N/A	N/A	N/A	N/A	N/A
FIUN Barents & Norwegian Seas cod and haddock	100	100	100	90	95
Russian Federation Barents Sea cod, haddock and saithe	100	100	100	100	100
Greenland cod, haddock and saithe trawl fishery	100	100	100	90	100
UK Fisheries Ltd/DFFU/Doggerbank Northeast Arctic cod, haddock and saithe	100	100	100	90	90
Compagnie des Peches Saint Malo and Euronor cod and haddock	100	100	100	90	90

Table 37 Scoring differences Principle 1: Saithe

Fishery name	PI 1.1.1	PI 1.2.1	PI 1.2.2	PI 1.2.3	PI 1.2.4
FISF Faroe Islands North East Arctic cod, haddock and saithe **(ACDR)**	≥80	≥80	≥80	≥80	≥80
GELA Ltd North East Arctic cod, haddock and saithe **(ACDR)**	≥80	≥80	≥80	≥80	≥80
Norway NEA cod offshore (>12nm) fishery	N/A	N/A	N/A	N/A	N/A
Norway NEA haddock offshore (>12nm) fishery	N/A	N/A	N/A	N/A	N/A
Norway NEA saithe fishery	100	100	90	100	100
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	90	80	80	95	95
Murmanseld 2 Barents Sea cod and haddock	N/A	N/A	N/A	N/A	N/A
Oceanprom Barents Sea cod and haddock fishery	N/A	N/A	N/A	N/A	N/A
AGARBA Spain Barents Sea cod	N/A	N/A	N/A	N/A	N/A
Barents Sea cod, haddock and saithe **(PCDR)**	90	85	80	90	95
Estonia North East Arctic cold water prawn and cod fishery	N/A	N/A	N/A	N/A	N/A
FIUN Barents & Norwegian Seas cod and haddock	N/A	N/A	N/A	N/A	N/A
Russian Federation Barents Sea cod, haddock and saithe	90	100	95	90	100
Greenland cod, haddock and saithe trawl fishery	100	100	100	90	100
UK Fisheries Ltd/DFFU/Doggerbank Northeast Arctic cod, haddock and saithe	100	100	100	90	100
UK Fisheries/DFFU/ Doggerbank Group saithe	100	100	90	90	95
Compagnie des Peches Saint Malo and Euronor cod and haddock	N/A	N/A	N/A	N/A	N/A

Scapeche, Euronor and Compagnie de Peche de St Malo saithe	100	100	90	90	95

Table 38 Scoring differences for Principle 2 PI 2.4.1.b: Identification of VMEs identified in the FAO 27 subdivision 1 & 2 area. (Green shading indicates harmonised approach.

Performance Indicators (PIs)	Cold water Corals - Lophelia reefs & Solenosmilia variabilis reef	Coral Gardens - hard and soft	Sponges	Seapens	Burrowing Megafauna
FISF Faroe Islands NEA cod, haddock and saithe	Yes	Yes	Yes	Yes	No
GELA Ltd North East Arctic cod, haddock and saithe	Yes	Yes	Yes	Yes	No
Norway North East Arctic haddock	Yes	Yes	Yes	Yes	No
Norway North East Arctic Cod	Yes	Yes	Yes	Yes	No
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	Yes	Yes	Yes	Yes	No
AGARBA Spain Barents Sea cod	Yes	Yes	Yes	Yes	No
Estonia North East Arctic cold water prawn and cod fishery	Yes	Yes	Yes	Yes	Yes
Faroe Islands North East Arctic cold water prawn	Yes	Yes	Yes	Yes	Yes
Oceanprom Barents Sea cod and haddock	Yes	Yes	Yes	Yes	No
Norway North East Arctic cold water prawn	Yes	Yes	Yes	Yes	No
Murmansel d 2 Barents Sea cod and haddock	Yes	Yes	Yes	Yes	Yes
Russia Barents Sea Greenland Halibut	Yes	Yes	Yes	Yes	No
Russia Barents Sea Red King Crab	Yes	Yes	Yes	Yes	No
Russia Barents Sea Opilio Trap	Yes	Yes	Yes	Yes	No

Table 39 Scoring differences Principle 3

Performance Indicators (PIs)	PI 3.1.1	PI 3.1.2	PI 3.1.3
FISF Faroe Islands NEA cod, haddock and saithe.	≥80	≥80	≥80
GELA Ltd North East Arctic cod, haddock and saithe	≥80	≥80	≥80
Norway NEA haddock offshore (>12nm)	95	100	100
Norway NEA cod offshore (>12nm)	95	100	100
North-West Fishing Consortium Norwegian & Barents Seas cod, haddock & saithe	100	85	80
Murmanseld 2 Barents Sea cod and haddock	100	95	100
Oceanprom Barents Sea cod and haddock	90	85	100
AGARBA Spain Barents Sea cod	100	85	100
Estonia North East Arctic cold water prawn and cod	95	85	100
Faroe Islands North East Arcic cold water prawn	95	85	100
Norway North East Arctic cold water prawn	95	85	100
Russia Barents Sea Greenland halibut	100	85	80
Russia Barents Sea Red King Crab	95	100	100
Russia Barents Sea Opilio Trap	95	85	80

Table 40 Rationale for scoring differences

PRINCIPLE 1: Scoring differences are minimal for the relevant fisheries and are based on variations in the timings of the assessments and the assessment teams. PRINCIPLE 2: Harmonization activities related to PI 2.3.1.a and PI 2.4.1.b apply to the consideration of limits for ETP species or to the consideration of VMEs in a specific area. Burrowing megafauna used to be considered as VME as it is generally listed in relevant bibliography jointed to seapens. Since burrowing megafauna is too broad a term, with no specific species life histories or characteristics identified, CABs have now agreed not to consider burrowing megafauna as a VME and are on the process of modifying the relevant reports. PRINCIPLE 3: Scoring differences are minimal. Although there are differences these are based on differences in the different flags under which the different fisheries operate. Harmonisation, in most cases, has been restricted to the international components which are common to these fisheries.
If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination
NA

8.9 Objection Procedure – delete if not applicable

To be added at Public Certification Report stage

The CAB shall include in the report all written decisions arising from the Objection Procedure.

Reference(s): MSC Disputes Process v1.0, FCP v2.2 Annex PD Objection Procedure

8.10 Client Agreeement

FISF Agreement:

FAROE ISLANDS
SUSTAINABLE
FISHERIES

P/F Framherji
Bakkavegur 22
530 Fuglafjørður
Akraberg FD 10

Klaksvík
26.05.2021

Avtala um at verða partur av MSC góðkenning fyri fiskiskap eftir toski, hýsu og upsa í Barentshavinum

Faroe Islands Sustainable Fisheries (FISF) yvirtekur MSC góðkenningina av toski, hýsu og upsa í NEA (MSC-F-31322) síðst í mai 2021. Á MSC heimasíðuni verður MSC góðkenningin nevnd: "FISF Faroe Islands and Iceland cod, haddock and saithe fishery".

A: Faroe Islands Sustainable Fisheries (FISF) varðar nú av MSC góðkenningini fyri fiskiskap eftir toski, hýsu og upsa í Barentshavinum. Fiskivinnufyritøkurnar JFK og Framherji hava stovnað FISF til at stýra og røkja átøkum viðvíkajndi burðardygd fyri føroyska fiskiflotan.

Nevndin í FISF er: Stjórin í JFK, stjórin í Framherja, formaðurin í Føroya Fiskimannafelag og nevndarformaðurin í Fiskamarknaði Føroya.

B: Øll fiskifør mugu fylgja galdandi lógum og kunngerðum sum ásettar eru fyri føroysk fiskifør og krøvum, sum ásett verða í samanand við MSC góðkenning av fiskiskapi. Avgerðir tiknar av FISF viðvíkjandi MSC góðkenningini eru bindandi fyri øll fiskifør.

C: Endamálið er, at kostnaðurin verður býttur so rímiligt sum gjørligt millum tey feløg, sum ynskja at verða partur av MSC góðkenningunum og í mun til ágóðan feløgini fáa av MSC góðkenningunum.

Durita í Grótinum
Faroe Islands Sustainable Fisheries

Anfinn Olsen
P/F Framherji

FISF • Kósarbrúgvin 3 • P.O. Box 56 • FO-710 Klaksvík • Tel +298 409900 • Fax +298 409901 • fisf@fisf.fo • www.fisf.fo

FISF and ISF agreement:

ISF Icelandic Sustainable Fisheries

Reykjavík, 20.09.2021

Regarding: Agreement between Faroe Islands Sustainable Fisheries and Icelandic Sustainable Fisheries on sharing MSC certificates

The two organisations, Icelandic Sustainable Fisheries (ISF), ID: 460912-0320, Grandagarði 16, 101 Reykjavík and Faroe Islands Sustainable Fisheries (FISF), have agreed to enter a sharing agreement of MSC certifications held by each client group.

The sharing agreement is valid for the following species and certificates:

ISF shares the following certificates:	**FISF shares the following certificates:**
MSC-F-31301 Fishery Certificate ISF Iceland for following components: Specie: **Cod** Gear: **Longline** Area: **Icelandic EEZ** (MSC042) Issue 26 June 2020	PDF FISF cod_haddock_saithe_MSC-F- 31322 for following components: Species: **Cod, haddock, saithe** Gear: **Bottom trawl** Area: **ICES Sub-areas I and II (within REZ, NEZ and International waters)**
MSC-F-31302 Fishery Certificate ISF Iceland for following components: Specie: **Haddock** Gear: **Longline** Area: **Icelandic EEZ** (MSC043) Issue 26 June 2020	
MSC-F-31436 Fishery Certificate ISF Iceland multi-species demersal fishery for following components: Specie: **Saithe** Gear: **Longline** Area: **Icelandic EEZ** (MSC044) Issue 26 June 2020	

Following the sharing agreement, each client group will carry the costs of the certificates being shared. The sharing agreement is valid from May 2021 through May 2026, where each organization commits to adhere to sustainability in accordance with the MSC standard.

Each client group will make the arrangement publicly available in order for each party to verify their sharing and status as eligible fishers. FISF & ISF will review the sharing arrangements every five years.

Icelandic Sustainable Fisheries ı Grandagarður 16 ı Reykjavík, Iceland ı tel: +354 519 1550 ı www.isf.is ı info@isf.is

The aim of the sharing agreement is to simplify, improve access to MSC certified fisheries and to share costs to benefit both parties.

On behalf of:

Iceland Sustainable Fisheries

Faroe Islands Sustainable Fisheries

8.11 References

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8.12 Vessel list

MSC certifications apply to all registered Faroese fishing vessels with valid fishing licences issued by the Faroese Ministry of Fisheries, to fish for cod, haddock and/or saithe in the Barents Sea. The fish needs to be caught by a company registered as a participant in FISF or ISF for the MSC certification to apply.

ISF and FISF entered an agreement on May 31st, 2021. The agreement stipulates that Icelandic vessels with permits to fish cod, haddock and saithe in the Barents Sea will share FISF MSC certificate for the fisheries (and, while not relevant for the present MSC assessment process, and as part of the FISF-ISF agreement, Faroese vessels with permits to fish cod, haddock, and saithe in the Icelandic EEZ, will share ISF's MSC certificate for the fisheries).

At present the UoCs under reassessment cover 5 Faroese factory trawlers and 12 Icelandic vessels with agreement with FISF and/or ISF. This list may vary over time. Latest updated vessel list is updated on MSC website: https://fisheries.msc.org/en/fisheries/fisf-faroe-islands-and-iceland-north-east-arctic-cod-haddock-and-saithe/@@view

Further information on FISF can be found here: https://www.fisf.fo/en/
Further information on ISF can be found here: http://www.icelandsustainable.is/

Table 41 Vessel list

Sign	Vessel name	Owner	Nationality
KG 180	Gadus	P/F JFK Trol	Faroe Islands
KG 184	Sjúrðarberg	P/F JFK Trol	Faroe Islands
VN 123	Arctic Viking	P/F Líðin	Faroe Islands
TN 180	Enniberg	P/F Enniberg	Faroe Islands
FD 10	Akraberg	P/F Framherji	Faroe Islands
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland
			Iceland

8.13 Landing sites

Landing may take place in different countries:

Annex PA	For Faroe Islands, updated list of landing points can be found at https://www.fisf.fo/en/participants/#Fisheries_in_the_Barent%E2%80%99s_Sea_for_cod,_haddock,_and_saithe
Annex PB	For Iceland, landing can occur in the following landing points:
Annex PC	For Norway, landing can occur in the following landing points:

9 Template information and copyright

This document was drafted using the ‘MSC Reduced Reassessment Reporting Template v2.2’.

Template version control

Version	Date of publication	Description of amendment
1.0	08 October 2014	Date of first release
1.0 Erratum	8 April 2015	Appendix 1.1 & 1.2 – amendments made in line with April 2015 release of FCR v2.0 erratum
2.0	17 December 2018	Release alongside Fisheries Certification Process v2.1
2.1	29 March 2019	Minor document changes for usability
2.2	25 March 2020	Release alongside Fisheries Certification Process v2.2

A controlled document list of MSC program documents is available on the MSC website (msc.org).

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