Marine Stewardship Council fisheries assessments

Norway Barents Sea snow crab

Surveillance Audit Report

Conformity Assessment Body (CAB)	Global Trust Certification
Assessment team & authors	Lead Assessor, Dr. Geir Hønneland Assessor, Efthymia Tsitsika
Fishery client	Norges Fiskarlag
Assessment Type	First Surveillance
Date	14 August 2025

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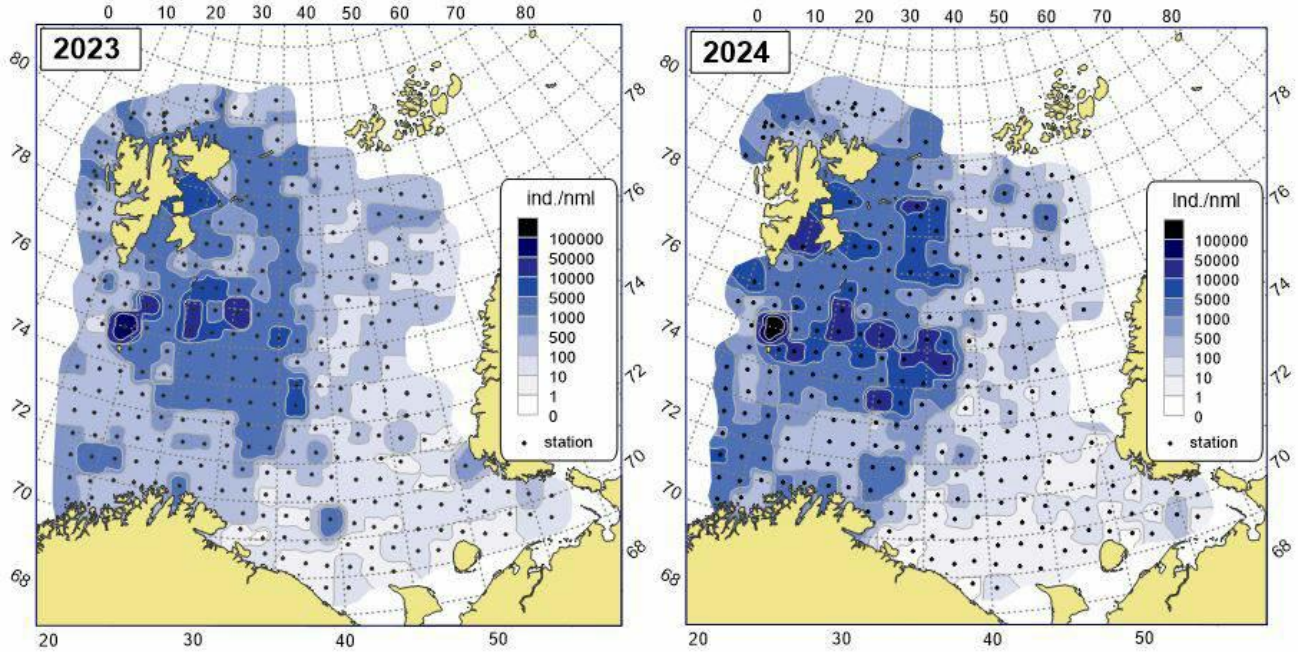

Figure 9. Abundance (ind./n.ml) of megabenthos (excluding Pandalus borealis) in the Barents Sea in August-October 2023 and 2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea). 22

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Reviewed by B O'Kane 17th July 2025

3. Glossary

BESS	Barents Sea Ecosystem Survey
B_{LIM}	Minimum stock size requiring sharp reduction in fishing mortality or closure of the fishery
B_{MSY}	Stock size that gives maximum long-term yield
DoF	Directorate of Fisheries (Norway)
EEZ	Exclusive Economic Zone
eNGO	Environmental non-governmental organisation
ERS	Electronic Reporting System
ETP	Endangered, Threatened and Protected species
FAO	Food and Agriculture Organization of the United Nations
F_{MSY}	Fishing mortality that gives maximum long-term yield
FCP	MSC Fisheries Certification Process
HCR	Harvest control rule
ICES	International Council for the Exploration of the Sea
IMR	Institute of Marine Research (Norway)
IUCN	International Union for Conservation of Nature
JNRFC	Joint Norwegian–Russian Fisheries Commission
MCS	Monitoring, control and surveillance
MSC	Marine Stewardship Council
NFA	Norwegian Fishermen's Association (Norges Fiskarlag)
PCR	Public Certification Report (MSC)
PI	Performance Indicator (MSC)
PINRO	Polar Branch of the Russian Federal Research Institute of Fisheries and Oceanography
RBF	Risk-Based Framework (MSC)
SPiCT	Stochastic surplus Production model in Continuous Time
UNCLOS	United Nations Law of the Sea Convention
UoA	Unit of Assessment (MSC)
UoC	Unit of Certification (MSC)
VNIRO	Russian Federal Research Institute of Fisheries and Oceanography
VME	Vulnerable Marine Ecosystem
VMS	Vessel Monitoring System
WGIBAR	Working Group on the Integrated Assessments of the Barents Sea (ICES)

3. Executive summary

3.1 Summary of audit process

This report contains the findings of the 1st surveillance audit of the Norway Barents Sea snow crab fishery, which was conducted by an audit team commissioned by Conformity Assessment Body (CAB) Global Trust Certification Ltd. (GTC), consisting of Geir Hønneland (Team Leader and Principle 3 assessor) and Efthymia Tsitsaki (Principle 1 and Principle 2 assessor).

The surveillance audit was announced on 9 May 2025 and was conducted according to relevant requirements as outlined in MSC Fisheries Certification Process (FCP) v2.3 and Fisheries Standard v2.01. The MSC Scheme Documents and Templates outlined in Section 4.2 were used during this surveillance audit.

The audit focused on changes to the fishery and its management since its certification in April 2024 and assessed the fishery's continuing compliance with MSC Principles and Criteria for sustainable fisheries.

A remote site visit was held on 12 June 2025, with both assessment team members, a representative of GTC and representatives of the fishery client Norges Fiskarlag (the Norwegian Fishermen's Association, NFA) attending.

The fishery has no conditions, and no new conditions were raised at this surveillance audit. Performance Indicator (PI) 2.2.1 was re-scored from 90 to 80 as the assessment team elected not to use the Risk-Based Framework (RBF) to score minor species.

The fishery remains in scope and the RBF was not triggered for this audit. Overall, the fishery continues to be fully compliant with the standards set for MSC certification SG80. **The assessment team concludes that the MSC Certificate for the fishery shall remain active, subject to annual surveillance review and progress against the conditions.**

Global Trust Certification would like to thank all management and scientific agencies, industry bodies and stakeholders for their collaboration and for providing the information and data necessary to carry out this assessment.

3.2 Summary of history of assessments

The fishery was certified on 8 April 2024 with no conditions.

3.3 Summary of audit findings

The main findings of this surveillance audit are as follows:

Principle 1 (P1):

- The current audit shows that the stock is increasing, and no significant changes have been reported in the model and harvest control rule (HCR). Re-scoring of P1 PIs is not required. Only minor changes were made depending on the information provided by the client on the new stock model applied.

Principle 2 (P2):

- Minor changes in the ecosystem effects of the fishery have been identified at the surveillance audit. Only minor changes were made depending on the information provided by the client on by-catch composition. PI 2.2.1 was re-scored from 90 to 80 as the assessment team elected not to the RBF to score minor species.

Principle 3 (P3):

- No changes were identified in the basic legislation, management set-up, decision-making procedures, consultation mechanisms or monitoring, control and surveillance (MCS) procedures in the surveillance year. A new licensing system was introduced in the snow crab fishery in January 2025. This has reduced the number of permits in the fishery, but the number of vessels participating in the fishery remains stable. No re-scoring of P3 PIs is required.

3.4 Updated certification status

Following this audit, Global Trust Certification has determined that the fishery continues to meet applicable MSC requirements such that continued certification is appropriate; therefore, the certification status of the fishery as certified remains unchanged.

Updated certification status = **CERTIFIED**

4. Report details

4.1 Surveillance information

Table 1. Surveillance announcement.

1	Fishery name		
	Norway Barents Sea snow crab		
2	Unit(s) of Assessment (UoA)		
	Table 2. Unit(s) of Assessment (UoA(s)).		
	UoA		Description
	Species	Latin name:	*Chionoecetes opilio*
		Common names:	Snow crab
	Stock		Norwegian continental shelf snow crab population within the Barents Sea snow crab stock
	Geographical area		FAO Area 27 Atlantic Northeast, Barents Sea
	Fishing gear type(s) and, if relevant, vessel type(s)		Trap
	Client group		Norges Fiskarlag (Norwegian Fishermen's Association)
	Other eligible fishers		There are no other eligible fishers.
3	Date certified		Date of expiry
	08 Apr 2024		06 Apr 2029
4	Audit type and number		
	1st Surveillance Audit		
5	Surveillance level		
	Level 4. Off-site audit. The surveillance programme for this fishery has not changed from that previously indicated in the PCR or a previous surveillance report.		
6	Proposed team leader		
	Dr. Geir Hønneland, lead assessor with additional responsibility for Principle 3 and Traceability Geir meets Fishery Team Leader Qualification and Competency Criteria outlined in the MSC FCP Annex PC, Table PC1 and PC2 as a team member. He has: • A degree in a relevant subject. • 3 years' fisheries experience in the fisheries sector related to the tasks under his responsibility. • Passed MSC's fishery team leader training within the last 5 years. • Passed the Lead Auditor ISO 19011 course. • Passed new versions of the compulsory online training modules when new versions of the MSC certification process are published prior to undertaking assessments against the revised MSC certification process. • Has undertaken 2 MSC fishery assessments or surveillance site visits as a team member in the last 5 years. • Has experience in applying different types of interviewing and facilitation techniques. Geir will be in charge of coordinating the Assessment Team's work and be responsible for the completion of the full assessment in accordance with MSC FCP v.2.3. Geir meets the requirements for being a Traceability assessor and for being a Principle 3 assessor with having current knowledge of the country, language and local fishery context components of the Fishery Team Qualification and Competency Criteria of Table PC3.4, PC3.5 and PC3.6. He has:		

Table 1. Surveillance announcement.

	• 3 years' experience as a practicing fishery manager and/or fishery/policy analyst. • Passed MSC's Traceability training module every 5 years. • Review any updates to the traceability and RBF requirements at least annually. • Knowledge of a common language spoken by clients and stakeholders. • Two assignments in the country or region in which the fishery under assessment is based in the last 10 years. Dr Geir Hønneland holds a PhD in political science from the University of Oslo (2000) and an LL.M. in the law of the sea from the University of Tromsø (2020). He has studied international fisheries management from a legal and political/management perspective for more than three decades, focusing on the performance of national and international management regimes and their resilience to change, as well as the effectiveness of enforcement and compliance mechanisms. He has published a number of academic books and journal articles on these topics, including on the performance of regional fisheries bodies in different parts of the world. He has also undertaken consultancies for international organisations such as FAO and OECD, as well as national management authorities, businesses and civil society. His academic training and practical experience have given him in-depth knowledge about most aspects of ocean governance and fisheries law, including global and regional fisheries agreements and customary international law, as well as international dispute-settlement and fisheries case law based on the decisions of international courts and tribunals. Geir has cooperated extensively with experts on fisheries law and management in Europe, the US and Asia and has previously been visiting scholar and taught international environmental politics at Rutgers, the State University of New Jersey. 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 100 full assessments and re-assessments, in many of them as Team Leader as well. He has undertaken assessments in the Atlantic, Pacific, Indian and Southern Oceans, reviewing management systems in Europe, Asia, Oceania and North and South America, including RFMOs such as CCAMLR, NEAFC, NAFO, IATTC, ICCAT, IOTC and WCPFC. He has covered demersal, pelagic and reduction fisheries, as well as inland, bivalve, salmon and enhanced fisheries. Geir has successfully passed the MSC online training for MSC Team Leader (Fisheries Standard v2.01, Fisheries Certification Process v2.2 and MSC's Fisheries Standard v3.0 Overview of changes) and has passed the ISO 19011-2018 course as Lead Auditor – Management Systems Auditing. He successfully passed the MSC online training for Traceability versions 2015, 2018 and 2020. The UoA fishery takes place by Norwegian vessels and is managed by Norway. Geir is from Norway, and Norwegian is his mother tongue. Geir does not have any conflicts of interest in relation to the fishery.
7	Proposed team members
	Efthymia Tsitsika – Principle 1 and 2 Efthymia Tsitsika, primarily responsible for Principle 1 and Principle 2 Efthymia meets Fishery Team Member Qualification and Competency Criteria outlined in MSC FCP v.2.3, Annex PC, Table PC2. She has: • A degree in a relevant subject. • Passed MSC's fishery team member training within the last 5 years.

Table 1. Surveillance announcement.	
	• Reviewed any updates to the MSC Fisheries Program Documents at least annually. • Passed new versions of the compulsory online training modules where relevant. Efthymia has a MSc in Fisheries and Aquatic Animal Production. She has successfully passed the MSC online training for Team Member. In addition, Efthymia meets the Principle 2 of the Fishery Team Qualification and Competency Criteria of Table PC3, she has: • 3 years more experience in research into, policy analysis for, or management of, the impact of fisheries on aquatic ecosystems. • Knowledge of a common language spoken by clients and stakeholders. Efthymia Tsitsika is a fisheries scientist with more than 15 years of high-level hands-on experience on scientific data analysis, stock assessment, statistical modelling and fisheries management. She provides scientific advice to the fisheries sector, and has been involved in international scientific collaborations through projects, scientific working groups, Data Collection Regulation/Data Collection Framework Programmes, and evaluation and impact assessment of alternative management strategies in EU fisheries. Efthymia is fluent in English which is the common language spoken by the client and stakeholders. Efthymia does not have any conflicts of interest in relation to the fishery.
8	Audit/review time and location
	Off-site. June 12th 2025
9	Assessment and review activities
	As per section 7.29.15 of the FCP v2.3, the following will be assessed/reviewed during this audit (note that this may not be an exhaustive list): • Any changes to the scope • Changes to the fishery and its management. • Any developments or changes within the fishery that impact traceability and the ability to segregate MSC from non-MSC products. • Any other significant changes in the fishery. • Seek the views of stakeholders and surveillance audit participants to ensure that the team is aware of any stakeholder concerns. • No conditions have been raised for the fishery.
10	Stakeholder opportunities
	As part of this surveillance audit, the following stakeholder opportunities are available: ▪ Stakeholders may submit written input using the 'MSC Template for Stakeholder Input into Fishery Assessments' which is available here: https://www.msc.org/what-you-can-do/engage-with-a-fishery-assessment. Stakeholders may consult directly with the audit team during the period specified in the 8. Audit/review time and location above. Further information on Stakeholder input opportunities is provided in 3. Stakeholder Input into Fishery Surveillance Audits opportunities below. ▪ No modifications were made to the assessment tree.

4.2 Version details

Table 3. Fisheries program document versions.

Document/Assessment Tree	Version Number
MSC Fisheries Certification Process (FCP) and Guidance	2.3
MSC Fisheries Standard and Guidance	2.01
Assessment Tree	*Introduced species*
MSC General Certification Requirements (GCR)	2.7
MSC Reporting Template	2.2

4.3 Update on the fishery

4.3.1 Principle 1 - Stock status and advice update.

Based on samples from its broad geographic distribution, a recent analysis revealed significant genetic differences between various widely-separated stocks with snow crab in the Barents Sea, Greenland, and eastern Canada-Alaska forming three genetically differentiated clusters (Dahle *et al*., 2022). Clearly, snow crab populations on both sides of the Norway-Russia boundary are part of the same Barents Sea stock.

The snow crab in the Barents Sea is considered a single stock, but the current stock model is only for the sub-stock on the Norwegian continental shelf. There is insufficient knowledge about immigration/emigration between the Russian and Norwegian continental shelves, and how this affects the productivity of the Norwegian sub-stock. Such modelling of a sub-stock can significantly increase uncertainty and may result in overestimating productivity. There is therefore a need for a stock model that includes the stock in the entire Barents Sea (IMR, 2024a).

However, as is common in the management of snow crab stocks elsewhere, the harvest strategy for both the Norwegian and Russian fisheries in the Barents Sea ensure that the fishery has a relatively low impact on population reproductive potential by protecting females and undersize males and maintaining sufficient unharvested legal-sized males to protect reproductive capacity. Furthermore, production of snow crab is largely environmentally driven, with low temperatures during early life history favouring increased recruitment. Recruitment success, therefore, is determined more by favourable environmental conditions than spawning stock size and varies over time (Marcello *et al*., 2012; Mullowney *et al*., 2014). Kjesbu *et al.* (2022) clearly mentioned that snow crab in the Barents Sea is influenced negatively by the climate change. Therefore, per FCP v2.3, G7.5.2-3 considerations, it is concluded that the fishery on neither side of the Norway-Russia boundary through the Barents Sea snow crab stock has any effect on recruitment dynamics in the population on the opposite side or in the stock as a whole.

A new stock assessment advice was posted on Institute of Marine Research (IMR) website on 24/10/2024 (Hjelset *et al.,* 2024a; IMR, 2024a;b). Based on the MSY approach, IMR recommends that the total catch of snow crab on the Norwegian continental shelf in 2025 should not exceed 12,724 t. The quota advice applies to the harvestable part of the stock, which is snow crab above the minimum size of 95 mm shell width (Hjelset *et al.,* 2024a; IMR, 2024a;b). The client reported during the site visit that there is no increase in unwanted catches of snow crab, and that unwanted removals of this species account for less than 100 kg annually from the NEA shrimp fishery.

The stock assessment has undergone minor methodological revisions (Hjelset *et al*., 2024b). In 2023, index estimation was revised to a model-based approach that takes into account the spatial distribution and includes video data, and in 2024, the stock model was transferred to a new modelling framework (SPiCT: Stochastic surplus Production model in Continuous Time, Pedersen and Berg, 2017). The underlying mathematical model is similar to the Bayesian biomass model used up to and including 2023 (Hjelset *et al.*, 2023), but the stock model was transferred to SPiCT in 2024 due to better documentation and compatibility with other stock assessments (SPiCT is the preferred framework for biomass models in ICES).

The database used in the model was reported landings, stock indices based on snow crab surveys (2019-2024), the annual Norwegian-Russian ecosystem surveys in the Barents Sea (2004-2023) and electronic logbooks (2015-2024).

The annual Norwegian-Russian ecosystem surveys are conducted in the period August – October. Trawling is carried out with Campelen bottom trawl and pelagic trawl in a fixed station network that covers the entire Barents Sea. Models and advice use a time series of density estimates based on bottom trawl stations from 2004 up to and including last year's expedition. In addition to the density estimates, the ecosystem survey provides information on the distribution of the snow crab (Figure 1). The 2023 expedition shows no significant change in the distribution of snow crab compared to previous years, but some crabs were caught outside the continuous distribution area.

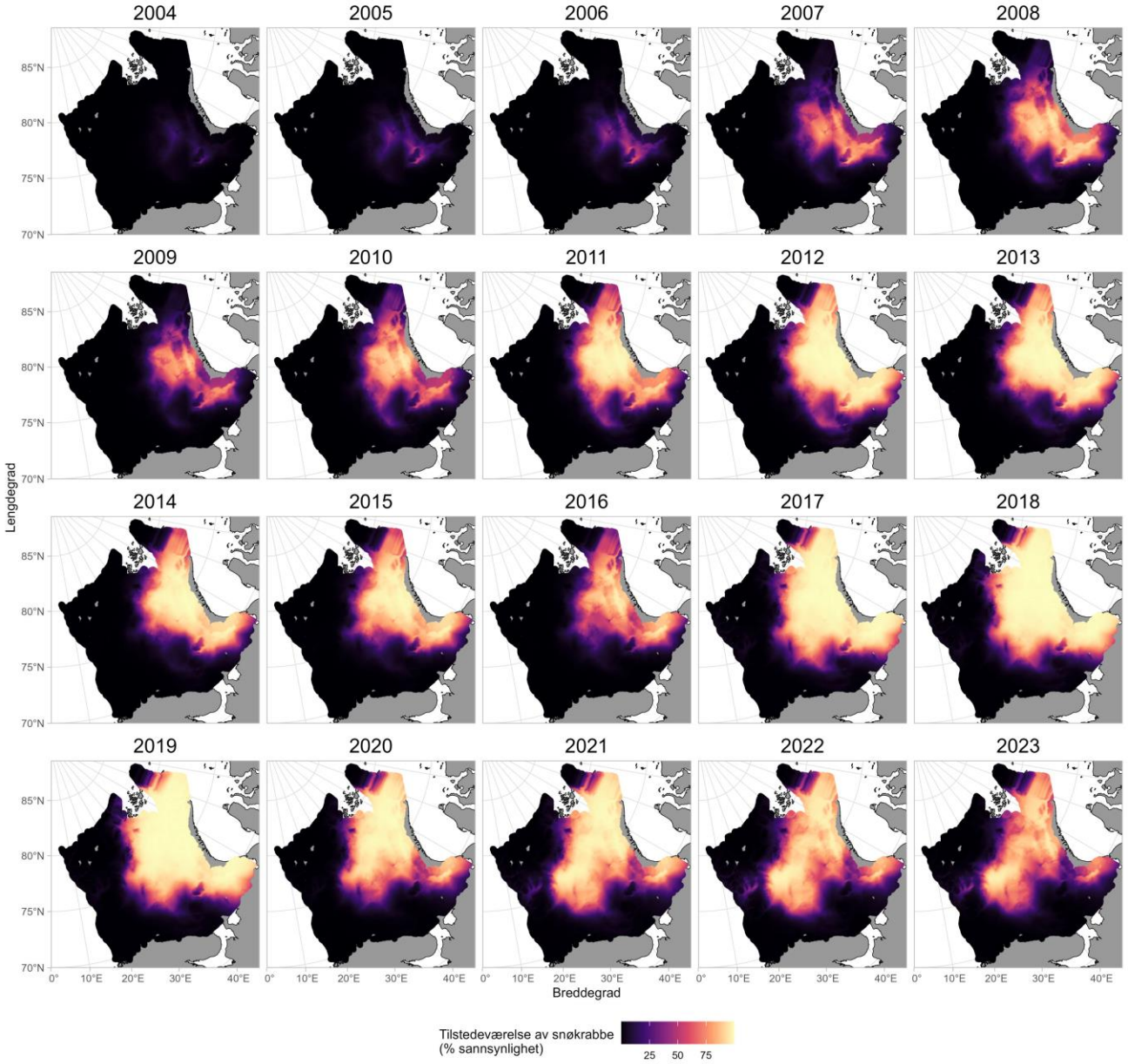

Figure 1. Probability of catching snow crab in the trawl based on data from the annual Norwegian-Russian ecosystem survey in the Barents Sea in the years 2004 to 2023. Snow crab first appeared in the south-eastern

parts of the Barents Sea around Gåsbanken, it has since spread north and west, and is now found in greatest density in the northeast and central parts of the Barents Sea (Source: Hjelset *et al.,* 2024a).

The model is based on an MSY approach using the 35th percentile of the predicted catch distribution in 2025 under F_{MSY}. The approach takes into account uncertainty in the quota and is therefore recommended by ICES for stocks assessed with a SPiCT stock model. The basis for the catch scenarios was:

- Average F_{2024} /F_{MSY}: 0.61 (based on estimated catch in 2024)
- Average B_{2025} /B_{MSY}: 1.63 (Short-term prediction from the population model, relative value)
- Catch 2024: 10,464 t

The annual catch scenarios are presented in the Table 4.

Table 4. Snow crab on the Norwegian continental shelf. Annual catch scenarios. Total catch is in t (Source: IMR, 2024a).

Basis	Total catch	Stock biomass B_{2026}/B_{MSY}	Fishing mortality F_{2025}/F_{MSY}	% risk for $B_{2026} < B_{lim}$	% risk of $B_{2026} < MSY\ B_{trigger}$	% change in total catch
MSY approach*	12,724	1.49	0.81	0.00%	0.00%	22%
$F_{2025} = F_{MSY}$	15,477	1.42	1.00	0.00%	0.00%	48%
$F_{2025} = F_{2024}$	10,364	1.54	0.64	0.00%	0.00%	-0.96%
$F_{2025} = 0$	11	1.77	0.00	0.00%	0.00%	-100%
*35th percentile of catch distribution under $F=F_{MSY}$						

Reference points

Reference points estimated in the stock model for snow crab on the Norwegian continental shelf are relative (Table 5). The aim is to ensure an F_{MSY} that will keep the stock above MSY $B_{trigger}$. The precautionary reference point B_{lim} is to ensure that the stock biomass does not fall below a critically low level (Hjelset *et al.,* 2024a; IMR, 2024a).

Reference points used in the description of population status and taxa:

- MSY = Maximum long-term yield/maximum production.
- B_{MSY} = Stock size (biomass) that provides MSY.
- MSY $B_{trigger}$ = $0.5B_{MSY}$. Minimum spawning stock where one can still fish with $F = F_{MSY}$.
- Carrying capacity = the maximum population size that the ecosystem can sustain without a fishery.
- B_{lim} = $0.3B_{MSY}$ (before was the limit value for stock size, usually a limit for closure or severe reduction of fishing).
- F_{MSY} = Fishing mortality that gives MSY.
- F_{lim} = $1.7F_{MSY}$ is the fishing mortality that drives the stock towards B_{lim} ($0.3B_{MSY}$).

Table 5. Snow crab on the Norwegian continental shelf. Reference points and their basis (Source: IMR, 2024a).

Framework	Reference point	Value *	Foundation
MSY approach	MSY $B_{trigger}$	$B/B_{MSY} = 0.5$	Relative value from the SPiCT model. Reference points are estimated in the population model and may change when the population assessment is updated
	F_{MSY}	$F/F_{MSY} = 1$	
Precautionary approach	B_{kim}	$B/B_{MSY} = 0.3$	
	F_{lim}	$F/F_{MSY} = 1.7$	

* Absolute reference points are not defined for this stock. Estimated relative values of F/F_{MSY} and B/B_{MSY} are used to determine stock status relative to MSY reference points.

Over the period since the initial discovery of snow crab in the Barents Sea, the population on the Norwegian Continental Shelf has increased rapidly and this increase continued after fishing started in 2012. The results of the 2024 assessment show that the stock biomass is at its highest value since 2012 (Figure 2). Model results indicate that B/B_{MSY} was significantly above B_{MSY} (even lower CI was above MSY $B_{trigger}$ and B_{lim}) and fishing mortality rate F/F_{MSY} was below F_{lim} and F_{MSY} (but upper CI above F_{MSY}) in 2024 and 2025. The model calculates stock sizes in relative values, rather than absolute values. MSY is used as a reference point. Both stock size and fishing mortality are given on a relative scale, where the value 0.5 and 1 corresponds to the biomass and fishing mortality at MSY level, respectively (Figure 2).

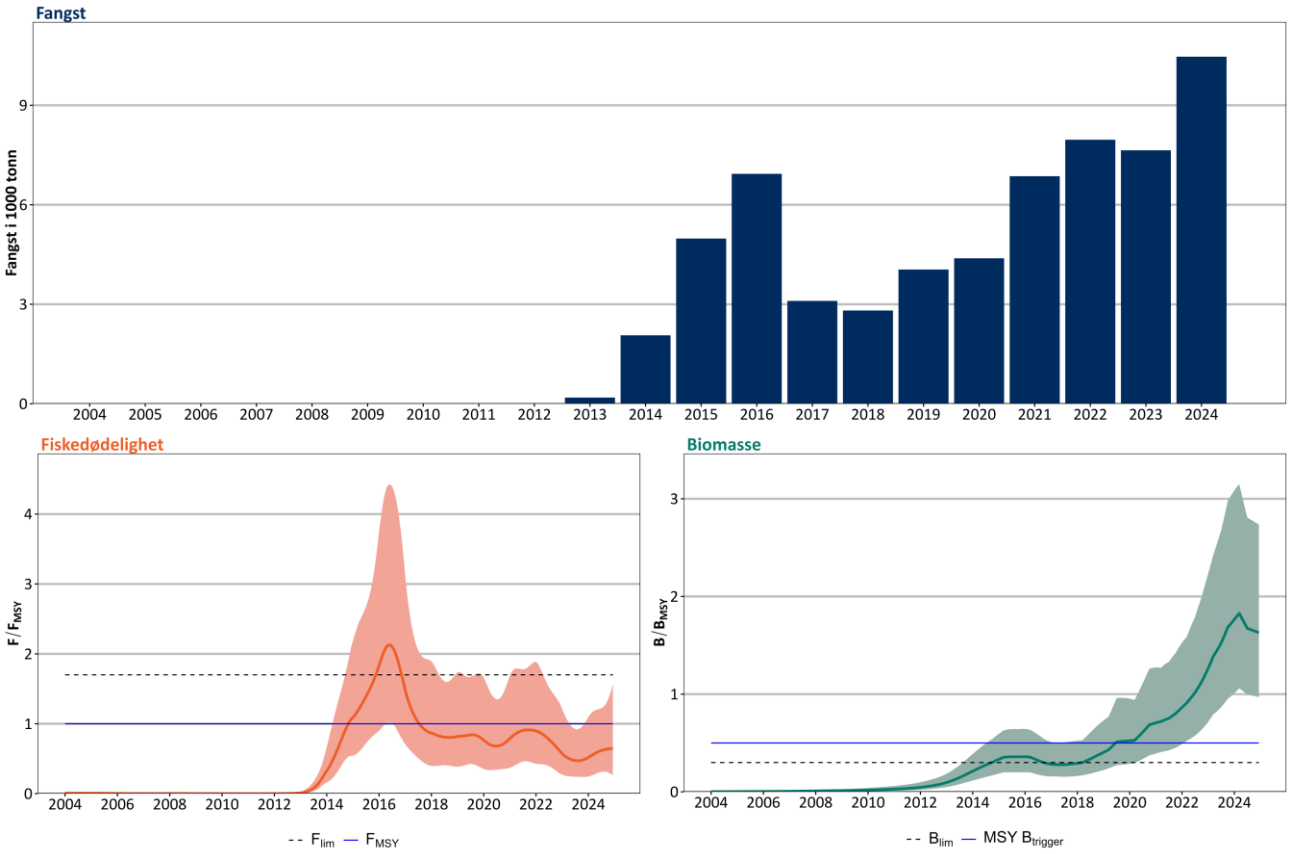

Figure 2. Snow crab on the Norwegian continental shelf. Summary of the stock assessment. Top: Total catch. Discards are assumed to be close to zero. Bottom: Biomass and fishing mortality relative to B_{MSY} and F_{MSY}. Lines show mean and colored areas 95% confidence interval. MSY reference points F_{MSY} and MSY $B_{trigger}$ are indicated in blue and precautionary reference points F_{lim} and B_{lim} with dashed lines (Source: IMR, 2024a;b).

The management objective to this fishery is to maximize long-term catch yield. IMR recommends that fishing be closed during the period 1 July to 31 December to protect snow crabs during and after molting. This reduces the risk of injury to snow crabs during handling in the fishery, and ensures that fishing takes place during the period when the crab is of the best quality. The Council that controls quotas, currently relies on a standard approach that follows the recommendation of ICES (ICES, 2024). The underlying harvesting rule places a lot of emphasis on the precautionary principle, which is important when stock estimates are relatively uncertain. In the long term, it is nevertheless recommended to carry out a management simulation that evaluates the current and alternative harvesting rules against different management objectives and under alternative scenarios for future stock development. Such a study could include economic considerations and a more

explicit model of fleet dynamics and structure. Including economic reference points can contribute to a better understanding of fleet dynamics and provide a better basis for decisions on possible regulatory measures and the allocation of the total quota (Hjelset *et al.,* 2024a).

Taking into account the present status of the target stock, as well as the information collected during the site visit, which evidenced that there is no change in the harvest strategy and data collection, there is no need to rescore any PI in Principle 1. Minor amendments were made depending on the information provided by the new model applied to the stock.

4.3.2 Principle 2 - Ecosystem impacts update

The aim of the national Norwegian/Russian ecosystem surveys in the Barents Sea and adjacent waters, August-October (BESS) is to monitor the status and changes in the Barents Sea ecosystem and provide data to support scientific research and manager advice. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the Institute of Marine Research (IMR) in Norway and the Polar branch of the VNIRO (PINRO) in Russia. The general surveys plan and tasks were agreed upon at the annual IMR-VNIRO/PINRO Meeting 12-14 March 2024. Ship routes and other technical details are agreed on by correspondence between the survey coordinators. BESS aims at covering the entire Barents Sea. Each party carries out research in its own sector of the sea but uses the same methodology (van der Meeren & Prozorkevich, 2025).

From the latest BESS survey, catch rates of snow crab per station varied from 0.008 to 9.8 kg/nm, with an average 1.3±0.4 kg/nm in 2024 compared with 0.002 to 13.2 kg/nm with an average 0.9±0.3 kg/nm in 2023. The catch rates in number in 2024 ranged from 1 to 95 ind./nm with an average of 9.0±3.3 ind./nm compared with 1-40 ind./nm and 6.1±1.1 ind./nm in 2023 (Figure 3; van der Meeren & Prozorkevich, 2025).

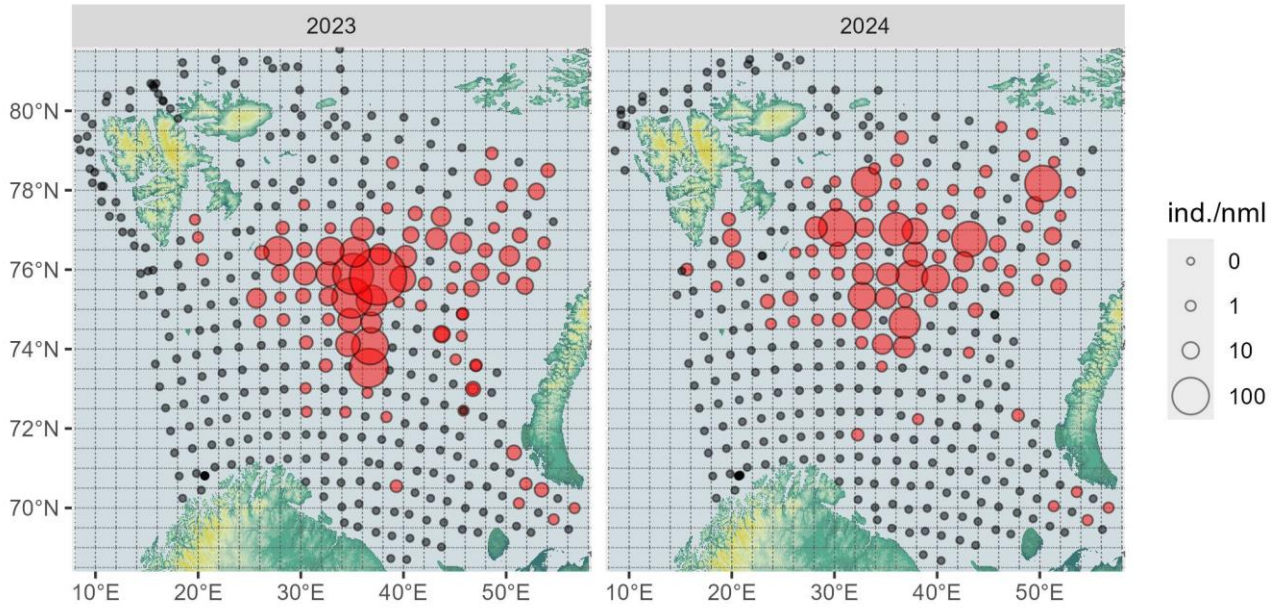

Figure 3. Distribution of the Snow crab (*Chionoecetes opilio*) in the Barents Sea in August-September 2023-2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

4.3.2.1 Bycatch of non-target species (primary, secondary and ETP)

Catch composition data for 2024 provided by the client was used to separate the species into Primary, Secondary species or ETP species (table below). According to the client, the snow crab < or > 50% is indicating that either is less than more than 50% in the catch. When >50% means it's from main fishery (traps) and most likely when <50% it is bycatch from another fishery. Catch data of the main species from the latest fishing season is shown in the table below (Table 6).

Table 6. Catches in tonnes of snow crab in the area north of 67° N (source: data provided by the client).

Species	2024
Snowcrab < 50%	-
Snowcrab > 50%	10,462
By-catch	-

During the site visit, the client mentioned that fish by-catch is negligible, almost zero. According to the information provided by the client, species caught by this fishery is 100% snow crab and by-catch is minimum.

Bait

During the site visit, the client reported that only squid bait continues to be used in the latest years and herring bait is not used anymore. Squid bait is caught around Falkland Island. The client reported that the quantities used are more or less the same and are very low as reported also in the PCR.

Gear loss/ghost fishing

Concerning gear loss and ghost fishing, the use of degradable thread tested in 2023 (Humborstad *et al*., 2023) and required from 1 January 2024 in snow crab traps (Harvesting Regulations, section 29, paragraph 3 and appendix 3f.), is in place and the measure is implemented by all fishermen as reported by the client during the site visit.

As reported by the client during the site visit, the Directorate of Fisheries no longer conduct surveys to collect lost gear in snow crab fishery; however, registration on lost and found traps takes place. The number of lost traps for 2025 is reported to 661. The Directorate of Fisheries did not have the number for 2024 available at the moment of the site visit, but estimated that the number for 2024 most likely was the about the same. The shrimp trawlers report and deliver lost snow crab traps, but no information on this was available at the site visit.

The total operation is organised by the company SALT. The company operates the pilot scheme Fishing for Litter, which accepts waste from fishing vessels in 11 ports along the coast. However, there isn't an overview of the extent of reported lost snow crab pots. Moreover, the company reports that the pilot scheme accepts a good number of snow crab pots in their ports, especially in the spring/early summer during the shrimp season, but also throughout the year. Analyses of collected waste in 2024 showed that snow crab pots constituted 2% by weight of a total amount of 12.9 t of waste, and 5% of number of units of waste. The 12.9 t that were analysed corresponds to approximately 6.1% of the total amount of waste collected through the scheme in 2024. Collectively, the number of pots that have been forwarded from pilot scheme reception centers to waste treatment companies, roughly amounts to around 22 t in the period 2022 – 1st half of 2024. There also appears to have been an increase in the number of pots in the 1st half of 2024 compared to the two previous years (email from the client).

ETP

Marine mammals

The Barents Sea is an important area for marine mammals. During the joint Norwegian-Russian ecosystem (BESS) in 2024, 636 observations including 1786 individuals of 11 marine mammal species were recorded to

be sighted, with 209 individuals not identified to species level. As in previous years, the most frequently observed and widely distributed species was the white-beaked dolphin (*Lagenorhynchus albirostris*) with higher numbers north of 74°N (Figure 4; van der Meeren & Prozorkevich, 2025).

Other dominant species sighted during the ecosystem survey included the baleen whales minke (*Balaenoptera acutorostrata*), humpback (*Megaptera novaeangliae*) and fin (*Balaenoptera physalus*) whale. This year, the number of minke whale sightings was 36% lower than in 2023. Minke whales were mainly observed east of Svalbard, in areas commonly associated with high capelin and krill biomass. In contrast to 2023, minke whales were not recorded in the Pechora Sea this year. Humpback whales were observed mostly in areas east of Svalbard, where they overlap with the traditional capelin aggregations, often together with fin and minke whales. The number of humpback whales observed this year was 55% higher than in 2023. As in 2023, fin whales were widely distributed in the western survey areas (van der Meeren & Prozorkevich, 2025).

Besides white-beaked dolphins, other toothed whales recorded included sperm whale (*Physeter macrocephalus*), harbour porpoise (*Phocoena phocoena*), killer whale (*Orcinus orca*), and beluga whale (*Delphinapterus leucas*). Sperm whales were mainly observed in western areas (west of 24°E and south of 75°N). Harbour porpoises were found in areas south of 75°N and east of 33°E, in association with herring aggregations. Killer whales were recorded in waters near the coast of Norway and northeast of Spitsbergen (van der Meeren & Prozorkevich, 2025).

During the BESS survey, the following pinniped species were observed: hooded seal (*Cystophora cristata*) and walrus (*Odobenus rosmarus*). These species were encountered near White Island (only walrus) and Barents Island (van der Meeren & Prozorkevich, 2025).

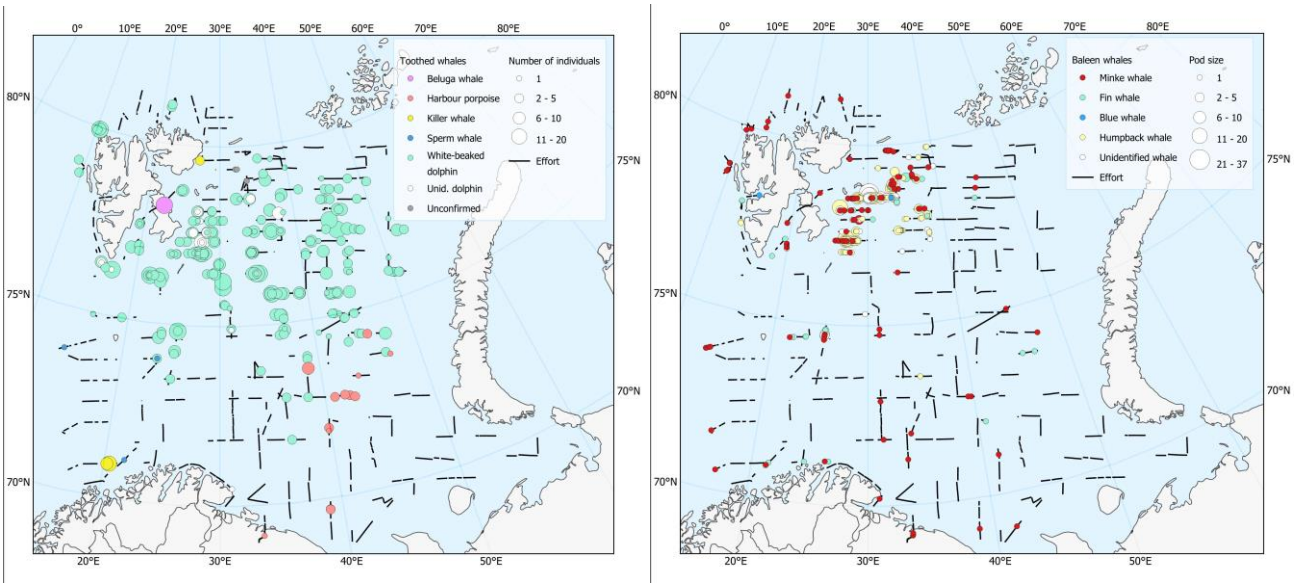

Figure 4. Distribution of toothed (left) and baleen (right) whales in BESS 2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

Seabirds

The distribution of the different seabirds was similar to the distribution in previous years. For the auks, high density of little auks (*Alle alle*) was found northeast of Svalbard/Spitsbergen. Thick-billed murres (*Uria lomvia*) were found in the northern part of the Barents Sea with the highest densities east of Svalbard/Spitsbergen. Atlantic puffins (*Fratercula arctica*) and common guillemots (*Uria aalge*) were found in the southern part of the area. Northern fulmar (*Fulmarus glacialis*) and black-legged kittiwake (*Rissa tridactyla*) were encountered

throughout the Barents Sea but with highest density of black-legged kittiwakes in the central and northern parts. For the large gull species, herring gull (*Larus argentatus*), glaucous gull (*Larus hyperboreus*) and great black-backed gull (*Larus marinus*) were found in the southern part of the study area (Figure 5; van der Meeren & Prozorkevich, 2025).

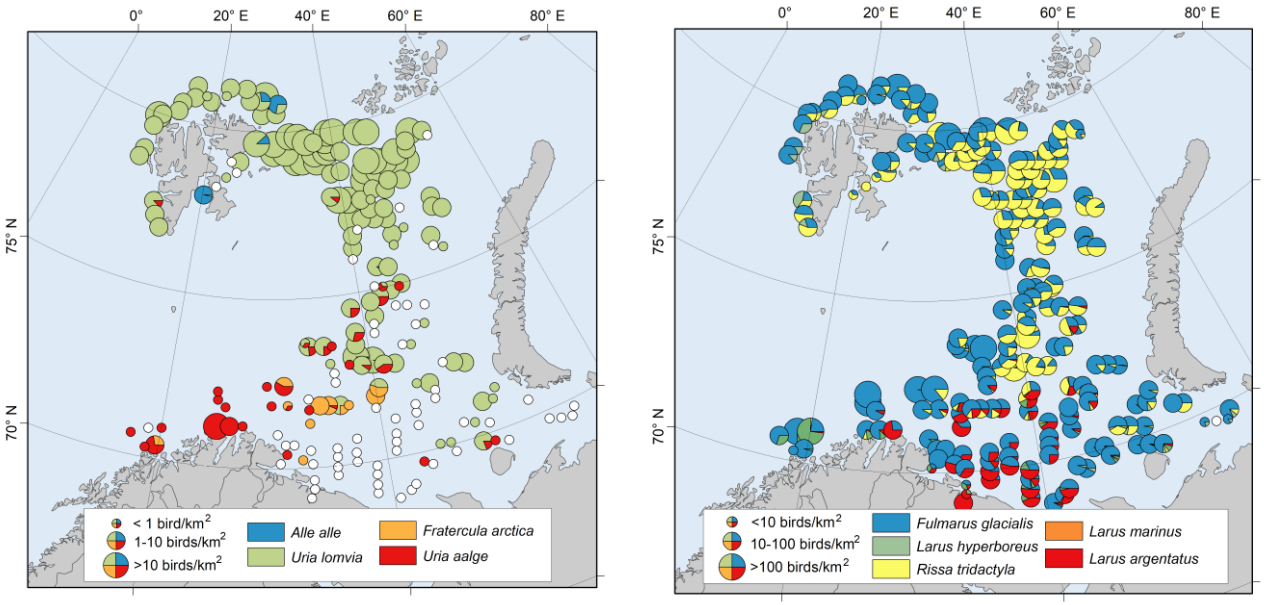

Figure 5. Density of auk species (left) and the most common gull species and Northern fulmar (right) along seabird transects in 2024. White-filled circles are zero density. Note that because these species are attracted to and tend to follow the ship, densities are systematically over-estimated (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

No endangered, threatened and protected (ETP) species were recorded in the by-catch in the snow crab trap fishery in the Barents Sea. The client reported that there were no interactions with ETP. No evidence or reports were provided to the assessment team that the snow crab fishery has a direct or an indirect impact on ETP species.

4.3.2.2 Habitats

A map of the fishing area where the UoA was active during 2024 was provided by the client (Figure 6). The fishing area hasn't changed significantly since the PCR, as confirmed by the client during the site visit.

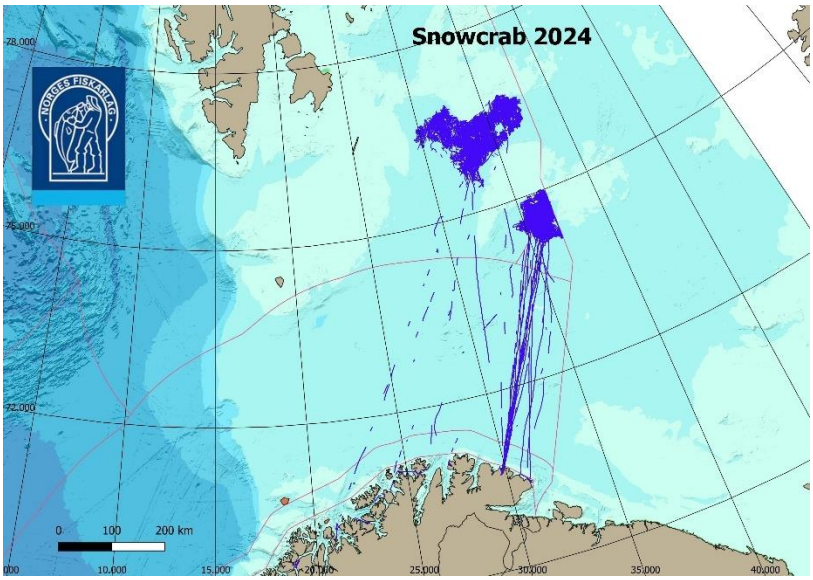

Figure 6. Catch area of snow crab by client vessels (Source: map provided by the client).

Benthic Invertebrate community

Bycatch records of megabenthos in 2024 were made from 294 bottom trawl hauls during the IMR/PINRO Joint Norwegian/Russian ecosystem survey in the Barents Sea (BESS survey). A total of 623 invertebrate taxa (432 identified to species level) was recorded in 2024, which is 5% (9% to species level) less than in 2023 (van der Meeren & Prozorkevich, 2025).

The taxonomical structure of the Barents Sea megafauna is almost identical between 2023, 2024 and the one reported in the PCR[1]. Mollusca had the highest number of taxa (153 taxa) followed by Arthropoda (107 taxa), Echinodermata (85 taxa), Porifera (89 taxa), and Cnidaria (71 taxa) (Figure 7). Traditionally, in 2023 and 2024 the western part of the survey shows a higher level of species' diversity and abundance than the eastern part of the sea (Figures Figure 8 and

[1] https://fisheries.msc.org/en/fisheries/norway-barents-sea-snow-crab/@@view

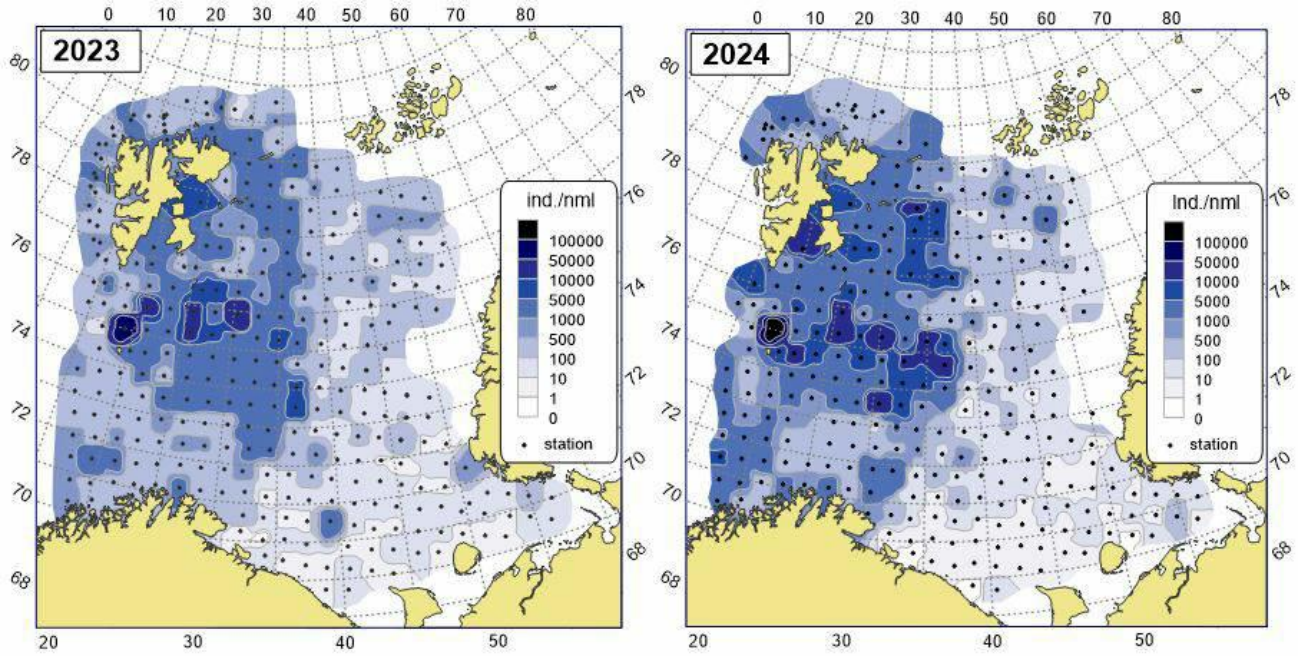

Figure **9**). The biomass distribution in 2024 was very close to the pattern of previous years (Figure 10).

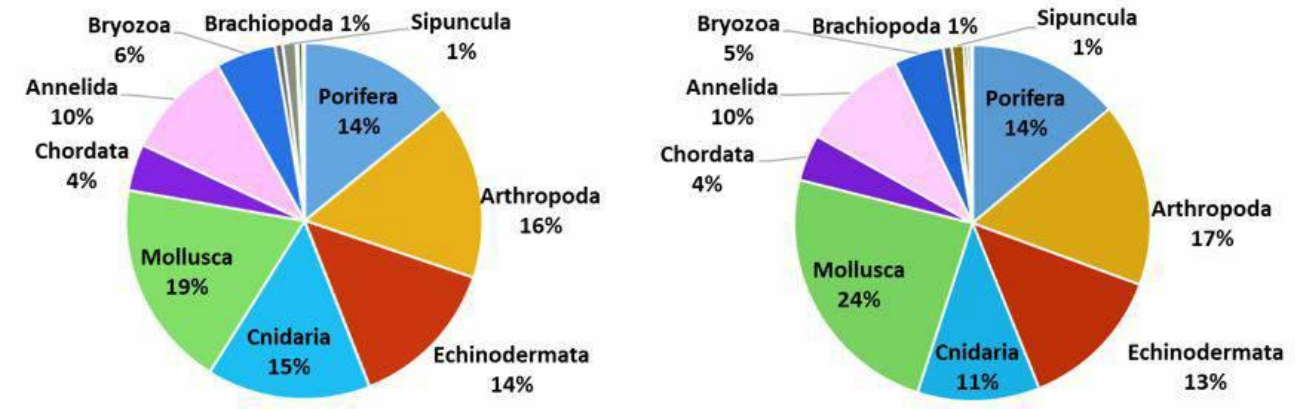

Figure 7. The number of taxa given as the % distribution among megabenthic phyla in the Barents Sea, August-October 2023 and 2024. Groups having less than 1% of the total taxa are not shown in the diagrams (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

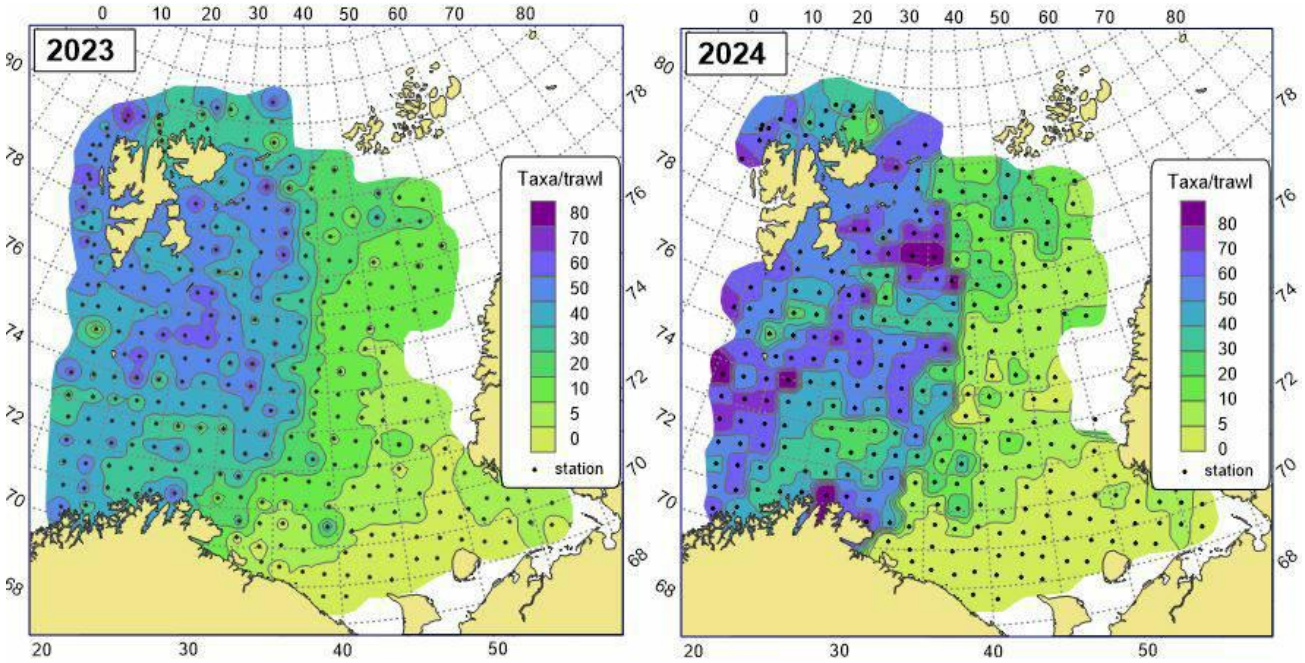

Figure 8. The number of megabenthic taxa per trawl-catch in the Barents Sea in the periods August-October 2023 and 2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

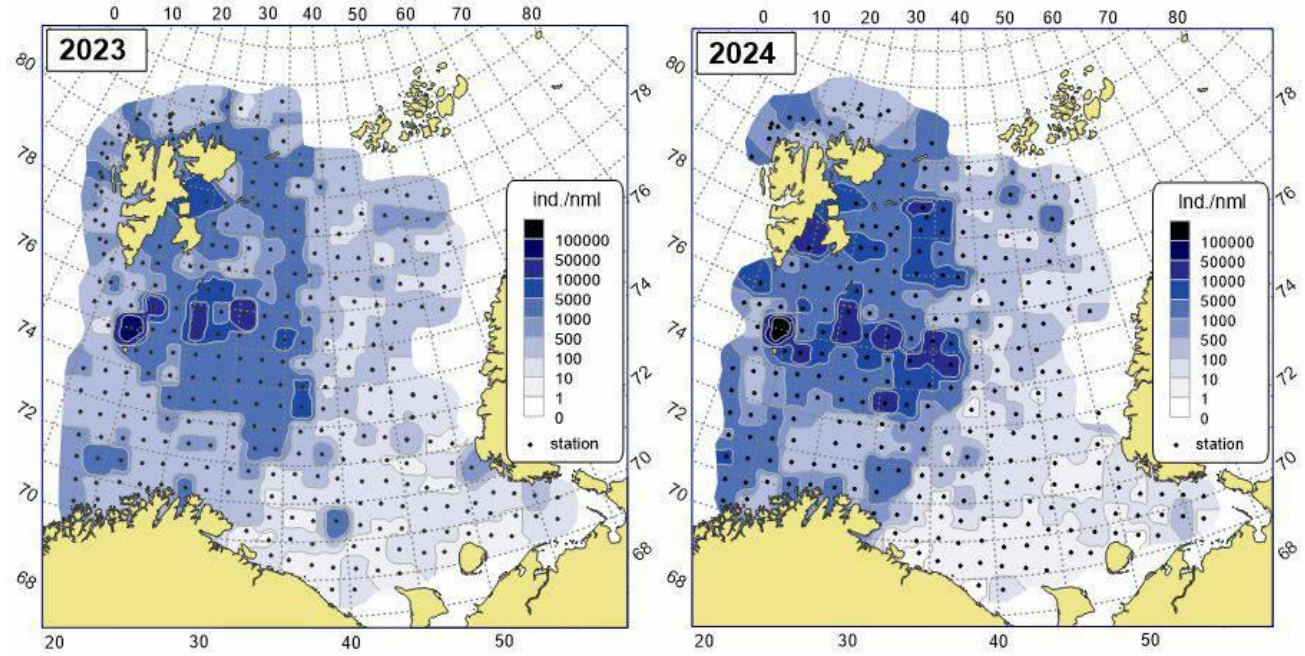

Figure 9. Abundance (ind./n.ml) of megabenthos (excluding Pandalus borealis) in the Barents Sea in August-October 2023 and 2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

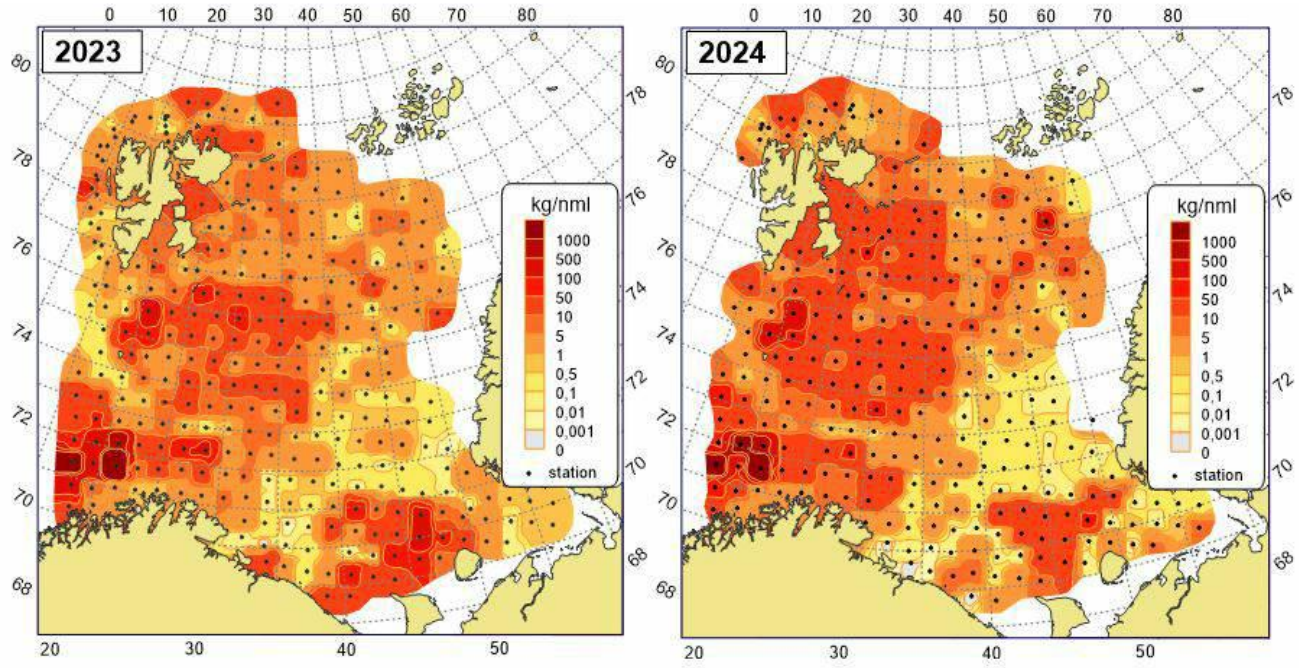

Figure 10. The biomass distribution of megabenthos (excluding Pandalus borealis) in the Barents Sea in August-October 2023 and 2024 (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

New megabenthic species

During the BESS 2024 survey in the Norwegian part of the Barents Sea, 27 new taxa were recorded for the first time since 2005 when the ecosystem surveys started. Of the new 30 species identified in the Barents Sea in 2024, 19 species are boreal and 13 species are new to the BESS (*Bubaris vermiculata*, *Phorbas perarmatus*, *Aulacofusus brevicauda*, *Parvicardium minimum*, *Kellia suborbicularis*, *Maera loveni*, *Phascolion (Isomya) tuberculosum*, *Haliclona rosea*, *Bela nebula*, *Buccinum humphreysianum*, *Petrosia (Petrosia) crassa*, *Phakelia rugosa*, *Poecillastra compressa*), and a possible result of their spreading to the east and north due to the long warming period (Figure 11; van der Meeren & Prozorkevich, 2025).

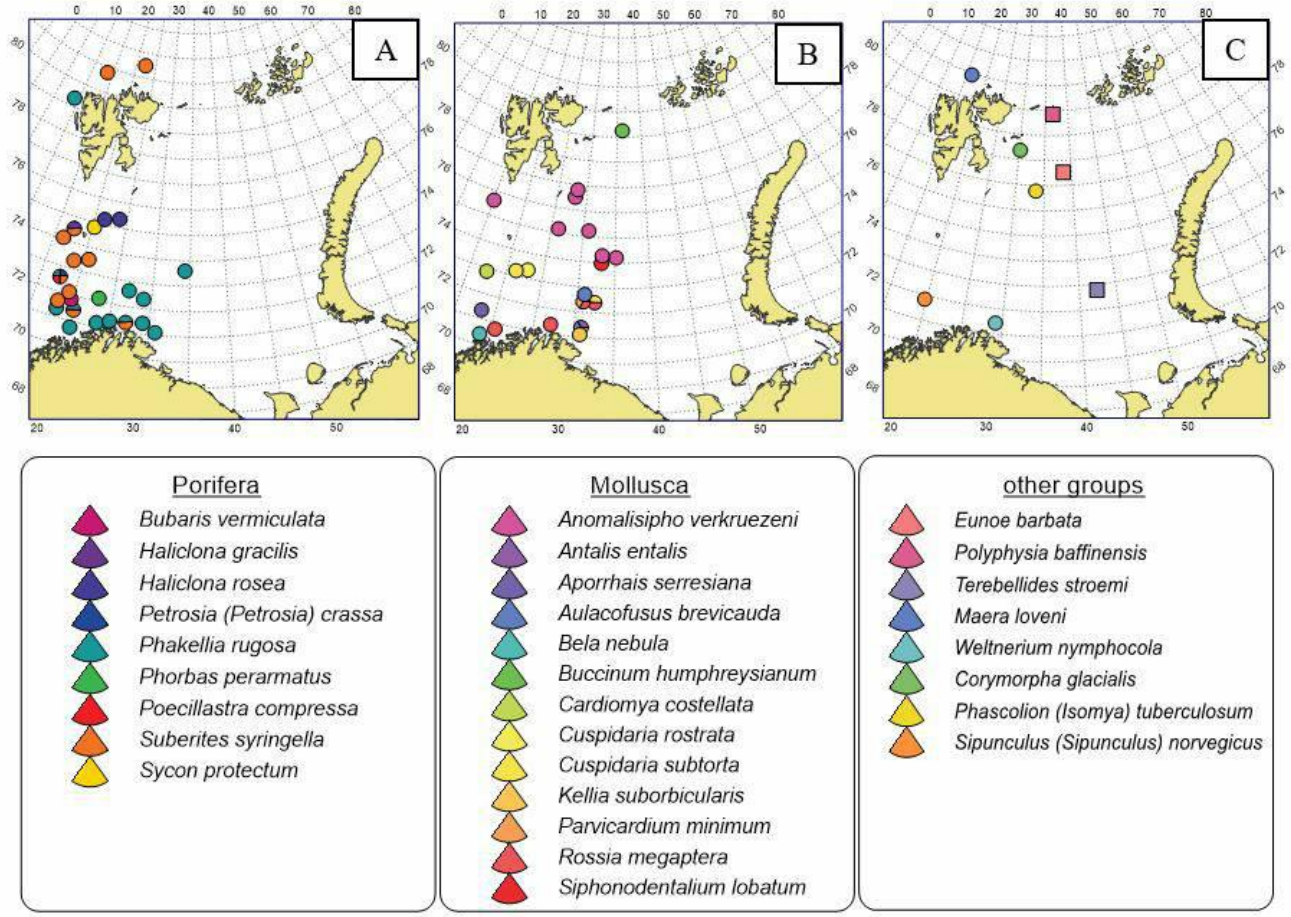

Figure 11. Locations of megabenthic species of Porifera (A), Mollusca (B) and "other groups (C) registered in 2024 and for the first time since the start (year 2005) of the long-term monitoring of the Barents Sea and adjacent water of the BESS. Circles illustrate Norwegian ships while squares the Russian ship (Source: van der Meeren & Prozorkevich, 2025: IMR/PINRO Joint Report from the joint Norwegian/Russian ecosystem survey in the Barents Sea).

No significant changes have been reported for the habitat (commonly encountered habitats, VME habitats, minor habitats) as reported by the client during the site visit.

4.3.2.3 Ecosystem

Regarding key elements of the ecosystem, the client indicated that there are no significant changes in ecosystem research or information that could affect the scoring.

4.3.2.4 Scoring elements assessed under Principle 2

Based on the analysis and background information presented in the preceding sections, Table 22 of PCR (here Table 7) was updated as follows:

Table 7. Scoring elements.

Component	Scoring elements	Designation	Data-deficient
P1	Snow crab	Target	No
Primary	-	-	

Secondary	Squid	Minor	Yes
ETP	None	-	No
Habitats	Commonly encountered (soft sediment)	Main	No
	VMEs (sponge grounds)	None	No
	VMEs (coral gardens)	None	No
	VMEs (sea pens)	None	No
	Commonly encountered (soft sediment)	Main	No
Ecosystems	Norwegian marine ecosystem	-	No

Taking into account the present bycatch, bait and ETP species, the habitat and ecosystem material as well as the information collected during the site visit, only minor changes were made depending on the information provided by the client on by-catch composition.

4.3.3 Principle 3 – Management system update

The fishery takes place on the Norwegian continental shelf in the Barents Sea on a stock that is shared between Norway and Russia. As it is a sedentary species, it is not subject to the requirement for international cooperation in Article 63 of in the UN Law of the Sea Convention (UNCLOS), which only applies to resources in the water column. Norway and Russia have an extensive fisheries management cooperation in the Barents Sea through the Joint Norwegian-Russian Fisheries Commission (JNRFC), established in 1975. Snow crab is not among the joint stocks (since it is sedentary and not subject to the duty to cooperate), but information on its management is exchanged within the JNFRC, and as follows from the discussion in Section 4.3.1 above, there is scientific cooperation between IMR and PINRO.

No changes have been reported in the basic legislation, management set-up, consultation mechanisms or monitoring, control and surveillance (MCS) at national level in Norway in the surveillance year. Regulations for the snow crab fishery in 2025 are given in Regulation J-33-2025. The JNRFC convened (digitally) as planned for its 54th session on 21-31 October 2024 (JNRFC, 2024).

After a general ban on fishing for snow crab was introduced in 2015, it has been possible to apply for a derogation from this ban. Special permits for the snow crab fishery were introduced in 2019, and since then approx. 70 vessels have had the permission to fish for snow crab. However, the number of vessels that have been active in the fishery is far lower, in the last few years around 20 vessels. In 2023, the Ministry of Industry, Trade and Fisheries decided to reduce participation in the snow crab fishery from January 2025, and all permits were revoked in May 2024 and a new licensing system introduced from 2025: 46 applications were received, and as of December 2024, 21 permits had been given (with some applications pending) (Directorate of Fisheries, 2024).

The last annual report that is available from the Norwegian Coast Guard is for 2023 (Coast Guard, 2024). Inspection and compliance levels remain at approximately the same levels as previous years, with a slight increase in inspections and a slight reduction in infringements. The Coast Guard carried out 1162 inspections in waters under Norwegian jurisdiction in 2023 (up from 1034 in 2022), of which 734 were north of N65, i.e. in the Barents Sea. 30 inspections (2.6 %) resulted in a fine or prosecution (down from 55 and 5.3 % in 2022), of which 16 were in the Barents Sea (2.2 % of the inspections there). In addition, 88 warnings (7.6 %) were issued, among them 54 in the Barents Sea (7.4 %). 783 inspections were of Norwegian vessels and 379 of foreign vessels (not separated by ocean area). The total number or aerial surveillance hours was 563, and there were 2236 drone deployments. Notably, all inspections by the Norwegian Coast Guard are last haul inspections. The number of at-sea patrol days was 3716 in 2023, of which 679 days were with helicopter-carrying Coast Guard vessels, which is considerably higher than in EU waters, where the total number of patrol days by all EU member states combined in 2023 was 685 (EFCA, 2024).

The Directorate of Fisheries is responsible for land-based inspections. According to its annual report for 2024 (Directorate of Fisheries, 2025), the Directorate carried out 1829 inspections that year. 480 of these were ‘full

inspections' (with all fishing and quality regulations), 682 inspections in recreational fisheries, 214 of fish-processing plants and 453 document controls (unclear whether of vessels, plants or recreational fisheries, or all). 9.9 % of the inspections (excluding recreational fisheries) led to verbal guidance, 8.7 % to written guidance, 2 % to a fine and 1 % to prosecution. This is comparable to previous years and considered to reflect a high level of compliance, with only 3 % of the inspections leading to either fine or prosecution. The statistics are not broken down on type of fisheries, but according to the fishery client, there were no infringements in the snow crab fleet in the surveillance year.

4.3.4 Inseparable or practically inseparable (IPI) stock status

There are no inseparable or practically inseparable (IPI) stocks in this fishery.

4.3.5 Total Allowable Catch (TAC) and catch data

Table 8. Total Allowable Catch (TAC) and catch data.

TAC	Year	2024	Amount	10,300 t
UoA share of TAC	Year	2024	Amount	10,300 t
Total catch by UoC	Year (most recent)	2024	Amount	10,462 t
	Year (second most recent)	2023	Amount	7.643 t

4.4 Changes which impact traceability systems

No changes which may impact traceability systems in the fishery were identified at this surveillance audit.

5 Surveillance/Expedited Audit Results

5.1 Summary overview

5.1.1 Summary of conditions update

No conditions have been identified for this fishery.

5.1.2 Recommendations

In addition to conditions, assessment team may make recommendations. While recommendations are not binding, and as such do not require obligatory actions on the part of the fishery, fishery clients are encouraged to act upon them within the spirit of MSC certification.

The assessment team raised the following recommendations for this fishery:

Recommendation 1 (PI 1.1.1):

- Along with the formal assessment of the population on the Norwegian side of the boundary, there should be some ongoing consideration of trends in status of the overall Barents Sea snow crab stock.
- Client response: Higher quotas and larger landings since 2017 indicate changes in the size of the catch area and increased quantities of catchable snow crab on the Russian shelf. In 2022, a small quota of less than 1 tonne was also introduced in the Kara Sea, but it is uncertain whether the fishing has actually started since the quota is low. From 2023, fishing in the Russian part of the Loophole has been reopened for Russian vessels. Please see: https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-2024-44.

Recommendation 2 (PI 1.2.1):

- There should be ongoing evaluation of all the various possible sources of UoA-related mortality of unwanted catch of the target stock, including provision of data summaries to illustrate the magnitude and effectiveness of any measures aimed at minimizing each.
- Client response: Only reports on limited catches of snow crab in the shrimp fishery (> 100 t), where 2022 was recorded as highest with about 2 tonnes.

Recommendation 3 (PI 1.2.1):

- In addition to efforts to minimize out-of-water exposure of crabs to be released alive, due consideration should be given to onboard handling practices in terms of improving the probability of post-release survival.
- Client response: A treatment manual for snow crab is under development. However, the aim is that the main sorting take place at the sea floor and that's why it is vital to continue development of the traps.

Recommendation 4 (PI 1.2.1):

- Ghost fishing is a significant issue for the fishery. In addition to numbers of lost traps being recovered, an estimate of numbers lost should be provided along with ongoing evaluation of the effectiveness of new measures aimed at reducing the impact.
- Client response: Lost fishing gears (traps) are reported here: https://www.barentswatch.no/fiskinfo/lostfishingfacility/b61d8d7f-fff5-4bc5-adbf-a77d53d9fb1d. The total annual numbers of traps lost (including lost and found) will be discussed with the Directorate of Fisheries (DoF).

Recommendation 5 (PI 1.2.3):

- An environmental index should be developed to evaluate a relationship with an index of recruitment to provide a possible basis for long-term forecasting of climate change impacts.

- Client response: Has been considered, however, due to the present good situation of the stock it has not been included. It will be considered if the stock abundance starts to reduce significantly.

Recommendation 6 (PI 1.2.3):

- The assessment team was unable to obtain any summary of non-UoA catches of snow crab or any confirmation that this bycatch of snow crab is included in statistics on snow crab landings. Efforts should be made to ensure that snow crab bycatch in non-UoA fisheries is included in the official snow crab landings.
- Client response: Please find these data at the DoF: https://www.fiskeridir.no/statistikk-tall-og-analyse/data-og-statistikk-om-yrkesfiske/fangst/fangst-fordelt-pa-art-offisiell-statistikk
- Please examine these reports:
    - https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-2024-45
    - https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-2024-44

Recommendation 7 (PIs 2.1.3 and 2.2.3)

- All bycatch should be recorded regularly, through independent sources (observers on board the fishing vessels) or through special designed software as used by other MSC certified fisheries in the Barents Sea.
- Client response: All bycatch are recorded through the Electronic Reporting Systems (ERS) https://www.fiskeridir.no/english/Fisheries/reporting-systems-and-innovation.

5.2 Re-scoring Performance Indicators

PI 2.2.1 was re-scored from 90 to 80 as the assessment team elected not to the RBF to score minor species. In addition, adjustments were made in the rationales of PIs 1.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2 and 2.2.3.

5.2.1 Principle 1

PI 1.1.1 – Stock status

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

There is a high degree of certainty that the stock is above the PRI.

The Norwegian snow crab fishery is on a portion of the larger Barents Sea stock that is shared with Russia. The stock itself is new, having spread naturally from elsewhere in the species' distribution, and has grown rapidly since snow crab were first detected in the area in 1996.

The stock assessment is based on ~~data from the annual Norwegian-Russian ecosystem survey in the Barents Sea (from 2004), the Norwegian Institute of Marine Research dedicated snow crab survey (from 2020), logbooks (from 2017) and landings data from the fishery,~~ reported landings, stock indices based on snow crab surveys (2019-2024), the annual Norwegian-Russian ecosystem surveys in the Barents Sea (2004-2023), electronic logbooks (2015-2024) as well as other research on snow crab in the Barents Sea and other areas.

The Norwegian-Russian ecosystem survey uses a fixed station network that covers the entire Barents Sea; it is carried out in the period August – October using a Campelen bottom trawl and pelagic trawl in a fixed station network that covers the entire Barents Sea. The ~~2021~~ 2023 ecosystem survey included good coverage on Norwegian continental shelf– it showed no significant change in the distribution of snow crab in this area compared to previous years.

In the Norwegian assessment of the portion of the stock on the Norwegian Continental Shelf, stock indices are calibrated in a mathematical model that is used to describe stock development and includes forecasting and risk analyses. This Bayesian model assumes logistic population growth and, in addition to stock and landing data, can use other relevant information. The model calculates population size in relative rather than absolute values. MSY is used as a reference point. Both stock size and fishing mortality are given on a relative scale where 0.5 and 1 corresponds to B_{MSY} and fishing mortality ~~corresponds to~~ and F_{MSY}, respectively.

Over the period since the initial discovery of snow crab in the Barents Sea (in 1996), the population on the Norwegian Continental Shelf has increased rapidly and this increase continued after fishing started in 2012. ~~Model results indicate that biomass was slightly above BMSY (lower CI below) and fishing mortality slightly below FMSY (upper CI above) in 2021. Risk analysis indicates a 13% probability of B < BMSY and a 22% probability of F > FMSY in 2021; a probability <1% of B < Blim in 2020 and in 2021 while the probability of F > Flim is 0% in 2020 and 1.3% in 2021.~~ The results of the 2024 assessment show that the stock biomass is at its highest value since 2012. Model results indicate that B/B_{MSY} was significantly above B_{MSY} (even lower CI was above MSY $B_{trigger}$ and B_{lim}) and fishing mortality rate F/F_{MSY} was below F_{lim} and F_{MSY} (but upper CI above F_{MSY}) in 2024 and 2025. Risk analysis indicates 0% probability of $B<B_{MSY}$, 0% probability of $B<MSY\ B_{trigger}$ in 2026, 32.8% probability of $F>F_{msy}$ is and 6.2% probability $F>F_{lim}$ given the recommended TAC for 2025 (Hjelset, pers.comm.).

A B_{lim} reference point for the fishery has been set at $0.3B_{MSY}$ and this is considered a minimum population size requiring a sharp reduction in fishing mortality or closure of the fishery. Therefore, there is a high degree of certainty that the stock is above the PRI and **SGs 60, 80 and 100 are met**.

PI 1.1.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing			
	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
b	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

The stock is at or fluctuating around a level consistent with MSY.

Results from the annual assessment indicate that the population on the Norwegian Continental Shelf has been at or above B_{MSY} from 2018. ~~Risk analysis indicates a probability that B < BMSY of 20.2% in 2020 and 13.4% in 2021 and a probability that F > FMSY of 4.6% in 2020 and 22.0% in 2021.~~ Risk analysis indicates 0% probability of $B<B_{MSY}$, 0% probability of $B<MSY\ B_{trigger}$ in 2026, 32.8% probability of $F>F_{msy}$ is and 6.2% probability $F>F_{lim}$ given the recommended TAC for 2025 (Hjelset, pers.comm.). Therefore, the stock is at or fluctuating around a level consistent with MSY and **SG80 is met**.

However, lower CIs for the biomass estimates from 2018 have been below B_{MSY}. Therefore, there is not 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 and **SG100 is not met**.

References

Hjelset, A.M., Danielsen, H.E.H., Jenssen, M., Humborstad, O.-B., Anders, N., Saltskår, J., Berg, E. and Zimmermann, F. 2024a. Snow crab on the Norwegian shelf in the Barents Sea – Status and advice for 2025. Report series: 2024-44. ISSN: 1893-4536. pp 32. https://www.hi.no/hi/nettrapporter/rapport-fra-havforskningen-2024-44.

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IMR, 2024b. Quota Council: Snow crab on the Norwegian shelf in the Barents Sea. https://www.hi.no/hi/radgivning/kvoterad/2025/snokrabbe-pa-norsk-sokkel-i-barentshavet.

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} = 0.3B_{MSY}	Model calculates B in relative rather than absolute terms. ~~MSY is a relative value = 1~~.	Above B_{MSY} (relative value ~~1.4~~ 1.6) ~~with lower 95% CI below~~.
Reference point used in scoring stock relative to MSY (SIb)	B_{MSY}		Above B_{MSY} (relative value ~~1.4~~ 1.6) ~~with lower 95% CI below~~.

Overall Performance Indicator score

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	1 of 1	2 of 2	1 of 2	**90**

PI 1.1.1	The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing	
Condition number (if relevant)		**N**

5.2.2 Principle 2

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
a	**Main primary species stock status**			
	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.
	Met?	**NA**	**NA**	~~**NA**~~ **Yes**
Rationale				
~~According to the catch, by-catch and bait data provided by the client, there are no main primary species identified for this fishery and this scoring issue is scored as non-applicable in accordance with the MSC Interpretation on P2 species outcome PIs (https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344).~~ Since there are no main or minor primary species in this UoA, in accordance with the MSC Interpretation on P2 species outcome PIs, as the UoA has no impact on this component, it receives a default 100 score.				
b	**Minor primary species stock status**			
	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?			~~**Northern shrimp**~~ ~~**Red king crab**~~ ~~**Yes**~~ ~~**Yes**~~ **Yes**
Rationale				

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

Minor primary species are highly likely to be above the PRI.

According to the catch, by-catch and bait data provided by the client and IMR and discussions made with various stakeholders during the site visit, minor primary species identified were: Northern shrimp (*Pandalus borealis*) and red king crab (*Paralithodes camtschaticus*).

Minor primary species are only assessed at the SG100 level as to whether they are highly likely (i.e.>80th %ile) to be above the PRI or, if below the PRI, there is evidence that the UoA does not hinder their recovery and rebuilding.

Northern shrimp (Pandalus borealis)

According to the latest assessment, the stock is considered to be well above safe biological limits. Biomass is above MSY Btrigger and Blim (i.e. PRI). Fishing pressure on the stock is below FMSY and Flim. The risk of the stock biomass falling below biomass reference points is very low. Thus, there is a high degree of certainty that the stock of Northern shrimp is above the PRI and **SG100 is met.**

Red king crab (*Paralithodes camtschaticus*)

According to the latest assessment, in the Norwegian EEZ, red king crab has been fished above FMSY in recent years but below Flim, with the risk for exceeding Flim estimated to be less than 35% in 2019 stock assessment, while stock biomass is estimated to be above Blim (i.e. PRI). However, species stock biomass was estimated at or close to the BMSY, with B/BMSY2020 =0.66 – 0.88 in previous assessment. With biomass not being above Blim in recent assessments, it cannot be said that red king crab is highly likely to be above its PRI. The assessment team also considered whether (or not) there is evidence that the UoA does not hinder the recovery and rebuilding of the species. In the past five fishing seasons (2017-2021), red king crab has represented 0.0005% of total catches in the UoA (or <1% of total catches). The fact that the UoA contribute <1% of total catches of red king crab, constitutes evidence that the UoA does not hinder the recovery and rebuilding of the species. Thus, it is concluded by the team that **SG100 is met**.

Since there are no main or minor primary species in this UoA, in accordance with the MSC Interpretation on P2 species outcome PIs, as the UoA has no impact on this component, it receives a default 100 score.

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Overall Performance Indicator score

Individual scoring elements	Applicable SGs met per individual scoring element			Scoring element scores
	SG60	SG80	SG100	

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				
1	~~Northern shrimp~~ Main species	NA	NA	1 of 1	**100**
2	~~Red king crab~~ Minor species	~~NA~~	~~NA~~	1 of 1	**100**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		NA	NA	2 of 2	**100**
Condition number (if relevant)					

PI 2.1.2 – Primary species management strategy

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**	**Yes**

Rationale

There is a strategy in place for the UoA for managing main and minor primary species.

According to the catch, by-catch, bait data provided by the client and IMR, and discussions made with various stakeholders during the site visit, there are no main and minor primary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*. **SG60 and SG80 are therefore met by default.**

~~The amount of by-catch provided from logbooks is very low. This was confirmed during the site visit with the fishermen and the various stakeholders.~~ Any potential primary species are usually species of commercial value with management tools controlling exploitation. ~~Northern shrimp has an annual assessment via ICES.~~ These tools, comprise a strategy as they are regularly reviewed through The Joint Russian-Norwegian Fisheries Commission (JRNFC), as well as by IMR scientists and ICES ~~(for Northern shrimp)~~. Tools include:

- a requirement for accurate information on landings of by-caught species (log book, landings notes and on-board checks by inspectors)
- all commercial species have to be retained and recorded
- maximum number of traps per vessel
- maximum soak time
- closed season for trap fishery
- protected areas
- by-catch exclusion measures where possible
- ~~Management of Northern shrimp is based on the MSY approach using the mode of FMSY. A Bayesian fitting of a surplus-production model is used with input data being the fishery catches from 1970 to 2021.~~

Lost crab traps are common in the ecoregion and often go unreported. The Norwegian Directorate of Fisheries has organized retrieval surveys for lost fishing gear annually since 1980 (ICES, 2021b; 2022b). 1,200 snow crab traps were picked up during the Norwegian Fisheries Directorate's clean-up expedition in 2019 and 2,400 in 2020, which indicates that the problem is extensive (Hjelset *et al.,* 2021). Several discussions were conducted during the site visit and all stakeholders reported the importance of the retrieval surveys. Fishermen mentioned that almost 100% of the species found in the retrieved traps were crabs (only a dead humpback whale was discovered in the expedition of 2019, which was caught in ropes attached to pot traps and a dead seal was also found in one of the pots). There were no other species reported to be found in the traps, showing the selectivity of the gear. As reported, wherever possible, the crew will attempt to lift the lost fishing gears. Fishing gear is expensive equipment, and loss of it can also be a reason for withdrawal of a vessel from fishing. Therefore, fishermen are keen to prevent the loss of gear. The fishery under assessment has in place on-board measures to minimise losses of fishing gear, as

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

well as taking direct action to retrieve lost gear. Over time, Norway has developed a system for coordinating between fishers and official bodies that works well. Compliance with the requirement to report lost equipment is on the rise and the annual expeditions are helping to generate mutual trust in a functioning system, which yields positive results each year.

Based on the above, the team believes that there is a strategy in place for the UoA for managing any potential main and minor primary species and **SG100 is met**.

b	Management strategy evaluation			
	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

There is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the fishery and species involved.

The measures mentioned in SIa are considered likely to work, based on the general experience about the fishery and the comparison with similar MSC certified fisheries in the Barents Sea (Antey Sever Barents Sea crab, Russia Barents Sea Opilio trap fishery).

The amount of primary species by-catch as provided by the client logbooks, bait information and discussions made with various stakeholders during the site visit, is ~~small~~negligible (zero). This derives from the nature of the fishery (as reported by the client and also mentioned in other MSC certified reports). Traps are passive gear and targeting snow crab and therefore it is highly likely that the low amount of primary species caught will have little impact on the relevant stock. Thus, **SG60 is met**.

Any potential ~~P~~primary species ~~reported~~ in this fishery ~~(i.e. Northern shrimp and red king crab)~~ are usually monitored, undergo annual assessments of stock status which to all intents and purposes "test" whether the harvest strategy is working in each case. All assessments and scientific advice are published annually by IMR and ICES, scientific papers are produced and all are available online. Many of the HCRs contained within those strategies are also subject to regular or occasional review as appropriate. Thus, there is some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the species involved and SG80 is met.

There is no quantitative information available over a sufficient period of time, e.g. over several fishing seasons and there is no information of observers on board to allow testing. Thus, **SG100 is not met**.

c	Management strategy implementation			
	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

There is some evidence that the measures/partial strategy is being implemented successfully.

Given ~~the low proportion of~~ ~~provided~~ that no by-catch was reported by the client logbooks, the bait information and the discussions made with various stakeholders during the site visit, the strategy is working in practice for the client fleet. The

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

potential species involved are usually monitored and regularly evaluated (IMR and ICES advice and other workshops). As reported by the client during the site visit, the catch composition is almost 100% snow crabs and by-catch is negligible (zero). Retained commercially important species are recorded, ongoing scientific surveys of the stock status of the species involved are in place, good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS records are available. ~~The good status of the minor primary species indicates that the objective of the strategy is met.~~ Based on the above, the assessment team is satisfied that there is some evidence that the measures/partial strategy is being implemented successfully and **SG80 is met.** In the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned) it cannot be assumed that 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). Thus, **SG100 is not met**.

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

According to MSC requirements, this scoring issue need not be scored if no primary species are sharks; therefore, as none of the primary species relevant to the UoA under assessment are species of shark, this scoring issue is scored as non-applicable for the UoA.

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?	**NA**	**NA**	**NA**

Rationale

In MSC the term "unwanted catch" is used to describe 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. According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there was ~~very little~~ no by-catch ~~(negligible)~~, so researching into alternative measures could have seemed not warranted or appropriate. There is no formal review process of this fishery regarding the gear and deployment, as traps have been traditionally used and are considered low impact. This scoring issue is scored as non-applicable for the UoA ~~as the catch of primary species is negligible~~.

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Overall Performance Indicator score

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	3 of 3	1 of 3	**85**
Condition number (if relevant)				**NA**

PI 2.1.3 – Primary species information

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**	**No**
Rationale				
There are no ~~main~~ primary species. According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, ~~there is some~~ quantitative information will be reported if any species will be by-caught. ~~on by-catch in 2017~~. There are no ~~main~~ primary species. Any ~~R~~retained commercially important species ~~are~~ will be recorded, good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS records are available. Observers during the annual Norwegian-Russian ecosystem surveys provide useful information about the fishery since the ecosystem surveys have a good degree of coverage on the Norwegian continental shelf. A recently available observer report for 2020 (VNIRO 2021 opilio observer in the certified MSC Antey Sever Barents Sea crab fishery), covering a period from Sept – Nov 2020, recorded that the by-catch of demersal fishes registered in the snow crab trap fishery during the period of research works was assessed as insignificant (0.003 individuals/trap). **SG60 and SG80 are met.** However, in the absence of any information on by-catch data from independent sources (e.g. observers on board fishing vessels concerned) it cannot be assumed that all species have been investigated and **SG100 is not 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?			**No**
Rationale				
According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, ~~there is some~~ quantitative information will be reported if any species will be by-caught. ~~Minor primary species attributed to this fishery are Northern shrimp and red king crab. The percentage of by-catch of each of these species is minute, 0.005% and 0.0005%, for Northern shrimp and red king crab, respectively. These species are monitored and regularly evaluated (IMR and ICES advice and other workshops).~~ Any ~~R~~retained ~~commercially important~~ species ~~are~~ will be recorded, good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS				

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

records are available. However, in the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned) it cannot be assumed that all minor species have been investigated and **SG100 is not 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 is adequate to support a partial strategy to manage main primary species.

According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there are no ~~main~~ primary species, and **SG60 and SG80 are met** by virtue.

~~The amount of by-catch provided by the client catch and by-catch data is low (negligible). This a result of the type of gear used, and species targeted.~~

Considering the impact of ghost fishing on primary species, both the Directorate of Fisheries and the client reported that this doesn't consist major issue. A snow crab trap is designed to catch snow crab so that this species cannot escape. Individual fish that are capable of swimming will, however, have no problem escaping the trap through the entrance. Hence, the small amount of catch registered as fish would be "unfortunate" individuals that were in the trap to eat crab and didn't manage to get out at the moment the trap was pulled up at high speed towards the surface (Directorate of Fisheries, pers. Com.). ~~Moreover, there are no or very few individuals of Northern shrimp, and red king crab registered in ghost fishing from snow crab traps in the Barents Sea (client, pers. Com.). IMR mentioned that Northern shrimp follow the tactic of escaping a crab trap through its openings.~~

However, quantitative information on primary species by-caught is limited, and the analysis of available quantitative data does not make it possible to evaluate any trends. Therefore, it is not possible to say with a high degree of certainty that the strategy is achieving its objective. In the absence of any information about by-catch from independent sources into the fishery, it cannot be assumed by the assessment team that all species interacting with the fishery under assessment have been investigated, and probably the measures cannot act as strategy in any potential ~~the minor~~ primary species, thus **SG100 is not met**.

References

References available as presented in PCR.

Overall Performance Indicator score

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	2 of 2	0 of 3	**80**
Condition number (if relevant)				**NA**

PI 2.2.1 – Secondary species outcome

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
a	**Main secondary species stock status**			
	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.
	Met?	**NA**	**NA**	~~**NA**~~ **Yes**
Rationale				
		~~According to the catch, by-catch, the bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there are no main secondary species and this scoring issue is scored as non applicable in accordance with the MSC Interpretation on P2 species outcome PIs (https://mscportal.force.com/interpret/s/article/P2-species-outcome-PIs-scoring-when-no-main-or-no-minor-or-both-PI-2-1-1-1527262009344).~~ Since there are no main secondary species in this UoA, in accordance with the MSC Interpretation on P2 species outcome PIs, as the UoA has no impact on this component, it receives a default 100 score.		
b	**Minor secondary species stock status**			
	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?			~~**Spotted wolffish**~~ **Bait (Squid)** ~~**Yes**~~ **No**

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

Rationale

There is no evidence that the UoA does not hinder the recovery and rebuilding of secondary species ~~(spotted wolffish only)~~.

According to the catch, by-catch, bait data provided by the client and IMR and the discussions made with various stakeholders during the site visit, the only minor secondary species identified is ~~are: Spotted wolffish (*Anarhichas minor*), and~~ Squid (*Illex argentines)* used as bait.

~~**Spotted wolffish (*Anarhichas minor*)**~~

~~There is no ICES assessment for spotted wolffish. Abundance and biomass indexes are available, until 2021, with more recent distribution patterns provided by the IMR/PINRO ecosystem survey 2021. VNIRO-PINRO (Russia) has followed the development of all three wolffish species in the Barents Sea during 1979-2016. IMR has monitored the wolffish species in the southern Barents Sea since 1981. These two time series together have been used as a proxy of stock status and biomass/biomass maximum sustainable yield (B/BMSY) which has been evaluated to be moderate until 2017. The stock size of spotted wolffish, has been relatively stable since 2004 with increase trend the latter years. Considering the above the assessment team cannot conclude that the species is highly likely to be above biologically based limits. A formal Blim (i.e. PRI) is not defined for the species, so, the assessment team also considered whether (or not) there is evidence that the UoA does not hinder the recovery and rebuilding of the species. In the past five fishing seasons, spotted wolffish has represented on average 0.04% of total catches in the UoA (or <1% of total catches). The fact that the UoA contribute <1% of total catches of spotted wolffish, constitutes evidence that the UoA does not hinder the recovery and rebuilding of the species. Thus, it is concluded by the team that **SG100 is met**.~~

Squid (*Illex argentines)*

Squid as bait was designated as a secondary species, there was no stock information available at the time of the assessment. Given that biologically based limits are undefined for this stock, the RBF should be triggered as per Table 3. However, the team elected not to use the RBF to score this minor species. Therefore, the final PI score shall not be greater than 80 as per PF5.3.2.1.

In the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned) it cannot be assumed that all minor species have been investigated and **SG100 is not met**.

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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

• Antey Sever Barents Sea Crab. https://fisheries.msc.org/en/fisheries/antey-sever-barents-sea-crab/@@view.

• Russia Barents Sea Opilio Trap. https://fisheries.msc.org/en/fisheries/russia-barents-sea-opilio-trap/@@view

Overall Performance Indicator score

Individual scoring elements		Applicable SGs met per individual scoring element			Scoring element scores
		SG60	SG80	SG100	
1	Main species	NA	NA	~~NA~~ Yes	~~**NA**~~ **Yes**
~~2~~	~~Spotted wolffish~~			~~1 of 1~~	~~**100**~~
~~3~~ 2	Squid			0 of 1	**80**
Overall Performance Indicator score		Applicable SGs/elements met			Overall score
		SG60	SG80	SG100	
		NA	NA	~~1 of 2~~	~~**90**~~ **80** The team elected not to use the RBF to score minor species. Therefore, the final PI score shall not be greater than 80 as per PF5.3.2.1
Condition number (if relevant)					**NA**

PI 2.2.2 – Secondary species management strategy

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

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.

According to the catch, by-catch, the bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there are no main secondary species. The assessment team considered MSC Fisheries Standard v.2.01 Table SA8, the MSC interpretation on "the use of 'if necessary' in P2 management PIs", and G7.17.10.a *for 'minor' species SGs only exit at SG100 level in some PIs, when scoring such minor species the team should assume that SG80 level is met by default, such that the scores are simply based on how many of the scoring issues that apply to 'minor' species are met at the SG100 level*. **SG60 and SG80 are therefore met by default.**

Due to the nature of the fishery assessed here, little by-catch is recorded. Minor secondary species attributed to this fishery ~~are Spotted wolffish and~~ is squid. ~~The percentage of by-catch of Spotted wolffish is minute, 0.04%.~~ The amount of bait used in the fishery is very low considering the total catch~~.~~, as it was reported by the client during and after the site visit and IMR. This is confirmed also from the information presented in other MSC assessed fisheries in the Barents Sea in similar fisheries in the area concerned (Antey Sever Barents Sea crab, Russia Barents Sea Opilio trap fishery and others).

The main strategy to reduce unwanted by-catch consists of:

- a requirement for accurate information on landings of by-caught species (logbook, landings notes and on-board checks by inspectors)
- maximum number of traps per vessel
- maximum soak time
- closed season for trap fishery
- protected areas
- by-catch exclusion measures where possible

~~Grant and Hiscock (2014) demonstrated a 92-100% post capture survival for Striped/Atlantic wolffish following net entrainment in commercial bottom otter trawl tows up to 2.5 h, haul back through a thermocline (range, 5.8 °C), and exposure to 5–13 °C air temperatures for up to 2 h. The authors of the study also noted that high post-capture survival and similarities among all three species of wolffish (Atlantic, Northern and Spotted wolfish) with regard to morphology, physiology, post-capture activity levels, and tag returns in previous studies suggest live-release programs will help to rebuild populations of all three wolffish species. More recently, Iceland has been investigating the post capture survival of spotted wolffish bycatch and their preliminary results indicate high survival after catches in bottom trawls (MFRI, 2022), which informed a change in regulation in 2021 to allow live releases of spotted wolffish at sea despite their system requiring landing of all species caught (full discard~~

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

~~ban in place). Considering that post capture survival following trawl catch is very high, survival following release from crab pots should be at least comparable, if not higher. For example, a 2021 study by Goodman *et al.* (2021) on the retrieval of abandoned, lost, and discarded fishing gear in the Southwest Nova Scotia lobster trap fishery, recorded two Atlantic wolffish in the recovered traps, still alive and released as such, showing the hardiness and high post capture survival of wolffish. All in all the effects resulting from wolffish capture and release from the Scotian Shelf snow crab fishery are highly likely to be small to negligible.~~

Lost crab traps are common in the ecoregion and often go unreported. The Norwegian Directorate of Fisheries has organized retrieval surveys for lost fishing gear annually since 1980 (ICES, 2021b; 2022b). 1,200 snow crab traps were picked up during the Norwegian Fisheries Directorate's clean-up expedition in 2019 and 2,400 in 2020, which indicates that the problem is extensive (Hjelset *et al.,* 2021). Several discussions were conducted during the site visit and all stakeholders reported the importance of the retrieval surveys. Fishermen mentioned that almost 100% of the species found in the retrieved traps were crabs (only a dead humpback whale was discovered in the expedition of 2019, which was caught in ropes attached to pot traps and a dead seal was also found in one of the pots). There were no other species reported to be found in the traps, showing the selectivity of the gear. As reported, wherever possible, the crew will attempt to lift the lost fishing gears. Fishing gear is expensive equipment, and loss of it can also be a reason for withdrawal of a vessel from fishing. Therefore, fishermen are keen to prevent the loss of gear. The fishery under assessment has in place on-board measures to minimise losses of fishing gear, as well as taking direct action to retrieve lost gear. Over time, Norway has developed a system for coordinating between fishers and official bodies that works well. Compliance with the requirement to report lost equipment is on the rise and the annual expeditions are helping to generate mutual trust in a functioning system, which yields positive results each year.

Moreover, good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS records are available. However, in the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned) it is too risky to assume that the partial strategy described above can work as a strategy in all secondary species and **SG100 is not met**.

b	**Management strategy evaluation**			
	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

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.

The partial strategy mentioned in Sia is considered likely to work, based on the general experience about the fishery and the comparison with similar MSC certified fisheries in the Barents Sea (Antey Sever Barents Sea crab, Russia Barents Sea Opilio trap fishery).

~~The amount of secondary species by-catch as provided by the client logbooks, is small, almost negligible.~~ There is no by-catch reported on the client logbooks. This derives from the nature of the fishery (as reported by the client during the site visit and also mentioned in other MSC certified reports). Traps are passive gear and targeting snow crab and therefore it is highly likely that the event of any by-catch the amount will be low and species ~~amount of secondary species caught~~ will have little impact on the relevant stock. Thus, **SG60 is met**.

Although quantitative catch data from the UoA are limited, these data along with the discussions made with various stakeholders during the site visit and the information presented in other MSC assessed fisheries in the Barents Sea in similar fisheries (Antey Sever Barents Sea crab, Russia Barents Sea Opilio trap fishery), do support the assertions that bycatch quantities

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

are minimal. These data provide some objective basis for confidence that the measures/partial strategy will work, based on some information directly about the UoA and the species involved and **SG80 is met**.

In the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned), it cannot be assumed by the assessment team that there can be any testing to support that the measures/partial strategy will work and **SG100 cannot be met**.

c	**Management strategy implementation**			
	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

There is some evidence that the measures/partial strategy is being implemented successfully.

Given that no ~~the low proportion of~~ by-catch was reported and the bait provided by the logbooks of the client and IMR, the partial strategy is working in practice for the client fleet. ~~The amount of secondary species by-catch as provided by the client logbooks, is small.~~ This derives from the nature of the fishery (as reported by the client and also mentioned in other MSC certified reports). Traps are passive gear and targeting snow crab and therefore it is highly likely that the low amount of secondary species caught will have little impact on the relevant stock. Thus, there is some evidence that the measures/partial strategy is being implemented successfully and **SG80 is met**.

In the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned), it cannot be assumed by the assessment team that all species interacting with the fishery under assessment have been investigated and as such there is not clear evidence that the partial strategy/strategy is being implemented successfully and **SG100 cannot be met**.

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

According to MSC requirements, this scoring issue need not be scored if no secondary species are sharks; therefore, as none of the secondary species relevant to the UoA under assessment are species of shark, this scoring issue is scored as non applicable for the UoA.

e	**Review of alternative measures to minimise mortality of unwanted catch**			
	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.

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		
	Met?	**NA**	**NA**	**NA**

Rationale

In MSC the term "unwanted catch" is used to describe 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. According to the catch, by-catch data and bait provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there was ~~very little~~ no by-catch reported~~(almost negligible)~~, so researching into alternative measures could have seemed not warranted or appropriate. There is no formal review process of this fishery regarding the gear and deployment, as traps have been traditionally used and are considered low impact. This scoring issue is scored as non applicable for the UoA.

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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

• van der Meeren G. I., and Prozorkevich, D. (Eds) 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, 91pp.

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• Lost fishery equipment removed from the seabed. https://www.fiskeridir.no/English/Fisheries/Marine-litter/Retrieval-of-lost-fishing-gear/Lost-fishery-equipment-removed-from-the-seabed.

Overall Performance Indicator score

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	3 of 3	0 of 3	**80**
Condition number (if relevant)				**NA**

PI 2.2.3 – Secondary species information

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**	**No**
Rationale				
Some quantitative information is available and adequate to assess the impact of the UoA on main secondary species with respect to status. There are no main secondary species. According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there is some quantitative information on by-catch in 2017. There are no main secondary species. Retained commercially important species are recorded, good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS records are available. Observers during the annual Norwegian-Russian ecosystem surveys provide useful information about the fishery since the ecosystem surveys have a good degree of coverage on the Norwegian continental shelf. A recently available observer report for 2020 (VNIRO 2021 opilio observer in the certified MSC Antey Sever Barents Sea crab fishery), covering a period from Sept – Nov 2020, recorded that the by-catch of demersal fishes registered in the snow crab trap fishery during the period of research works was assessed as insignificant (0.003 individuals/trap). **SG60 and SG80 are met.** However, in the absence of any information on by-catch data from independent sources (e.g. observers on board fishing vessels concerned) it cannot be assumed that all species have been investigated and **SG100 is not met**.				
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				
According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there is some quantitative information on by-catch in 2017. Minor secondary species				

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

attributed to this fishery ~~are Spotted wolffish and~~ is squid. ~~The percentage of by-catch of Spotted wolffish is minute, 0.04%.~~ The amount of bait used in the fishery is very low considering the total catch. as it was reported by the client during and after the site visit and IMR. This is confirmed also from the information presented in other MSC assessed fisheries in the Barents Sea in similar fisheries in the area concerned (Antey Sever Barents Sea crab, Russia Barents Sea Opilio trap fishery and others). Good compliance with the regulations in place is reported by the client, compliance records are reported, and VMS records are available. However, in the absence of any information on by-catch data from independent sources (e.g. observers on board the fishery concerned) it cannot be assumed that all minor species have been investigated and **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

Information is adequate to support a partial strategy to manage main secondary species.

According to the catch, by-catch and bait data provided by the client and IMR, and the discussions made with various stakeholders during the site visit, there are no main secondary species, and **SG60 and SG80 are met** by virtue.

The amount of by-catch provided by the client catch and by-catch data and bait data provided by the client is low (negligible). This a result of the type of gear used, and species targeted.

Considering the impact of ghost fishing on secondary species, both the Directorate of Fisheries and the client reported that this doesn't consist major issue. A snow crab trap is designed to catch snow crab so that this species cannot escape. Individual fish that are capable of swimming will, however, have no problem escaping the trap through the entrance. Hence, the small amount of catch registered as fish would be "unfortunate" individuals that were in the trap to eat crab and didn't manage to get out at the moment the trap was pulled up at high speed towards the surface (Directorate of Fisheries, pers. Com.). Moreover, there are no or very few individuals of wolffish registered in ghost fishing from snow crab traps in the Barents Sea (client, pers. Com.). In the absence of any information about by-catch from independent sources into the fishery, it cannot be assumed by the assessment team that all species interacting with the fishery under assessment have been investigated, the information is not 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, thus **SG100 cannot be met**.

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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

• van der Meeren, G., and Prozorkevich, D. 2019. Survey report from the joint Norwegian/Russian ecosystem survey in the Barents Sea and adjacent waters, August-October 2018. IMR/PINRO Joint Report Series 2, pp. 85.

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Overall Performance Indicator score

Overall Performance Indicator score	Applicable SGs/elements met			Overall score
	SG60	SG80	SG100	
	2 of 2	2 of 2	0 of 3	**80**
Condition number (if relevant)				**NA**

5.2.3 Updated PI and Principle scores

Updated scores following re-scoring are provided in Table 9.

Table 9. Updated scores.

Principle	Component	Weight		Performance Indicator (PI)	Weight	Score
One	Outcome	0.333	1.1.1	Stock status	1.000	90
	Management	0.667	1.2.1	Harvest strategy	0.250	80
			1.2.2	Harvest control rules & tools	0.250	80
			1.2.3	Information & monitoring	0.250	90
			1.2.4	Assessment of stock status	0.250	90
Two	Primary species	0.200	2.1.1	Outcome	0.333	100
			2.1.2	Management strategy	0.333	85
			2.1.3	Information/Monitoring	0.333	80
	Secondary species	0.200	2.2.1	Outcome	0.333	~~90~~80
			2.2.2	Management strategy	0.333	80
			2.2.3	Information/Monitoring	0.333	80
	ETP species	0.200	2.3.1	Outcome	0.333	80

			2.3.2	Management strategy	0.333	80
			2.3.3	Information strategy	0.333	80
	Habitats	0.200	2.4.1	Outcome	0.333	85
			2.4.2	Management strategy	0.333	80
			2.4.3	Information	0.333	80
	Ecosystem	0.200	2.5.1	Outcome	0.333	80
			2.5.2	Management	0.333	80
			2.5.3	Information	0.333	80
Three	Governance and policy	0.500	3.1.1	Legal &/or customary framework	0.333	100
			3.1.2	Consultation, roles & responsibilities	0.333	100
			3.1.3	Long term objectives	0.333	100
	Fishery specific management system	0.500	3.2.1	Fishery specific objectives	0.250	90
			3.2.2	Decision making processes	0.250	95
			3.2.3	Compliance & enforcement	0.250	80
			3.2.4	Monitoring & management performance evaluation	0.250	80

Overall weighted Principle-level scores	**Score**
Principle 1 - Target species	**86.7**
Principle 2 - Ecosystem	~~**82.7**~~**82.0**
Principle 3 - Management	**93.1**

5.3 Conditions

No conditions have been set for this fishery.

6 Appendices

6.1 Evaluation processes and techniques

6.1.1 Site visits

All stakeholders part of the Fishery Stakeholder Listing (including eNGOs) were contacted as part of the MSC Surveillance announcement process.

6.1.2 Stakeholder participation

The surveillance announcement was posted on 9 May 2025 and specified all available stakeholder opportunities to participate in the surveillance audit, as shown from the extract below:

"As part of this surveillance audit, the following stakeholder opportunities are available:
▪ Stakeholders may submit written input using the 'MSC Template for Stakeholder Input into Fishery Assessments' which is available here: Engage with a fishery assessment | Marine Stewardship Council (msc.org)
▪ Stakeholders may consult directly with the audit team during the period specified in the 8. Audit/review time and location above."

The site visit agenda, a list of individuals met and a summary of points discussed are found in Table 10 below.

Table 10. Site visit meeting.
Thursday 12 June 2025 9:00 AM – 11:00 AM

Meeting	Client meeting.	
Global Trust contacts	Global Trust Ireland	ClientServicesie@nsf.org
	Beverley O'Kane	Global Trust Certification Quayside Business Park, Mill Street, Dundalk, County Louth, Ireland. **E:** bokane@nsf.org
Client:	Norges Fiskarlag (the Norwegian Fishermen's Association)	
Attendees	Geir Hønneland (Team Leader and primarily responsible for Principle 3 and traceability), Efthymia Tsitsaki (primarily responsible for Principle 1 and Principle 2), Beverley O'Kane (CAB representative), Tor Bjørklund Larsen and Erlend Moksnes (Norges Fiskarlag)	
Site visit minutes	Principle 1: - No significant changes in the stock management. - No increase in the amount of unwanted catches of snow crab. - No changes on the way the stock is exploited but other countries. - A report was given that focuses on how climate change is affecting Barents Sea fisheries. Snow crab not affected so much. - A risk for $F>F_{msy}$ and $F>F_{lim}$ was given by IMR. - Progress on recommendations was given by the client. Principle 2: - No changes to fishing pattern, only small increase of fishing vessels. - New BESS report was given by the client. - Bait remains the same in species and in quantities. - No bycatch species reported during the latest years.	

	- No interactions with ETP species. - Lost gear/ghost fishing. More information was given by the client. The issue was discussed in detail. - Observers on board programme was discussed with the client. Norway has ad hoc observation by the Directorate of Fisheries and IMR, but the core control mechanism is a risk-based approach and at-sea inspections by the Coast Guard. - A report was given on mitigation measures on lost gears. - The introduction of the biodegradable thread as required by the law is implemented and working well. - No new information concerning habitats. - Move-on rules continue to exist. - No new information concerning ecosystem. Principle 3: - No changes in basic legislation, management set-up, consultation mechanisms or MCS procedures. - New licensing system introduced. - No infringements by the snow crab vessels in the surveillance year. Traceability: - No changes to traceability in the surveillance year.

6.2 Stakeholder input

No stakeholder input was received for this surveillance audit.

6.3 Revised surveillance programme

No changes were made in the fishery's surveillance programme.

6.4 Harmonised fishery assessments

The MSC Fisheries Certification Process v2.3 (FCP) sets out procedures for ensuring consistency of outcomes in overlapping fisheries (see Annex PB of the FCP). The intention of this process is to maintain the integrity of MSC fishery assessments. The audit team have also consulted the guidance issued on the MSC's interpretation log to identify the harmonisation requirements for this fishery[2]. The FCP confirms that harmonisation is not required if overlapping fisheries have used different versions of the assessment tree (v2.0 or v.1.3) (MSC Fisheries Standards Annex SA Annex SB, Annex SC and Annex SD) (MSC FCP v2.3 Annex PB 1.2.1). The MSC harmonisation requirements table is shown below for clarity.

[2] See https://mscportal.force.com/interpret/s/article/What-are-the-MSC-requirements-on-harmonisation-multiple-questions-1527586957701

Table GPB1: Harmonisation requirements per PI. No harmonisation is required for P2 PIs and scoring issues (SIs) that are not listed in the table.

PI/SIs		Required to harmonise
All P1 PIs	Yes	P1 always considers the impacts of all fisheries on a stock. Any fisheries that have the same P1 species (stocks) should be harmonised.
PI 2.1.1a	Partially	For stocks that are 'main' in both UoAs, harmonise status relative to PRI (at SG60,80 and 100), and if below PRI, harmonise cumulative impacts at SG80 (not at SG60).
PI 2.2.1a	Partially	For stocks that are 'main' in both UoAs, harmonise status relative to Biologically Based Limits (at SG60, 80, and 100), and if below Biologically Based Limits, harmonise cumulative impacts at SG80 (not at SG60).
PI 2.3.1a	Partially	Harmonise recognition of any limits applicable to both UoAs (at SG60, 80 and 100), and cumulative effects of the UoAs at SG80 and SG100 (not at SG60).
PI 2.4.1b	Partially	Harmonise recognition of VMEs where both UoAs operate in the same 'managed area(s)' (see Guidance to the MSC Fisheries Standard).
PI 2.4.2 a, c	Partially	Harmonise scoring at SG100 since all fishery impacts are considered (not at SG60 or 80).
All P2 PIs	Situation dependent	If 2 UoAs are identical in scope, even if the UoCs are different (e.g. separate clients), harmonisation is required.
PIs 3.1.1 – 3.1.3	Situation dependent	Both UoAs are part of the same larger fishery or fleet or have stocks in either P1 or P2 that are at least partially managed by the same jurisdiction(s) (nation states, RFMOs, or others) or under the same agreements. Harmonisation may sometimes be possible for those management arrangements that apply to both UoAs (noting the limitations accepted in GPB1.3).
		The MSC accepts that it may be impractical to attempt full harmonisation, due to the large number of fisheries that may be managed under the relevant policy framework, and the differences in application between them.
PIs 3.2.1 – 3.2.4	Situation dependent	Both UoAs have stocks within either P1 or P2 that are at least partially managed by the same jurisdiction(s) (nation states, RFMOs, or others) or under the same agreements. Harmonisation is needed for those management arrangements that apply to both UoAs, e.g. at the RFMO level but not the national level in the case of 2 separate national fleets both fishing the same regional stock.

Overlapping fisheries identified are listed in Table 11 below.

Table 11. Overlapping Units of Assessment (please highlight any new overlapping Units of Assessment).

Fishery name	Unit of assessment	Certification status	Certification date	Performance Indicators to harmonise
Russia Barents Sea opilio trap (Assessments Russia Barents Sea Opilio Trap - MSC Fisheries)	UoA 1	Certified	7 April 2020	Principles 1 and 2

Antey Sever Barents Sea crab (View Antey Sever Barents Sea Crab - MSC Fisheries)	UoA 2	Suspended	31 August 2021	Principles 1 and 2
Norway North East Arctic cod offshore (>12nm) (View Norway North East Arctic cod offshore (>12nm) - MSC Fisheries)	All	Certified	26 April 2010	PIs 3.1.1-3.1.3
Norway North East Arctic haddock offshore (>12nm) (View Norway North East Arctic haddock offshore (>12nm) - MSC Fisheries)	All	Certified	26 April 2010	PIs 3.1.1-3.1.3
Norway North East Arctic saithe (View Norway North East Arctic saithe - MSC Fisheries)	All	Certified	16 June 2008	PIs 3.1.1-3.1.3
Norway North East Arctic Cold Water Prawn (View Norway North East Arctic cold water prawn - MSC Fisheries)	All	Certified	9 March 2012	PIs 3.1.1-3.1.3
Norway Greenland halibut (View Norway Greenland halibut - MSC Fisheries)	All	Certified	25 January 2023	PIs 3.1.1-3.1.3
Norway beaked redfish (View Norway beaked redfish - MSC Fisheries)	All	Certified	25 January 2023	PIs 3.1.1-3.1.3

Table 12. Overlapping Units of Assessment – Harmonisation activities.

Supporting information	
NA	
Has there been an Annual Harmonisation meeting of which the results will be adopted?	No
Date of annual harmonisation meeting	NA
If applicable, describe the meeting outcome	
NA	

Table 13. Scoring differences.

Performance Indicators (PIs)	Norway Barents Sea snow crab (the present fishery)	Russia Barents Sea opilio trap	Antey Sever Barents Sea crab (self-suspended 10 April 2023)	Norway North East Arctic cod offshore (>12nm)	Norway North East Arctic haddock offshore (>12nm)	Norway North East Arctic saithe	Norway North East Arctic Cold Water Prawn	Norway Greenland halibut	Norway beaked redfish
PI 1.1.1	90	90	90	NA	NA	NA	NA	NA	NA
PI 1.2.1	80	80	85	NA	NA	NA	NA	NA	NA

PI 1.2.2	80	80	80	NA	NA	NA	NA	NA	NA
PI 1.2.3	90	80	90	NA	NA	NA	NA	NA	NA
PI 1.2.4	90	90	90	NA	NA	NA	NA	NA	NA
PI 2.1.1	100	100	100	NA	NA	NA	NA	NA	NA
PI 2.1.2	85	90	90	NA	NA	NA	NA	NA	NA
PI 2.1.3	80	85	80	NA	NA	NA	NA	NA	NA
PI 2.2.1	80	80	80	NA	NA	NA	NA	NA	NA
PI 2.2.2	80	90	90	NA	NA	NA	NA	NA	NA
PI 2.2.3	80	90	80	NA	NA	NA	NA	NA	NA
PI 2.3.1	80	90	80	NA	NA	NA	NA	NA	NA
PI 2.3.2	80	85	80	NA	NA	NA	NA	NA	NA
PI 2.3.3	80	70	70	NA	NA	NA	NA	NA	NA
PI 2.4.1	85	85	85	NA	NA	NA	NA	NA	NA
PI 2.4.2	80	80	80	NA	NA	NA	NA	NA	NA
PI 2.4.3	80	80	80	NA	NA	NA	NA	NA	NA
PI 2.5.1	90	90	90	NA	NA	NA	NA	NA	NA
PI 2.5.2	80	80	80	NA	NA	NA	NA	NA	NA
PI 2.5.3	80	85	80	NA	NA	NA	NA	NA	NA
PI 3.1.1	NA	NA	NA	95	95	100	95	100	85
PI 3.1.2	NA	NA	NA	100	100	100	85	100	100
PI 3.1.3	NA	NA	NA	100	100	100	100	100	100

Table 14. Rationale for scoring differences.

If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v2.3 Annex PB1.3.2.2).

P1: All scores are within the 80-100 range. Most scores are either identical or only have a 5-digit difference.

P2: Information about observers on board the fishing vessels of the client and the different information about bait species lead to different scoring in some PIs. With the exception of PI 2.3.3, all scores are within the 80-100 range, most of them identical or only with a 5-digit difference. Two fisheries have a condition on PI 2.3.3, and those are the two Russian fisheries. The condition relates to information available in Russia, which is not relevant for the non-Russian fisheries.

P3: As snow crab is a sedentary species and hence managed by Norway and Russia unilaterally, and not jointly in the Joint Norwegian–Russian Fisheries Commission (JNRFC), there is no overlap in the management regimes of the Norwegian and Russian snow crab fisheries. Hence, no harmonisation is necessary for P3 for the crab fisheries. PIs 3.1.1-3.1.3 on the overarching management framework for the fishery is harmonised with the other Norwegian Barents Sea fisheries. All scores are here in the range 80-100. Most scores are at 100, and for the few scores below 100, the reason for not scoring 100 is found at the international level (which does not apply to the snow crab fishery) and not at the national level in Norway.

If exceptional circumstances apply, outline the situation and whether there is agreement between or among teams on this determination (FCP v2.3 PB1.3.2.1).

NA

6.5 Assessment Team – biographies/summaries of CVs

Geir Hønneland, Team Leader and primarily responsible for Principle 3 and traceability

Dr Geir Hønneland holds a PhD in political science from the University of Oslo (2000) and an LL.M. in the law of the sea from the University of Tromsø (2020). He has studied international fisheries management from a legal and political/management perspective for more than three decades, focusing on the performance of national and international management regimes and their resilience to change, as well as the effectiveness of enforcement and compliance mechanisms. He has published a number of academic books and journal articles on these topics, including on the performance of regional fisheries bodies in different parts of the world. He has also undertaken consultancies for international organisations such as FAO and OECD, as well as national management authorities, businesses and civil society. His academic training and practical experience have given him in-depth knowledge about most aspects of ocean governance and fisheries law, including global and regional fisheries agreements and customary international law, as well as international dispute-settlement and fisheries case law based on the decisions of international courts and tribunals. Geir has cooperated extensively with experts on fisheries law and management in Europe, the US and Asia and has previously been visiting scholar and taught international environmental politics at Rutgers, the State University of New Jersey. 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 100 full assessments and re-assessments, in many of them as Team Leader as well. He has undertaken assessments in the Atlantic, Pacific, Indian and Southern Oceans, reviewing management systems in Europe, Asia, Oceania and North and South America, including RFMOs such as CCAMLR, NEAFC, NAFO, IATTC, ICCAT, IOTC and WCPFC. He has covered demersal, pelagic and reduction fisheries, as well as inland, bivalve, salmon and enhanced fisheries.

Geir has successfully passed the MSC online training for MSC Team Leader (Fisheries Standard v2.01, Fisheries Certification Process v2.2 and MSC's Fisheries Standard v3.0 Overview of changes) and has passed the ISO 19011-2018 course as Lead Auditor – Management Systems Auditing. He successfully passed the MSC online training for Traceability versions 2015, 2018 and 2020.

Efthymia Tsitsika, primarily responsible for Principle 1 and Principle 2

Efthymia Tsitsika Efthymia has a MSc in Fisheries and Aquatic Animal Production. She is a fisheries scientist with more than 15 years of high-level hands-on experience on scientific data analysis, stock assessment, statistical modelling and fisheries management. She provides scientific advice to the fisheries sector, and has been involved in international scientific collaborations through projects, scientific working groups, Data Collection Regulation/Data Collection Framework Programmes, and evaluation and impact assessment of alternative management strategies in EU fisheries. Efthymia is fluent in English which is the common language spoken by the client and stakeholders.

Efthymia has successfully passed the MSC online training for Team Member.

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8 Template information and copyright

This document was drafted using the 'MSC Surveillance Reporting Template v2.2'. Note amendments have been made to formatting in order to comply with Global Trust Certification's corporate identity; however, content and structure follow that of the original template.

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