



MSC FISHERY ASSESSMENT REPORT

FINAL REPORT

FAROE ISLANDS NORTH EAST ARCTIC COLD WATER PRAWN FISHERY CLIENT: MARESCO AS



AUTHORS:

ADDISON J., KEUS B.J., KISELEVA A., SAMRO O.

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DET NORSKE VERITAS AS

Veritasveien 1, 1322 HØVIK, Norway Tel: +47 67 57 99 00 Fax: +47 67 57 99 11
<http://www.dnvba.com>



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- ☐ Preliminary Draft Report (Client's review)
☐ Peer Review Report
☐ Public Comment Draft Report (Stakeholders review)
☒ Final Report
☐ Public Certification Report

The objective of this assessment is the initial certification of the Faroe Islands North East Arctic cold water prawn fishery against the Marine Stewardship Council Principles and Criteria for Sustainable Fisheries. The scope of the certification covers the Faroe Islands North East Arctic cold water prawn (*Pandalus borealis*) fishery targeted in ICES Divisions I and II using bottom trawl as the harvesting method.

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Work carried out by: Julian Addison, P1 Expert Bert Keus, P2 Expert Oli Samro, P3 Expert Anna Kiseleva, DNV Team Leader		
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Shrimp

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MSC FISHERY ASSESSMENT REPORT

CONTENTS

CONTENTS	3
GLOSSARY	5
LIST OF SYMBOLS & REFERENCE POINTS	7
LIST OF FISH SPECIES AND SHELLFISH	8
1 EXECUTIVE SUMMARY	9
1.1 ASSESSMENT TIMELINE	9
1.2 SCORES FOR SEPARATE PRINCIPLES	9
1.3 MAIN STRENGTHS AND WEAKNESSES OF THE CLIENT'S OPERATION	9
1.3.1 <i>Strengths</i>	9
1.3.2 <i>Weaknesses</i>	10
1.4 DETERMINATION WITH SUPPORTING RATIONALE	10
1.5 CONDITIONS FOR CERTIFICATION AND TIME-SCALE FOR COMPLIANCE	10
2 AUTHORSHIP AND PEER REVIEWERS	14
2.1 ASSESSMENT TEAM	14
2.2 PEER REVIEWERS	15
3 DESCRIPTION OF THE FISHERY	16
3.1 UNIT(S) OF CERTIFICATION AND SCOPE OF CERTIFICATION SOUGHT	16
3.1.1 <i>Statement that the fishery is within the MSC scope</i>	16
3.1.2 <i>Unit of certification</i>	16
3.1.3 <i>Rationale for unit of certification</i>	16
3.1.4 <i>Other Eligible fishers</i>	17
3.2 OVERVIEW OF THE FISHERY	17
3.2.1 <i>Client name and contact information</i>	17
3.2.2 <i>Client information</i>	18
3.2.3 <i>Overview of the fishery</i>	19
3.3 PRINCIPLE ONE: TARGET SPECIES BACKGROUND	25
3.3.1 <i>Fishery resources</i>	25
3.3.2 <i>Status of stocks</i>	26
3.3.3 <i>History of fishing and management</i>	28
3.4 PRINCIPLE TWO: ECOSYSTEM BACKGROUND	37
3.4.1 <i>Retained bycatch</i>	37
3.4.2 <i>Discarding</i>	38
3.4.3 <i>Endangered, Threatened and Protected Species (ETP)</i>	39
3.4.4 <i>Habitat</i>	40
3.4.5 <i>Ecosystem impacts</i>	45
3.5 PRINCIPLE THREE: MANAGEMENT SYSTEM BACKGROUND	48
3.5.1 <i>Fishing Areas and jurisdiction</i>	48
3.5.2 <i>National level</i>	49
3.5.3 <i>Management objectives</i>	49
3.5.3 <i>Decision making process</i>	50
3.5.4 <i>Consultation</i>	53
3.5.5 <i>Monitoring, Control and Surveillance (MCS)</i>	54
3.5.6 <i>Research</i>	56
3.5.7 <i>Evaluation</i>	56
4 EVALUATION PROCEDURE	57



MSC FISHERY ASSESSMENT REPORT

4.1	HARMONISED FISHERY ASSESSMENT	57
4.2	PREVIOUS ASSESSMENTS.....	59
4.3	ASSESSMENT METHODOLOGIES	59
4.4	EVALUATION PROCESSES AND TECHNIQUES	62
4.4.1	<i>Site Visits</i>	63
4.4.2	<i>Consultations</i>	64
4.4.3	<i>Evaluation Techniques</i>	65
5	TRACEABILITY	67
5.1	ELIGIBILITY DATE.....	67
5.1.1	<i>Target Eligibility Date</i>	67
5.1.2	<i>The Actual Eligibility Date</i>	67
5.2	TRACEABILITY WITHIN THE FISHERY	67
5.2.1	<i>At-Sea processing</i>	68
5.3	ELIGIBILITY TO ENTER FURTHER CHAINS OF CUSTODY	69
6	EVALUATION RESULTS	70
6.1	PRINCIPLE LEVEL SCORES	70
6.2	SUMMARY OF SCORES.....	71
6.3	SUMMARY OF CONDITIONS	72
6.3.1	<i>Recommendations</i>	72
6.4	DETERMINATION, FORMAL CONCLUSION AND AGREEMENT	72
7	REFERENCES	73
	APPENDICES.....	76
	APPENDIX 1 SCORING AND RATIONALES	76
	APPENDIX 2. PEER REVIEW REPORTS	150
	APPENDIX 3. STAKEHOLDER SUBMISSIONS.....	180
	APPENDIX 4. SURVEILLANCE FREQUENCY	201
	APPENDIX 5. CLIENT ACTION PLAN	202
	APPENDIX 6. CLIENT AGREEMENT.....	205

MSC FISHERY ASSESSMENT REPORT

GLOSSARY

ACOM	(ICES) Advisory Committee
AFWG	(ICES) Arctic Fisheries Working Group
AMOVA	Analysis of molecular variance
BRD	Bycatch Reduction Device
CFP	Common Fisheries Policy (European Commission)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CL	Carapace length
COE	Catch on entry
COZ	Catch on exit
CPUE	Catch per unit effort
DNV	Det Norske Veritas
EEZ	Exclusive Economic Zone
EFCA	European Fisheries Control Agency
ETP	Endangered, Threatened and Protected
EU	European Union
FPZ	Fishery Protection Zone
HCR	Harvest Control Rule
ICES	International Council for the Exploration of the Sea
IMR	Institute of Marine Research, Norway
ITQ	individual transferable quota
IUCN	International Union for Conservation of Nature
MSE	Management Strategy Evaluation
NAFO	Northwest Atlantic Fisheries Organisation
NEAFC	North East Atlantic Fisheries Commission
NGO	Non - Governmental Organization
NIPAG	NAFO/ICES Pandalus Assessment Group

MSC FISHERY ASSESSMENT REPORT



MSC	Marine Stewardship Council
OSPAR	Oslo – Paris Convention. The Convention for the Protection of the Marine Environment of the North-East Atlantic.
PI	Performance Indicator
PINRO	Polar Research Institute of Marine Fisheries and Oceanography, Russia
PSC	Port State Control
PSCF	Port State Control Form
RAPD	Random amplified polymorphic DNA
SGP	Scoring guidepost
SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
UNLOSC	United Nations Law of the Sea Conference
VME	Vulnerable marine ecosystems
VMS	Vessel Monitoring System
WWF	World Wildlife Fund

MSC FISHERY ASSESSMENT REPORT



LIST OF SYMBOLS & REFERENCE POINTS

B_{lim}	Minimum biomass below which recruitment is expected to be impaired or the stock dynamics are unknown.
B_{msy}	Biomass corresponding to the maximum sustainable yield (biological reference point); the peak value on a domed yield-per-recruit curve.
B_{pa}	Precautionary biomass below which SSB should not be allowed to fall to safeguard it against falling to B_{lim} .
$B_{trigger}$	Value of spawning stock biomass (SSB) that triggers a specific management action.
F	Instantaneous rate of fishing mortality.
F_{lim}	Fishing mortality rate that is expected to be associated with stock 'collapse' if maintained over a longer time (precautionary reference point).
F_{msy}	F giving maximum sustainable yield (biological reference point).
F_{pa}	Precautionary buffer to avoid that true fishing mortality is at F_{lim} when the perceived fishing mortality is at F_{pa} .
K	Carrying Capacity
MSY	Maximum Sustainable Yield

MSC FISHERY ASSESSMENT REPORT

LIST OF FISH SPECIES AND SHELLFISH

Common name	Latin name
Blue skate	<i>Dipturus batis</i>
Blue whiting	<i>Micromesistius poutassou</i>
Capelin	<i>Mallotus villosus</i>
Cod (North East Arctic)	<i>Gadus morhua</i>
European plaice	<i>Pleuronectes platessa</i>
Greenland halibut	<i>Reinhardtius hippoglossoides</i>
Haddock (North East Arctic)	<i>Melanogrammus aeglefinus</i>
Herring (Norwegian spring-spawning)	<i>Clupea harengus</i>
Iceland scallop	<i>Chlamys islandica</i>
Krill	<i>Euphausiids</i>
Long rough dab	<i>Hippoglossoides platessoides</i>
Northern shrimp	<i>Pandalus borealis</i>
Redfish (inshore)	<i>Sebastes marinus</i>
Redfish (offshore)	<i>Sebastes mentella</i>
Saithe (North East Arctic)	<i>Pollachius virens</i>
Round skate	<i>Rajella fyllae</i>

MSC FISHERY ASSESSMENT REPORT



1 EXECUTIVE SUMMARY

This report provides information on the assessment of the Faroe Islands North East Arctic cold water prawn fishery for the client Maresco AS against the Marine Stewardship Council's Principles and Criteria for Sustainable Fishing. The report is prepared by Det Norske Veritas Certification AS. The assessment team used the default assessment tree as defined in the MSC Certification Requirements v1.2.

1.1 Assessment timeline

Announcement of Main Assessment:	20 September 2012
Site Visit and Stakeholder Consultation:	14 - 18 January 2013
Expected Date of Certification:	October 2013
The original target Eligibility date:	1st January 2013
The new target Eligibility date ¹ :	1 st March 2013

1.2 Scores for separate Principles

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	84,4 PASS
Principle 2 – Ecosystem	87,0 PASS
Principle 3 – Management System	90,8 PASS

Table 1 Final Principle Scores

1.3 Main strengths and weaknesses of the client's operation

1.3.1 Strengths

The attributes of the Faroe Islands North East Arctic cold water prawn fishery that are helpful in achieving sustainability and thereby complying with MSC Principles and Criteria for Sustainable Fisheries are:

- Shrimp (*Pandalus borealis*) stock in the Barents Sea has been close to its carrying capacity throughout the history of the fishery from 1970-2012.
- EU, Faroe Islands, NEAFC and Norway maintain a robust and effective control and surveillance regime, which ensures a high degree of compliance across all fishing fleets participating in this fishery.

¹ The target Eligibility date was moved from 1st of January 2013 till 1st of March 2013, in line with the revised assessment timeline. The target Eligibility date is set to six months prior to the publication of the most recent Public Comment Draft Report.

MSC FISHERY ASSESSMENT REPORT



- The mandatory use of sorting grids and the implementation of permanent and temporary area closures are effective in minimizing the by-catch of all species.
- The fishery does not cause any mortality of ETP species e.g. whales, seals or birds and the effects on fish species are likely to be within limits of national and international requirements for protection of ETP species.
- The limited scope of the fishery, the change to lighter gears and operation primarily within known habitats make it highly unlikely for this fishery to reduce habitat structure and function to a point where there would be serious harm.
- The Faroese fisheries authorities consult with all relevant stakeholder groups (e.g. Fishery advisory board "Fiskivinnuráðið") regarding new fisheries measures prior to their implementation.

1.3.2 Weaknesses

Weaknesses of the Faroe Islands North East Arctic cold water prawn fishery in the context of fully meeting the MSC Principles and Criteria for Sustainable Fisheries are:

- The ecological role of the shrimp stock in the Barents Sea is not well understood.
- A significant component of the Faroe Islands shrimp fishery takes place in International waters, where only technical measures apply. Therefore there is currently no scope for limiting fishing effort within this sub-area of the fishery.
- There are no explicit harvest controls rules in place which define what management action will be invoked if the stock biomass declines to levels close to Btrigger or Blim, or if fishing mortality increases to levels close to Flim.
- The move on rule concerning interactions with sponge or coral habitats requires vessels to move on when bycatch exceeds thresholds for VMEs in the NEAFC regulatory area of 30 kg of live coral and 400 kg of sponges. In order to detect any increase in risk for vulnerable bottom habitats more information is needed to show that the move on rule is consequently applied and risks for habitat continues to be low.

1.4 Determination with supporting rationale

The Faroe Islands North East Arctic cold water prawn Fishery achieved a score of 80 or more for each of the three MSC Principles, and did not score under 60 for any of the set MSC Criteria. The assessment team therefore recommends the certification of the Faroe Islands North East Arctic cold water prawn Fishery for the client Maresco AS with conditions as described below.

1.5 Conditions for certification and time-scale for compliance

The fishery achieved a score of below 80 against 3 performance indicators (PIs). The assessment team has therefore set conditions for continuing certification that the client is required to address. The conditions are applicable to improve performance to at least the 80 level within the periods set by the DNV assessment team.

Report N.	2013-002	Revision	01 -2013-11-05	Page 10 of 205
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MSC FISHERY ASSESSMENT REPORT

Condition 1

Performance Indicator	PI 1.2.1 There is a robust and precautionary harvest strategy in place
Score	70
Rationale	<p>SG 80 (a) Requirement: The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p> <p>Rationale: A significant component of the Faroe Islands shrimp fishery takes place in International waters, where only technical measures apply, and there is currently therefore no scope for limiting fishing effort within this sub-area of the fishery. Although the proportion of the stock which is in international waters is relatively small and there is a limit on the number of the Faroese vessels, this is a significant weakness in the harvest strategy and the assessment team does not believe that the fishery achieves SG80 for this issue.</p>
Condition	By the fourth annual surveillance, regulations limiting fishing effort in international waters (ICES Ia and Ib), that are responsive to the state of the stock, should be implemented to demonstrate that the elements of the harvest strategy work together towards achieving management objectives for the Barents Sea shrimp stock as a whole.
Milestones	<p>Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options limiting fishing effort in international waters</p> <p>Annual surveillance 2: Provide an evaluation of options considered for potential mechanisms for limiting fishing effort</p> <p>Annual surveillance 3: Propose regulations for limiting fishing effort to relevant authorities</p> <p>Annual surveillance 4: Implementation of regulations for limiting fishing effort through consultation with relevant authorities.</p>
Consultation on condition	Ministry of Fisheries, Faroe Islands

Condition 2

Performance Indicator	PI 1.2.2 There are well defined and effective harvest control rules in place
Score	75
Rationale	<p>SG 80 (a) Requirement: Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>Rationale: There are no well-defined harvest control rules in place which stipulate what management action will be invoked if the stock biomass declines to levels close to Btrigger or Blim, or if fishing mortality increases to levels close to Flim.</p>
Condition	By the fourth annual surveillance, well defined harvest control rules shall be implemented for the shrimp stock as a whole to ensure that the exploitation rates are reduced as limit reference points are approached.
Milestones	<p>Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options for HCRs.</p> <p>Annual surveillance 2: Provide an evaluation of options considered for potential HCRs</p> <p>Annual surveillance 3: Propose HCR to relevant authorities</p> <p>Annual surveillance 4: Implementation of HCR through consultation with</p>

MSC FISHERY ASSESSMENT REPORT



	relevant authorities.
Consultation on condition	Ministry of Fisheries, Faroe Islands

Condition 3

Performance Indicator	PI 2.4.3 Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types
Score	75
Rationale	<p>SG 80 (c) Requirement: Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures)</p> <p>Rationale: Based on the (VMS) information provided the team has concluded that the fishery is patchy and focused in limited areas. It is expected that the fishery will continue this fishing pattern and also that the same fishing grounds will be fished time after time. Additionally the move on rule concerning interactions with sponge or coral habitats requires vessels to move on when bycatch exceeds thresholds for VMEs in the NEAFC regulatory area of 30 kg of live coral and 400 kg of sponges. Therefore the conclusion is that large areas are not impacted by the fishery and the move on rule further reduces risk to bottom habitat. In order to detect any increase in risk for vulnerable bottom habitats information is needed to show that the fishery continues to be conducted in the same patchy and concentrated manner. More information is also needed to show that the move on rule is consequently applied and risks for habitat continue to be low.</p>
Condition	The fishery is required to collect sufficient information on bycatches and spatial distribution of the fishery in order to detect any increase in risk for vulnerable bottom habitats (e.g. due to changes in fishing pattern or effectiveness of the move on rule).
Milestones	<p>Annual surveillance 1: Develop and implement procedures for monitoring and recording all by-catches of coral and sponges in every fishing haul. Provide the team with the collected data preferably with a map showing all recorded bycatches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Together with the team analyse the collected data to determine whether significant impacts are likely and where necessary develop appropriate management responses.</p> <p>Annual surveillance 2-4: Provide the team with the collected data preferably with a map showing all recorded bycatches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Show proof that appropriate management responses are taken where necessary.</p>
Consultation on condition	None. Client is advised to establish cooperation with the Marine Research Institute (Havstovan) in order to develop appropriate recording procedures and data analysis.

MSC FISHERY ASSESSMENT REPORT

Recommendation 1

Performance Indicator	PI 1.2.3 Relevant information is collected to support the harvest strategy
Score	80
Rationale	<p>SG 80 (a) Requirement: Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.</p> <p>Rationale: Genetics studies of <i>Pandalus borealis</i> have concluded that the populations of the Barents Sea and Svalbard can be considered to be a single population (Martinez <i>et al.</i>, 2006), and research surveys and observer programmes on some components of the fleet provide data on the size range and reproductive state of the stock. The licensing of all vessels, VMS, log books and obligatory catch returns ensure that the fleet composition is well understood.</p> <p>There is good information on the composition of the Faroese fleet, but an observer programme is not introduced for the Faroese fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.</p>
Recommendation	The assessment team recommends that an observer programme is introduced for the Faroese fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.

MSC FISHERY ASSESSMENT REPORT



2 AUTHORSHIP AND PEER REVIEWERS

2.1 Assessment team

Name	Role	Qualifications
Julian Addison	Expert for Principle 1	Julian Addison has 30 years' experience of stock assessment and provision of management advice on shellfish fisheries and scientific research on crustacean biology and population dynamics and inshore fisheries. Until December 2010, he worked at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) in Lowestoft, England where he was Senior Shellfish Advisor to Government policy makers, which involved working closely with marine managers, legislators and stakeholders, Government Statutory Nature Conservation Organisations and environmental NGOs. He has also worked as a visiting scientist at DFO in Halifax, Nova Scotia and at NMFS in Woods Hole, Massachusetts where he experienced shellfish management approaches in North America. For four years he was a member of the Scientific Committee and the UK delegation to the International Whaling Commission providing scientific advice to the UK Commissioner. He has worked extensively with ICES and was Chair of the Working Group on the Biology and Life History of Crabs, a member of the Working Group on Crangon Fisheries and Life History and a member of the Steering Group on Ecosystems Function. He is currently undertaking MSC full assessments for the Ireland and Northern Ireland bottom grown mussel (<i>Mytilus edulis</i>) fisheries and the Newfoundland and Labrador snow crab fishery, and carried out peer reviews of MSC assessments of lobster, cold water prawn, razorfish and cockle fisheries.
Bernard Keus	Expert for Principle 2	Bert Keus is an independent consultant based in Leiden, the Netherlands. He holds degrees in both biology and law, and started his career at the Netherlands Institute for Fisheries Investigation (RIVO-DLO). Later he held the position of Head of the Environmental Division of the Dutch Fisheries Board (Productschap Vis). Particular areas of expertise are environmental impact assessments of fisheries in the Natura 2000 framework, fisheries management plans, natural resource policy, and programme and project evaluations. He has long association with the several fisheries in the Netherlands, and he has been involved in efforts to achieve MSC certification of the North Sea brown shrimp fishery – acting as technical advisor to this multi-stakeholder initiative. Through this work and several other MSC certifications he has become particularly familiar with the MSC certification process. Between the years 1998 and 2003 he was a Member of the European Sustainable Use Specialist Group (ESUSG), Fisheries Working Group of IUCN.
Oli Samro	Expert for Principle 3	Óli Samró is a Senior consultant with 18 years' experience in consulting in Fisheries Business and Management and has studied economics at Aarhus University. Since 2002 Óli Samró has been Chairman of the Advisory board of the Faroese fisheries management system for Ground fish. Appointed by the Faroese Fishery Minister, two times in four years. Óli Samró has worked for Føroya Banki and is now a consultant with FAREC dealing in expert consultancy in Fisheries Management, Economy, EU and fish & Business-development. Óli Samró lives in Lives in den Haag, Netherlands and has presented various reports at conferences and workshops. Oli has

Report N.	2013-002	Revision	01 -2013-11-05	Page 14 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



Anna Kiseleva Lead Auditor and Team Leader, DNV	previously been involved in MSC Fisheries certification of Faroe Islands North East Arctic cod, Faroe Islands North East Arctic haddock, Faroe Islands Silver smelt and FPO Atlanto-scandian herring. 10 years of experience in assessment services, project management, planning, sales and marketing, risk management and risk-based assessments. Since 2008 has been working with third-party management system conformity services for Norwegian and International customers. For detailed CV see: http://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/north-east-atlantic/estonia_north_east_arctic_cold_water_prawn/assessment-downloads-1/S1_Estonia_NEArctic_Cold_Water_prawn_-_TL_Anna_Kiseleva_CV.pdf
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2.2 Peer Reviewers

Peer reviewers proposed and confirmed are:

Name	Role	Qualifications
David Bennett	Peer Reviewer 1	David Bennett has 40 years' experience in fisheries research, specialising in the biology, population dynamics, and assessment of commercially exploited fish and shellfish stocks (e.g. lobsters, crabs, Nephrops, shrimps) the provision of national and international fisheries management advice, and fisheries aspects of environmental impact studies. He chaired the International Committee for Exploration of the Seas (ICES) Working Group on <i>Nephrops</i> stocks, has been a member of a number of ICES Working and Study Groups and of the ICES Advisory Committee on Fisheries Management, and an expert for DG XIV of the EU Commission.
Geir Hønneland	Peer Reviewer 2	Geir Hønneland is a Research Director of the Fridtjof Nansen Institute and adjunct professor at the University of Tromsø, Norway. He holds a Ph.D in political science and specializes in the study of fisheries management systems. His Ph.D (University of Oslo, 2000) focused on the conditions for compliance in the Barents Sea fisheries, and he has published a number of articles in scientific journals and books about compliance in fisheries. <i>Making Fishery Agreements Work: Post-Agreement Bargaining in the Barents Sea</i> (Edward Elgar, 2012) is one of the most recent books written by Dr. Hønneland. He also has wide range of evaluation experience, e.g. for the FAO relating to the FAO Code of Conduct for Responsible Fisheries.

The reports from the Peer Reviewers are given in Appendix 2.

MSC FISHERY ASSESSMENT REPORT



3 DESCRIPTION OF THE FISHERY

3.1 Unit(s) of Certification and scope of certification sought

3.1.1 Statement that the fishery is within the MSC scope

The assessment team confirms that the fishery under assessment meets the scope requirements, which are defined in MSC Certification Requirements Version 1.2, 10 January, 2012 (CR 27.4).

Principle 3, Criterion A1: The fishery is not conducted under a controversial unilateral exemption to an international agreement. Principle 3, Criterion B14: The fishery does not use destructive fishing practices such as poisons or dynamite.

3.1.2 Unit of certification

The fishery proposed for certification is defined as:

Species Common name(s): Northern shrimp, pink shrimp, deep water prawn, deep-sea prawn, great northern prawn and crevette nordique.

Species Latin Name: *Pandalus borealis*

Stock: Barents Sea Shrimp

Geographical area: ICES I and II. FAO 27.

Harvest method: Bottom trawl with sorting grid.

Management: The client fishery operates under:

- Faroe Islands Fisheries Management
- NEAFC
- Norwegian Fisheries Management (Svalbard FPZ)
- Russian Fisheries Management (EEZ of Russian Federation)

The stock is advised by ICES.

Client group / Fishing boats: The client responsible for coordination of full-assessment for this fishery is Maresco AS (www.maresco.dk).

The client group is represented (per 21.03.2013) by the following ship owners:

- P/F Thor with shrimp trawler Sermilik II
- P/F Havborg with shrimp trawler Havborg.
- P/F Líðin with shrimp trawler Arctic Viking.

The vessels in the client fishery are the only vessels licensed to fish for shrimp in the Barents Sea under Faroe Islands Fisheries management. Thus, the client fleet represents the entire Faroe Islands fishery for shrimp in the Barents Sea.

3.1.3 Rationale for unit of certification

According to the MSC Certification Requirements v1.2, the proposed unit of certification shall include the target stock (s), the fishing method or gear and the practice (including vessels) pursuing that stock. The MSC Certification Requirements Guidance V1.1 specifies that the unit of certification is “*The fishery or fish stock (= biologically distinct unit) combined with the fishing method/gear and practice (= vessel(s) pursuing that stock)*”.

Report N.	2013-002	Revision	01 -2013-11-05	Page 16 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



3.1.4 Other Eligible fishers

As per 31.07.2013, there are no other eligible fishers who could be entitled to join this certification process. The 3 vessels in the client group are the only vessels licensed to fish for shrimp under Faroe Islands Fisheries management. Thus, the client group represents the entire Faroe Islands fishery for shrimp in the Barents Sea. If at a later date more vessels are added to the Faroe Islands shrimp fishery in the Barents Sea, their eligibility to share the certificate will be considered upon the application. New vessels owned by the client group will automatically (subject to full compliance with MSC requirements) be eligible to share the MSC certificate. List of eligible vessels will be kept updated and also listed in an Appendix in the annual surveillance reports.

3.2 Overview of the fishery

3.2.1 Client name and contact information

Maresco A/S

Sydvestkajen 7G,

9850 Hirtshals,

Denmark

Website: www.maresco.dk

Contact person:

Eydun Durhuus (Managing director)

Phone: +45 98 94 65 65 / +45 20 30 68 94

Email: Eydun@Maresco.dk.

Fax: +45 98 94 65 68.

MSC FISHERY ASSESSMENT REPORT



3.2.2 Client information

Maresco A/S is a sales company located in Hirtshals (Denmark) and specializing in shellfish. The company's main product is shell-on cold water shrimp from the North Atlantic. Faroese shrimp trawlers, landing their catch in Tromsø and delivering their catches to Maresco, pack shrimp in Maresco branded boxes at sea. In 2012, 3 trawlers from Faroe Islands joined their forces and applied for MSC Fisheries certification under coordination of Maresco AS.

The client group is represented (per 21.03.2013) by shipowners/ vessels specified below:

Ship owner: P/F Thor
Vessel: Sermilik II
Vessel reg.N: VN 668 (OW2202)
Gross tonnage:776 ton
Length: 53,78 m

General info:

P/F Thor was founded in 1994. The company currently owns and operates 25 vessels, of which around 10 are fishing vessels. The fishing vessels operate in different areas and catch more than 10 species, one being shrimp (*Pandalus borealis*). The company has a strong focus on sustainability in all areas of their operations.



Ship owner: P/F Havborg
Vessel: Havborg
Vessel reg.N: FD 1160 (OW2163)
Gross tonnage:1531 ton
Length: 60,10 m

General info:

P/F Havborg purchased F/V Havborg in 2003 and the vessel has been fishing for shrimp ever since. F/V Havborg was constructed at Flekkefjord shipyard in 1989. Fishing areas have been in the NAFO areas 3M and 3L outside the Canadian territorial zone, in East Greenland, Jan Mayen, Svalbard, Barents Sea. F/V Havborg experienced team of crew members can process raw as well as cooked shrimp of the best quality. Sustainability is a main focus of the company's fishing strategy.



MSC FISHERY ASSESSMENT REPORT



Ship owner: P/F Líðin.
Vessel: Arctic Viking
Vessel reg.N: VN 123 (OW2399)
Gross tonnage:1720 ton
Length: 58,00 m

General info:

P/F Lidin was established in 1985 and in 1986 the company received a purpose built shrimp trawler F/V Arctic Viking. F/V Arctic Viking's crew have remained almost unchanged since 1986. 40 years of fishing experience and processing of cold water shrimps ensures the best quality of shrimp products originating from P/F Lidin company. Company has also a strong focus on sustainability of their fishing operations.



3.2.3 Overview of the fishery

3.2.3.1 History and fishing areas

The fishery for *Pandalus borealis* in the Barents Sea originally was started by Norwegian vessels around 1970. Vessels from several nations including Faroe Islands entered the fishery thereafter and the catch in 1984 reached approximately 128.000 t. In the entire history of the fishery, annual catches have ranged from 5.000 to 128.000 t. The highest catch in recent years was of 83.000 t and occurred in the year 2000. Catches then declined to about 27.300 t in 2009 (Table 2) due to low market prices and increased vessel operating costs (NAFO/ICES, 2010).

Year	Total catches (MT)	Faroe Islands catches (MT)
2009	27 272	2586
2010	25 198	2110
2011	29 790	4432
2012	20 000* * Catches projected to the end of the year	4247

Table 2: Recent total and Faroe Islands catches in ICES SA I and II.

Between 2009 and 2011 Faroese vessels accounted for between 8% and 15% of total catches of shrimp in the Barents Sea. (For more details see section 3.3.3). The ICES advice for 2012 was 60.000 t but the total catch is predicted to reach less than 20.000 t (Hvingel, 2012). The fishery is run by large factory trawlers which process and pack catch on board. Over the last five years there were 2-3 shrimp trawlers registered in the Fishing Vessel Register and participating in a long-distance shrimp fishery. The average length of the vessels is 57,5 m; the combined capacity of the vessels' main engines is 9000 kW; and the combined gross tonnage is 6000 t.

Report N.	2013-002	Revision	01 -2013-11-05	Page 19 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT

Vessels flying the Faroese flag have fishing rights on several fishing grounds: Svalbard (Figure 2), North West Atlantic (NAFO – outside the UoC), North East Atlantic international waters (Figure 1 NEAFC regulatory area) and EEZ of Russian Federation. Most of the fishing activities occur in the Svalbard Area, in international waters and in EEZ of Russian Federation (Figure 1). The fishing season depends on the ice conditions in the NEA. Main season is from March to October. Some vessels are able to operate all year round, if ice conditions allow.



Figure 1: Map of the Barents Sea identifying NEAFC regulatory areas (red).

MSC FISHERY ASSESSMENT REPORT

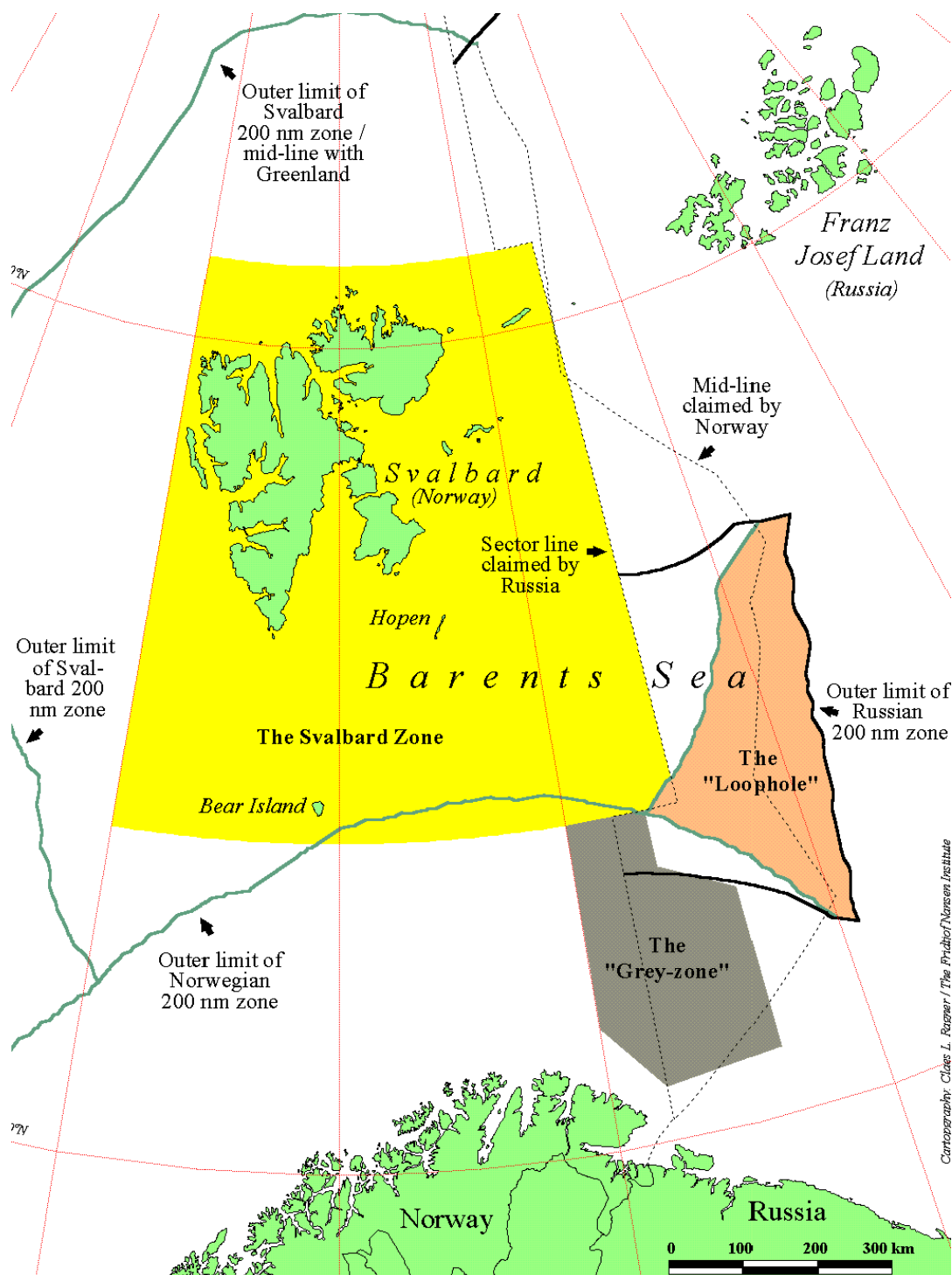


Figure 2: Map of the Barents Sea identifying the Svalbard Area and the former "Grey-zone".

MSC FISHERY ASSESSMENT REPORT

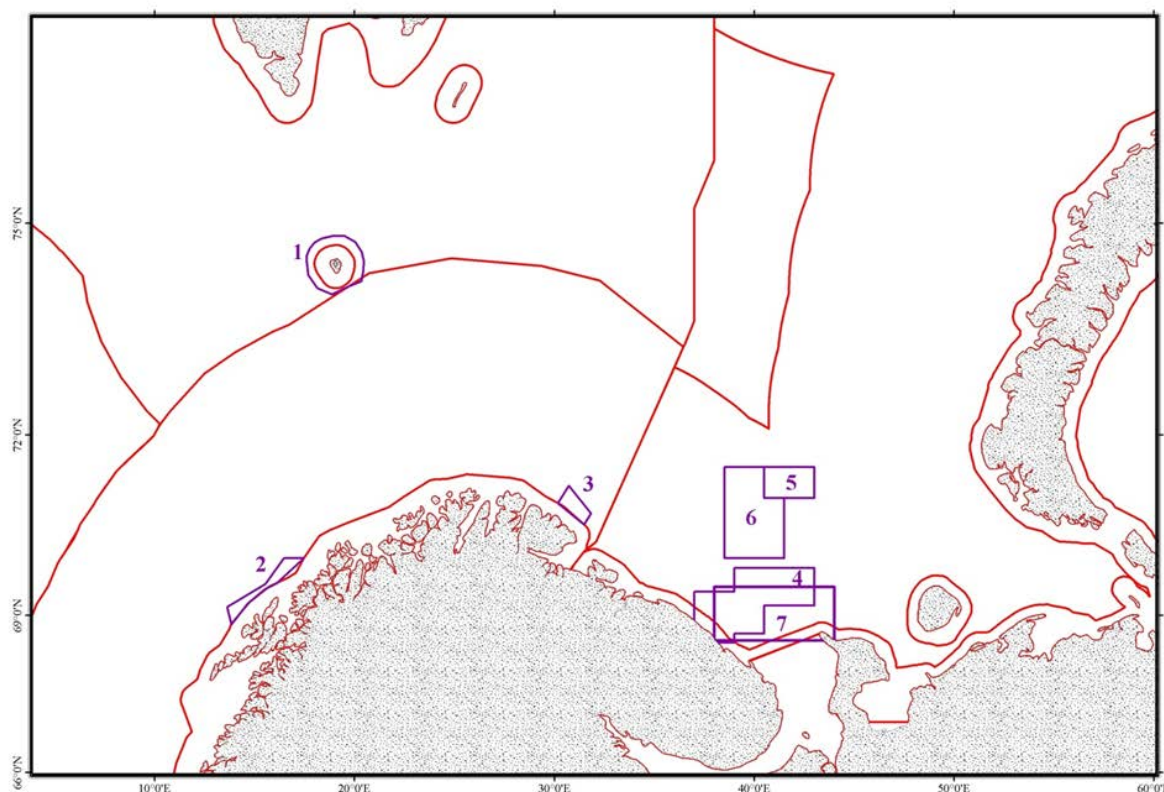


Figure 3: Map of the Barents Sea identifying zones closed for fishing. (The areas marked 2 and 3 are temporary closed (area 2: during the period 20 October – 20 March: area 3: during the period 1 October – 1 March.)

3.2.3.2 Fishing practices and gear used

Shrimp is caught by small-mesh trawl gear with a minimum stretched mesh size of 35 mm. All trawls are equipped with obligatory sorting grids (Figure 4), which stream by-catch of fish out of the shrimp trawl, allowing maximum reduction of by-catch of juvenile fish.

	Minimum mesh size	Cod end	Sorting grid bar space
Svalbard FPZ	35 mm	42 mm	19 mm
NEAFC Regulatory area	40 mm	44 mm	22 mm

Table 3 Technical measures/requirements in the Svalbard FPZ and NEAF regulatory area.

MSC FISHERY ASSESSMENT REPORT



Figure 4: Sorting grid used on shrimp trawlers in the Barents Sea.

The net is an otter (twin-rig) trawl net (Figure 5), which is held open by trawl doors. In the middle between the nets a clump is used to keep the net near the bottom. The weight of the doors is between 4 and 5 tons and the weight of the clump is around 6 tons. Sermilik II does not use clump. The ground rope is prevented from making contact with the sea bottom by rubber discs of approx. 35 inch in diameter.

Most of the fishing vessels use double trawling. The length of towing is around 4-6 hours, with approximately 7-8 t of shrimp being taken in 1 day. Longer towing is not recommended due to quality considerations. Offshore vessels can catch up to 300 t of shrimp per trip, which usually last for 4-5 weeks.

All client vessels are involved in an underwater camera project, where cameras are being installed on the trawl in order to see how it is operated. The camera also can show what impact the fishing gear has on the sea bed.

MSC FISHERY ASSESSMENT REPORT

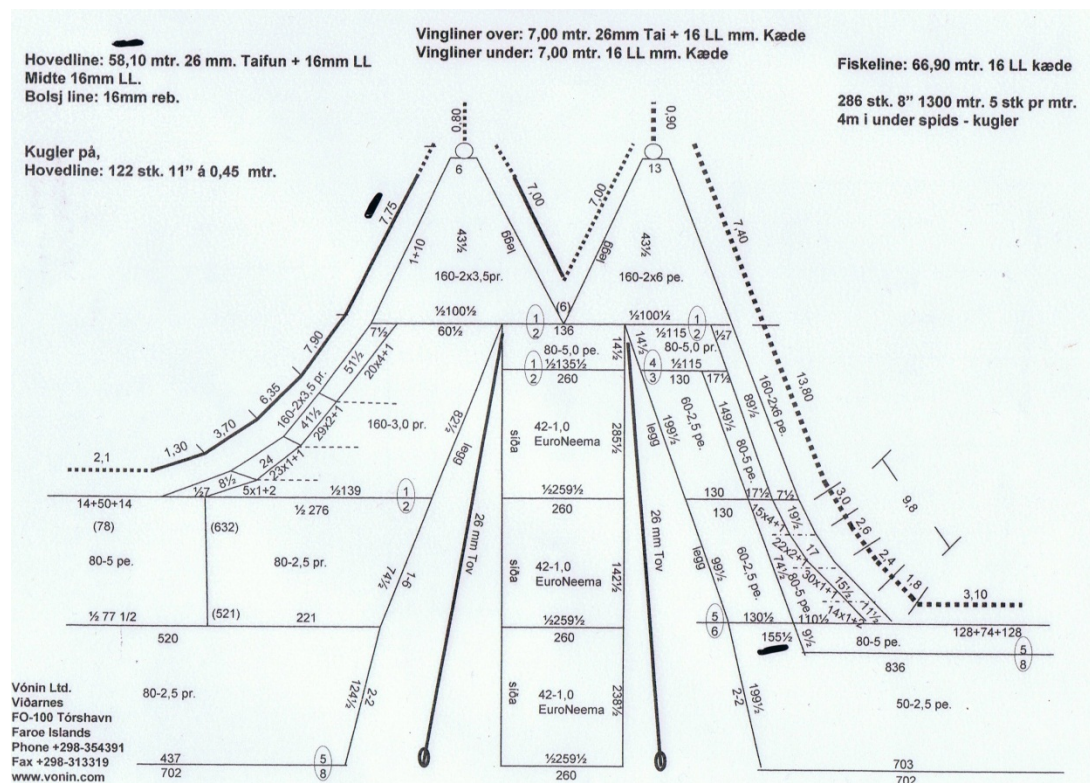


Figure 5: Example of the trawl used by Faroese shrimp trawlers in the Barents Sea.

The Barents Sea shrimp fishery generally takes place at 250 – 350 m depth². The deepest fishing ground is around 800 m. According to fishermen, shrimp can be found almost everywhere, though not always in the same volumes. The majority of vessels operate on the soft sea bed, allowing no lasting damage to the sea bottom. Some vessels operate in the areas with a harder sea-bottom, and use light-weight rock – hopper gear. In both cases, trawl doors have contact with the sea bottom and result in a direct impact on habitat structure. Some vessels have been trying pelagic doors, which are kept off the bottom. It is expected that this practice would be more frequently used in the future in order to reduce the environmental impact on the sea bottom. There are also several on-going projects which are aimed at developing a more effective and environmentally friendly trawl gear for shrimp fisheries.

The minimum landing size of shrimp is 6cm (15mm CL), while the average size of shrimp caught by Faroese vessels is around 7-8 cm. The mesh size used in the fishery and the current practice of targeting larger shrimps means that the fishable stock is considered to be shrimps of 17mm CL and above rendering the minimum landing size of 15mm CL redundant. There are some areas in the Barents Sea, where a high concentration of small sized shrimp may occur. It should be noted that all shrimp, including undersized shrimp is landed.

² The average fishing depth in 2012: Eldborg – 281m, Ontika -275m, Taurus -348m.

MSC FISHERY ASSESSMENT REPORT



3.3 Principle One: Target Species Background

3.3.1 Fishery resources

3.3.1.1 Taxonomic and geographic range

The cold water prawn *Pandalus borealis* (Krøyer, 1838), also known as the pink or northern shrimp, is a caridean shrimp of the family Pandalidae. It is distributed across the North Atlantic around the Barents Sea, Svalbard, Iceland and Greenland and south to the North Sea and Massachusetts, and across the North Pacific from the Bering Sea south to Japan and Oregon (Holthuis, 1980). In all these areas there are important commercial fisheries for *Pandalus borealis*.

3.3.1.2 Stock structure

Migration of egg-carrying females into shallower waters in connection with egg-hatching has been observed (Horsted, 1978) and juveniles may migrate from shallower to deeper water (Smidt, 1981). In addition particle tracking models reveal that the larvae of *P. borealis* may be transported as far as 300km during the pelagic phase (Pedersen *et al.* 2003) suggesting some connectivity between populations within the main fishing areas. Martinez *et al.* (2006) studied the genetic structure of *Pandalus borealis* in the Northeast Atlantic analysing variation in the genomic DNA by random amplified polymorphic DNA (RAPD) markers. The study used analysis of molecular variance (AMOVA) and principal component analysis on 34 genetic markers obtained by RAPD fingerprint analysis from shrimps captured in the Barents Sea, Svalbard, Jan Mayen and in two Norwegian fjords. There was no significant genetic variation among shrimp samples from the Barents Sea and Svalbard, although there may be some sub-population structure in environmentally extreme areas due to selection at the larvae and juvenile stages exerted by migration distance and water temperature. Martinez *et al.* concluded that the populations of the Barents Sea and Svalbard can be considered to be a single population, confirming the conclusions of previous genetic analyses of shrimp samples from the region using allozyme studies of Kartavtsev *et al.* (1991) and Drengstig *et al.* (2000), and in accordance with the model of larvae dispersion and mother populations postulated by Pedersen *et al.* (2003).

3.3.1.3 Biology and life histories

The North East Arctic cold water prawn, *Pandalus borealis* is distributed throughout the Barents Sea and in the Svalbard Fishery Protection Zone (ICES Sub-areas I and II) primarily in areas with soft, muddy sediments. The highest shrimp densities observed on the joint Norwegian-Russian ecosystem survey in the Barents Sea are at temperatures between zero and 4 degrees C. Shrimp were not caught in areas where bottom temperatures were below zero and the upper temperature limit seems to lie between 6 and 8 degrees C (Hvingel and Thangstad, 2012b). *Pandalus borealis* is a protandric hermaphrodite (Bergstrøm, 2000). Individuals start out as males, mature as males and mate for two years but, after about 3 to 4 years they change sex and complete their lives as females (NAFO/ICES, 2010). Shrimp spawn in autumn, and females carry their eggs until spring when the larvae hatch. The main fishery occurs outside the period when females are carrying eggs, which potentially reduces the impact of exploitation on recruitment. Within a period of approximately 2 months, the shrimp larvae settle to the bottom (Aschan and Ingvalsen, 2009), although particle tracking models reveal that the larvae of *P. borealis* may be transported as far as 300km during the pelagic phase (Pedersen *et al.* 2003). Shrimp feed both on the ocean floor and in the water column. Their diet will therefore include both benthic and pelagic organisms. Recruitment of one year old shrimp appears to be dependent on spawning stock biomass, but it may also

Report N.	2013-002	Revision	01 -2013-11-05	Page 25 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



be affected by the timing and duration of the phytoplankton bloom (Aschan and Ingvalsen, 2009). Small and medium-sized shrimp (mostly males) predominate in southern and eastern areas in depths of 200 – 350 m while larger individuals (mostly females) occur in northern and western regions in depths of 350 -500 m (Aschan, 2000). Recruitment to the fishery as 3-4 year olds, when the shrimps are greater than 15 mm carapace length (6 cm total length), is influenced by temperature, competition with other species and predation. Numerous fish and marine mammal species are predators of *P. borealis* (Parsons, 2005) and predation mortality is thought to be an important factor in shrimp stock dynamics.

3.3.2 Status of stocks

Pandalus borealis is distributed throughout the Barents Sea and around Svalbard (Figure 18) and is considered to be a single stock (Martinez et al. 2006). The stock in the Barents Sea and Svalbard area (ICES Sub-areas I and II) is assessed annually along with other Northwest Atlantic Fisheries Organization (NAFO) and International Council for the Exploration of the Sea (ICES) stocks by the joint NAFO/ICES *Pandalus* Assessment Group (NIPAG).

3.3.2.1 Stock assessment methods

The stock assessment model used by NIPAG is a stochastic version of a surplus production model. The model is formulated in a state-space framework and Bayesian methods are used to derive posterior likelihood distributions of the parameters (Hvingel and Kingsley, 2006). The model synthesises information from input priors including the initial population biomass in 1969, the carrying capacity (K) and Maximum Sustainable Yield (MSY), a series of shrimp catches and four independent series of shrimp biomasses (Hvingel, 2012).

Total reported catch from all vessels in the fishery is used as yield data. The four series of shrimp biomasses are a series of commercial catch rates and three trawl survey biomass indices. Log book data from Norwegian vessels are used in a multiplicative model to calculate standardised annual catch rate data (Hvingel and Thangstad, 2012a). The GLIM model includes vessel, season, area and gear type as variables and is considered to be a good index of the biomass of shrimps over 16mm CL, i.e. of the older male and the female stock combined. Since 2005, the CPUE index has fluctuated above the long term average although it declined in 2012 (Figure 8). Norwegian and Russian shrimp trawl surveys were conducted from 1982-2004 and 1984-2005 respectively and provided indices of stock biomass, recruitment and size composition. In 2004 these two trawl surveys were superseded by the joint Norwegian-Russian ecosystem survey which surveys shrimp and monitors other ecosystem variables (Hvingel and Thangstad, 2012b). Biomass indices from all three trawl surveys used in the model fluctuated without any obvious trend (Figure 8). Recruitment indices (estimated abundance of shrimp between 13 and 16mm CL) derived from Norwegian (Hvingel and Thangstad, 2012b) and Russian (Zakharov and Lyubin, 2012) surveys showed no major changes from 2004 to 2012 (Figure 8).

All Faroe Islands shrimp vessels are required to have a Vessel Monitoring System (VMS) on board, although when fishing north of 80 degrees North in the Svalbard FPZ, there is no satellite signal and vessels must instead inform Norwegian authorities with a manual position each day. Vessels must complete log books (currently paper log books, but with potential for a future electronic system), the various mandatory catch returns when entering or leaving an area, a Port State Control Form (PSC) when landing shrimps in another country, and a catch certification form when landing shrimps destined for the EU market. Data from these various sources provide a detailed description of the fishing activity and catches of the Faroe

Report N.	2013-002	Revision	01 -2013-11-05	Page 26 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



Islands fleet, and the Faroe Islands Ministry of Fisheries and Fisheries Inspection (FLV) cross-checks the data for compliance with regulations. However only the raw landings data from the Faroe Islands fleet feed into the stock assessment. The standardised annual catch rate data used in the assessment are based solely on Norwegian log book data, and there are no stock surveys carried out currently by Faroe Islands. There is currently no information on size composition of the catch, sex ratio and bycatch on Faroe Islands vessels fishing in the Barents Sea and Svalbard area collected by Faroe islands authorities, but observers from Norway may collect such information from time to time in the NEAFC controlled international waters.

Absolute biomass estimates have relatively high variances, and therefore to cancel out the uncertainty of the catchability parameters (which scale biomass indices to real biomass) shrimp biomass (B) is measured relative to the yield that would yield Maximum Sustainable Yield (B_{msy}), and the fishing mortality (F) is scaled to the fishing mortality at MSY (F_{msy}).

3.3.2.2 Reference points

In addition to estimating biomass in relation to B_{msy} and fishing mortality in relation to F_{msy} , the assessment also considers two other reference points that ICES uses within its MSY framework for providing advice: $B_{trigger}$, a biomass encountered with low probability if F_{msy} is implemented, and set by NIPAG at 50% of B_{msy} corresponding approximately to the 10th percentile of the B_{msy} estimate, and B_{lim} (30% of B_{msy}), the biomass below which recruitment is expected to be impaired. The assessment also considers F_{lim} (170% of F_{msy}), the fishing mortality that would drive the stock to B_{lim} .

3.3.2.3 Results of assessment

The model provides good simulations of the observed biomass data and the results are not sensitive to the setting of the priors for the initial stock biomass and carrying capacity. The model does not necessarily capture major short-term changes in recruitment. The estimated biomass has been above B_{msy} since the start of the fishery in the 1970s, and in 2012 is close to carrying capacity, and the fishing mortality rate has been well below F_{msy} throughout the duration of the fishery (Figure 10). The assessment estimates the risk associated with exceeding the various reference points. In 2012, the risk of stock biomass being below B_{msy} was 3%, and the risk of F being above F_{msy} was 1%. The risk of falling below both $B_{trigger}$ and B_{lim} is less than 1%, and the risk of exceeding F_{lim} (1.7 F_{msy}) is also less than 1%. Plots of annual relative biomass against annual relative fishing mortality estimated by the model confirm that throughout the history of the fishery, the stock has remained in a good state relative to limit reference points (Figure 11). The assessment also provides model predictions of risk associated with a range of catch levels up to 90,000 tonnes per annum. Catch options of up to 60,000 tonnes have a risk of less than 5% of exceeding F_{msy} in the short term, and for all options up to 90,000 tonnes the risk of stock biomass falling below $B_{trigger}$ in the next 10 years is less than 5% (Hvingel, 2012). Although the stock is in a good state and does not currently require re-building, the model estimates that it would take 4-14 years to rebuild the stock from B_{lim} to B_{msy} in the absence of fishing. The 2012 NIPAG report cautions however that shrimp are vulnerable to high levels of predation by fish species, particularly cod, and therefore the model's predictions of stock size could be inaccurate if predation rates increased significantly due to increased predator abundance. To date, it has not been possible to establish the relationship between shrimp and cod densities, and so predation has not been explicitly incorporated in the assessment model.

Report N.	2013-002	Revision	01 -2013-11-05	Page 27 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



The stock assessments described in the annual NIPAG reports are peer-reviewed within ICES by an ICES Review Group. The Review Group involves stock assessment scientists not involved with the *Pandalus borealis* assessments and, from time to time, scientists who are outside the ICES assessment process. The Group may query aspects of the assessment model, the current assessment and the presentation of the results. The 2011 Review Group concluded that there were no major issues regarding the assessment and the data used, and recommended to ACOM, the Advisory Committee, that the assessment could be accepted as the basis for advice.

3.3.2.4 Management advice based on assessment of status

The management advice for the Barents Sea and Svalbard stock based on the NIPAG assessment is formulated by the ICES Advisory Committee (ACOM) on behalf of the Council of ICES. The annual ICES Advice Book contains a general section (Book 1) which contains the conceptual framework for the assessments and advice including the maximum sustainable yield (MSY) concept and the setting of reference points under the precautionary approach (PA) to fisheries management

(http://www.ices.dk/committe/acom/comwork/report/2012/2012/General_context_of_ICES_advice_2012.pdf)

In addition there are a series of books containing regional reports on the various marine eco-regions. Book 3 covers the Barents Sea and the Norwegian Sea including the Sub-areas I and II (Barents Sea) *Pandalus borealis* stock.

<http://www.ices.dk/committe/acom/comwork/report/2012/2012/pand-barn.pdf>

The ICES advice for the Barents Sea *Pandalus borealis* stock, based upon the stock assessment described within the 2012 NIPAG report, is that catches of 60 000 tonnes in 2013 will maintain the stock at the current high biomass. The advice lists the various reference points that are used to assess the status of the stock (Table 4) and confirms that within the MSY approach, the stock is well above Btrigger and that F is well below Fmsy, and that within the Precautionary Approach there is a low risk in 2013 of the stock falling below Blim or of F exceeding Flim at catch options up to 90,000 tonnes per annum. Annual ICES advice for this stock over recent years is shown in Table 5.

3.3.3 History of fishing and management

The fishery for *Pandalus borealis* in the Barents Sea and Svalbard Fishery Protection Zone (FPZ) was started by vessels from Norway in 1970, and as the fishery developed, vessels from Russia, Iceland, Greenland, Faroe Islands and the EU countries also entered the fishery. Norwegian and Russian vessels exploit the *Pandalus borealis* stock across the entire region, although Russian vessels have declared zero landings each year since 2009. Vessels from other countries, including those from Faroe Islands, are not permitted to fish in the Norwegian EEZ. However under a bilateral agreement, vessels from Faroe Islands have recently also been allowed access to fish in Russian waters. Vessels from Faroe Islands are therefore now permitted to fish within the Svalbard FPZ, in an area of international waters to the south east of Svalbard known as the 'Loop Hole', and in the Russian EEZ (Figure 3). Over the last few years the fishery has shown increased activity in the international zone, due to a recent eastwards shift in the main areas of shrimp distribution possibly driven by observed changes in water temperatures, and to some area closures due to high bycatches of juvenile fish. Currently the shrimp fishing fleet comprises primarily of large vessels with on average 6000 HP in comparison with the 1980s when the average vessel was around 1000 HP. Traditionally vessels used single trawls only, but since 1996, vessels have increasingly used both double and triple trawls, and in 2010 approximately 90% of the

Report N.	2013-002	Revision	01 -2013-11-05	Page 28 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



largest fleet of vessels from Norway were using multiple trawls. There are currently three Faroe Islands vessels licensed to fish in the Barents Sea: Havborg (OW2163), Sermilik II (OW2202) and Arctic Viking (OW2399), with one further vessel due to start fishing for shrimps in 2013. Two of these vessels use double trawls, whereas the third vessel, Sermilik II, uses only a single trawl. Fishing takes place throughout the year, but in some areas it will be restricted by ice conditions, with the main fishing season for Faroe Islands vessels being March to September.

As the fishery developed, catches reached a peak of 128,000 tonnes in 1984, but since 2000 catches have declined from around 80,000 tonnes to 20-30,000 tonnes per annum, of which the majority is landed by Norwegian vessels (Figure 12). This recent decline is due to reductions in fishing effort caused by high fuel prices and consequent low profitability of the fishery. Since 2006, the total catch in the fishery has been significantly below the TAC recommended by ICES (*Table 5*). Annual landings of shrimp by Faroe Islands vessels in the Barents Sea and Svalbard area (ICES areas I and II) have averaged 2800 tonnes from 2002-2012, which is significantly below landings of around 6000 tonnes that the Faroe Islands vessels made in the *early* 1990s (Figure 8). Faroe Islands vessels landed 2110, 4432 and 4247 tonnes of shrimps in ICES Area I and II in 2010, 2011 and 2012 respectively, equating to approximately 8%, 15% and 21% (preliminary estimate) of the overall landings from the Barents Sea stock in the respective years. In 2012, the total Faroe Islands catch in the Barents Sea and Svalbard area (ICES areas I and II) was 4247 tonnes of which 52% was caught in the NEAFC region, 25% in the Svalbard FPZ and 23% in the Russian EEZ. ICES Bycatch rates of other species are estimated from research surveys and surveillance operations, and then raised up to total bycatch using log book data. (Further details are given in section 3.4 below.)

Management regulations differ across the various fishing zones. The fishery is regulated primarily through effort control and technical measures. There is no TAC for the Barents Sea stock as a whole, but there is a partial TAC in the Russian zone. Norwegian and Russian vessels require licences. Faroe Islands vessels fish in the Svalbard FPZ, in international waters managed by NEAFC and in the Russian EEZ and require a licence to fish in all areas issued by the Faroe Islands Ministry of Fisheries and Fisheries Inspection (FVE). These licences are valid for one year only, so the Faroe Islands authorities can react rapidly to any change in stock status. In all areas, Faroe Islands vessels have a Vessel Monitoring System (VMS) on board and must complete log books. Faroe Islands vessels are allowed to fish in the Svalbard FPZ under Norwegian regulations. In this area vessels must notify Norwegian authorities prior to commencement of fishing, and weekly catch reports in the form of a Port State Control Form (PSC) must be made to both Norwegian and Faroe Islands authorities. The number of vessels permitted to fish in the Svalbard FPZ is limited by country (2 for Faroe Islands) and by an overall limit on effective fishing days (922 for Faroe Islands). Vessels must cease fishing in areas where the bycatch of cod and haddock is over 10% or when more than 10% of the catch of shrimps are undersized (<15mm CL) or when the numbers of undersized cod, haddock or redfish reach prescribed numbers per 10kg of shrimps caught. Faroe Islands are a contracting party to NEAFC, which allows their vessels to fish in the area of international waters known as the Loop Hole. In this area there is no effective limit on the overall level of fishing effort or an overall quota. Faroe Islands currently issues licences to only 3 vessels to fish in this area, but there is no quota and no limits on effective fishing days for Faroe Islands vessels, and there is potential for new licences to be taken up in the future by other Faroe Islands vessels to fish in this area. Fishing must be undertaken as set out in the NEAFC Scheme of Control and Enforcement which includes the completion of catch on entry (COE) and catch on exit (COX)

Report N.	2013-002	Revision	01 -2013-11-05	Page 29 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT

forms when entering or exiting the area, a Port State Control Form (PSC) when landing shrimps in another country, and an EU catch certificate if the shrimps are destined for the EU market. In the Russian EEZ, Faroe Islands vessels must have a Russian observer on board at all times. There is a TAC in Russian waters for Faroe Islands vessels of 4000 tonnes per annum, recently raised from 1000 tonnes, and bycatch levels are regulated through a bi-lateral agreement between Faroe Islands and Russia. Bycatch of juvenile cod, haddock, redfish and Greenland halibut in the shrimp fishery in Russian waters should not exceed 800, 2000, 300 and 300 individuals respectively per one tonne of shrimp. In all areas, there is a minimum stretched mesh size of 35mm and the incorporation of Nordmore sorting grids to reduce bycatch are mandatory. Faroe Islands vessels are subject to inspections by Norwegian inspectors in the Svalbard FPZ, by EU control vessels, Norwegian vessels or any other NEAFC contracting party's inspectors in the international waters, and in Russian waters, vessels must have a Russian observer on board at all times.

	Type	Value	Technical basis
MSY approach	MSY $B_{trigger}$	0.5 of B_{MSY} *	50% of B_{MSY} (10 th percentile of the B_{MSY} estimate); relative value.
	F_{MSY}	*	Resulting from the production model.
Precautionary approach	B_{lim}	0.3 of B_{MSY}	30% of B_{MSY} (production reduced to 50% MSY); relative value.
	B_{pa}	Not defined.	Not needed: Risk of transgressing limits are directly estimated.
	F_{lim}	1.7 of F_{MSY}	1.7 F_{MSY} (the F that drives the stock to B_{lim}); relative value.
	F_{pa}	Not defined.	Not needed: Risk of transgressing limits are directly estimated.

(unchanged since: 2011)

* Fishing mortality is estimated in relation to F_{MSY} and total stock biomass is estimated in relation to B_{MSY} .

Table 4: Reference points used in provision of advice for the Barents Sea shrimp stock. (Source: ICES Advice 2012, Book 3.)

Year	ICES Advice / Single-stock exploitation boundaries	Predicted landings corresp. to single-stock exploitation boundaries	Agreed TAC	ICES landings
2005	No increase compared to 2004	43.6	-	42.6
2006	No increase in catch above recent level	40	-	29.6
2007	Catch that will prevent exceeding F_{lim} in the long term	50	-	29.9
2008	Catch that will prevent exceeding F_{lim} in the long term	50	-	28.2
2009	Catch that will prevent exceeding F_{lim} in the long term	50	-	27.3
2010	Catch that will prevent exceeding F_{lim} in the long term	50	-	25.2
2011	Catch that will prevent exceeding F_{MSY} in the long term	60	-	29.8
2012	Catch that will prevent exceeding F_{MSY} in the long term	60	-	20.0
2013	Catch that will maintain stock at current high biomass	60	-	

Weights in thousand tonnes.

2012 catches predicted to the end of the year.

Table 5: Barents Sea shrimps: advice, management and landings. (Source: ICES Advice 2012, Book 3.)

MSC FISHERY ASSESSMENT REPORT

Year	Recommended TAC	Norway	Russia	Other nations	Total
2006	40 000	27352	4	2271	29627
2007	50 000	25558	192	4181	29931
2008	50 000	20662	417	7109	28188
2009	50 000	19784	0	7488	27272
2010	50 000	16779	0	8419	25198
2011	60 000	19923	0	9867	29790
2012*	60 000	13000	0	7000	20000

Table 6: Shrimp in the Barents Sea: recent catches (tonnes) in relation to TAC recommended by ICES. * 2012 catches are projected to the end of the year. (Source: NAFO/ICES, 2012)

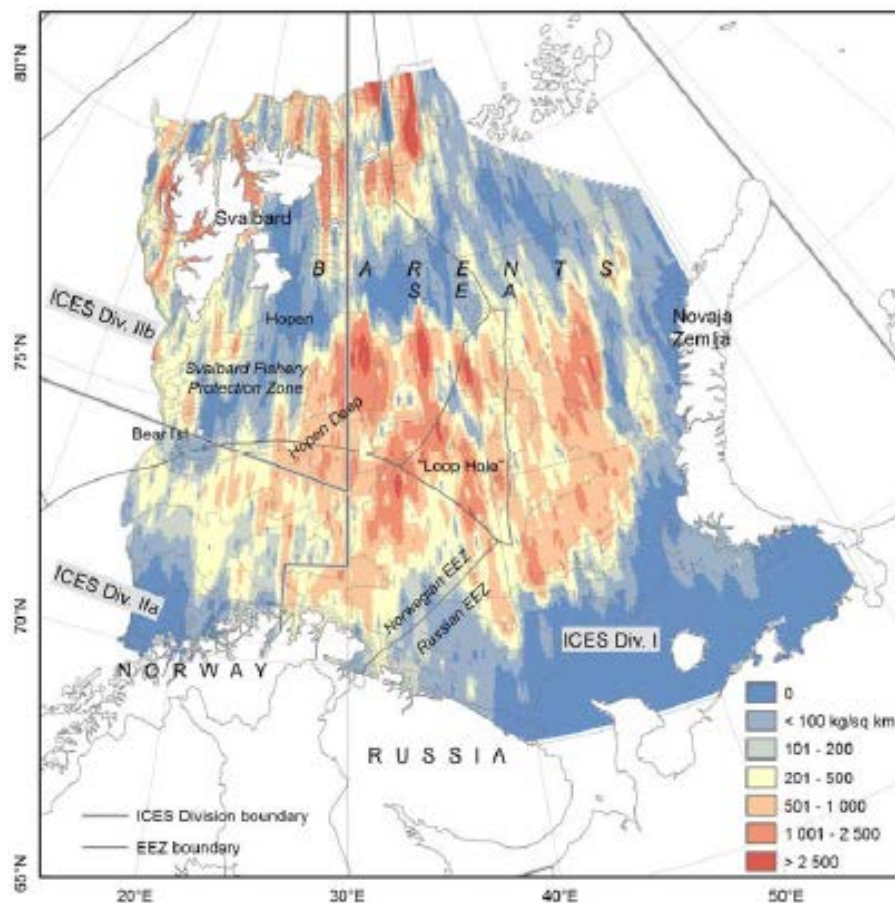


Figure 6: Shrimp in the Barents Sea: stock distribution, mean density index (kg/km²), based on survey data from 2000-2010. (Source: Hvingel and Thangstad, 2012a).

MSC FISHERY ASSESSMENT REPORT

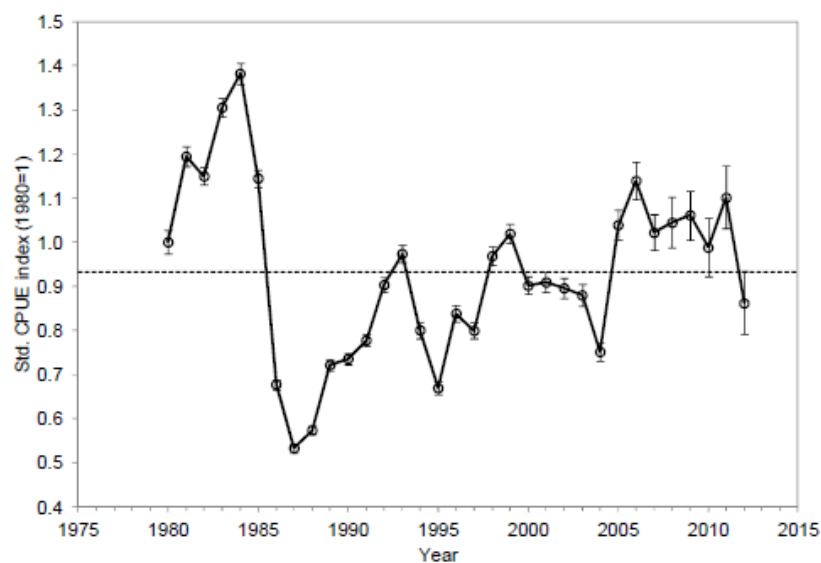


Figure 7: Shrimp in the Barents Sea: Standardised CPUE from Norwegian log books. (Source: Hvingel and Thangstad, 2012a)

MSC FISHERY ASSESSMENT REPORT

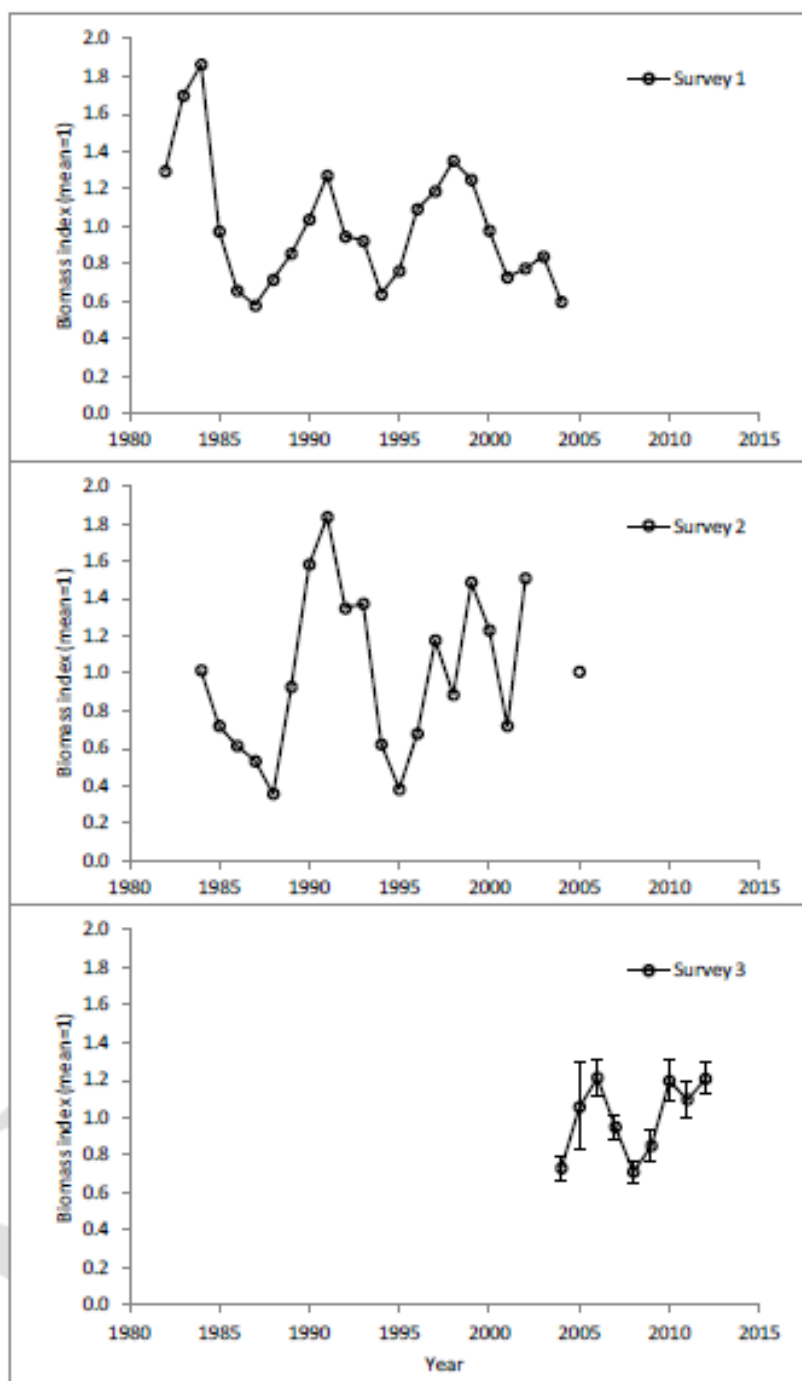


Figure 8: Shrimp in the Barents Sea: indices of stock biomass from (1) the 1982-2004 Norwegian shrimp survey, (2) the 1984-2005 Russian survey and (3) the joint Norwegian-Russian ecosystem survey. (Source: NAFO/ICES, 2012)

MSC FISHERY ASSESSMENT REPORT

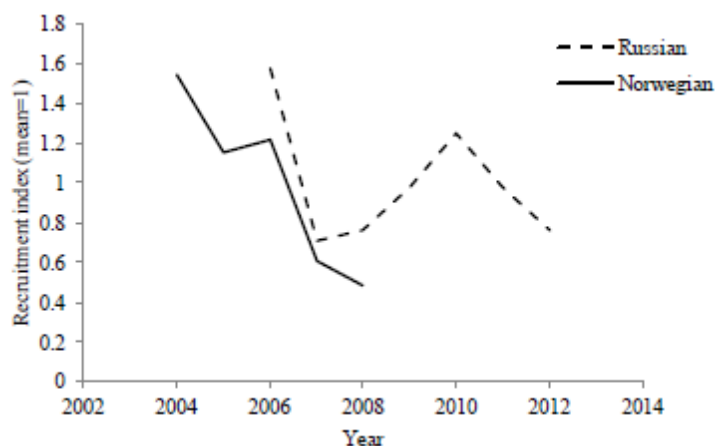


Figure 9: Shrimp in the Barents Sea: recruitment indices. Estimated abundance of shrimps between 13 and 16 mm CL derived from Norwegian and Russian survey samples. (Source: NAFO/ICES, 2012)

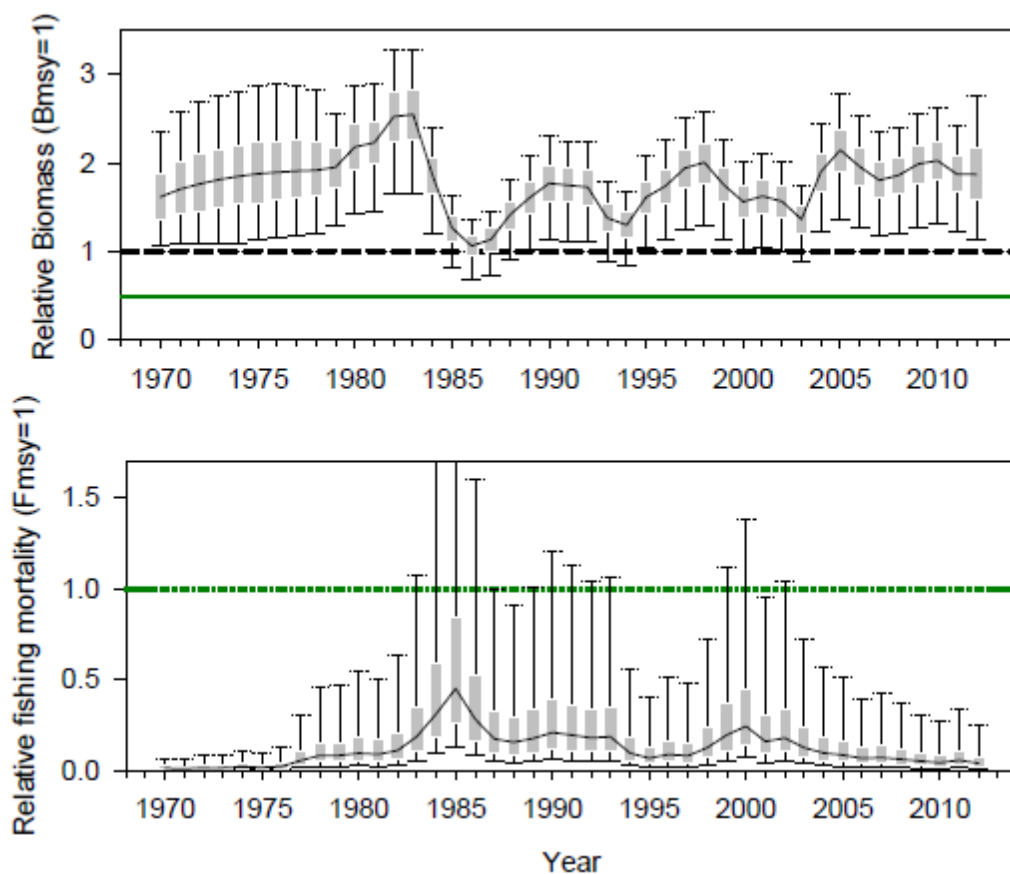


Figure 10: Estimated time series of relative biomass (B/B_{msy}) and fishing mortality (F/F_{msy}). Boxes represent inter-quartile ranges and the solid black line running through the centre of each box is the median; the arms of each box extend to cover the central 90% of the distribution. The green lines are the B trigger and F_{msy} references. (Source: Hvingel, 2012)

MSC FISHERY ASSESSMENT REPORT

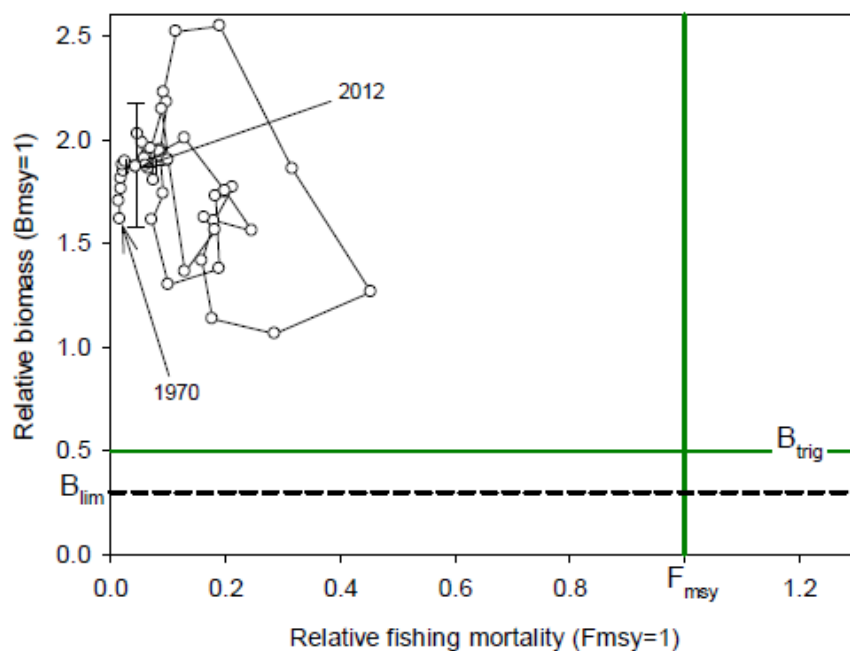


Figure 11: Shrimps in the Barents Sea: estimated annual median biomass ratio (B/B_{msy}) and fishing mortality ratio (F/F_{msy}) for 1970-2012. Green lines indicate MSY reference points for stock biomass, $B_{trigger}$, and fishing mortality, F_{msy} . The PA reference, B_{lim} , is indicated by the broken line. (Source: Hvingel, 2012)

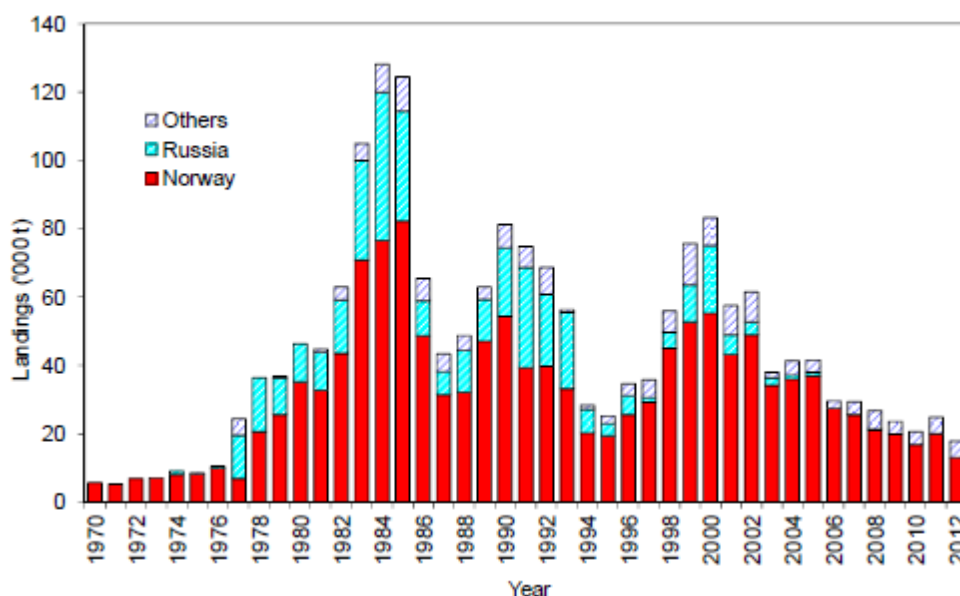


Figure 12: Total annual landings of shrimp in the Barents Sea. The 2012 projected value is estimated based on data until August and information from the industry. (Source: Hvingel and Thangstad, 2012a.)

MSC FISHERY ASSESSMENT REPORT

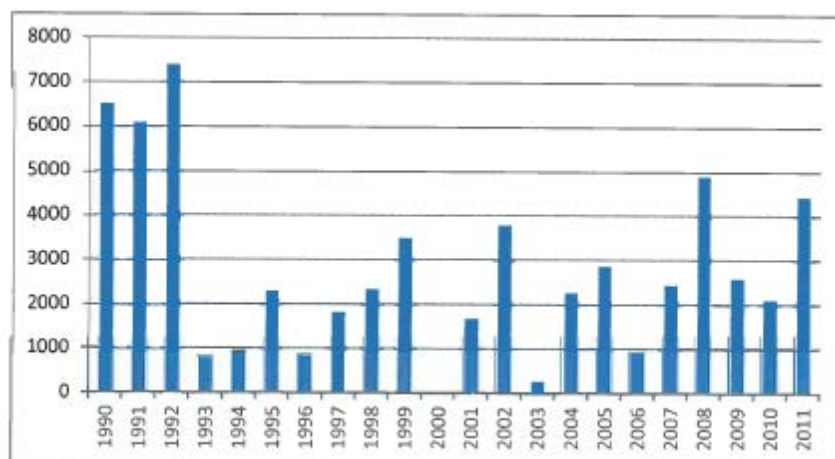


Figure 13: Landings of shrimps (tonnes) by Faroe Islands vessels in ICES areas I and II from 1990 to 2011. (Source: FVE, Faroe Islands).

MSC FISHERY ASSESSMENT REPORT



3.4 Principle Two: Ecosystem Background

3.4.1 Retained bycatch

In this fishery all (client) vessels at all times use a Nordmøre sorting grid with 19 mm spacing between bars. All larger fish are guided out of an opening in the upper side of the net. This practice means only the small specimens that can pass between the bars of the grid are caught (*Figure 14*). These small fish are not retained and are therefore considered as bycatch (Par. 3,4,2).



Figure 14: Shrimp catch taken on-board a client vessel.

MSC FISHERY ASSESSMENT REPORT



Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish. Landings data show that there are no retained species in this fishery.

Landings data as collected by the Faroese Fisheries Inspectorate show that in this fishery there are no retained species other than shrimp. The information is accurate and verifiable. There is an Electronic Reporting System (ERS) in place and catches have to be reported to the Fisheries Inspectorate on a daily basis. Prior to landing the vessel has to notify the authorities of the state where the fish will be landed (the Port state) of the quantities on board. This state (in most cases Norway since most catches are landed in Tromsø) will send a so called Port State Control Form (PSCF) to the Faroese authorities (the Flag state) for validation. With this procedure there is a check on the landed quantities with the quantities as reported in the Logbook (ERS).

The Faroese vessels do not have quota that would allow them to land other species than shrimp from the Russian EEZ, the Svalbard zone and international waters (as regulated by NEAFC).

Sorting grids are used at all times. Bycatch of fish would even be detrimental to the quality of the shrimp caught and the sorting of bycatch would require extra work without benefit.

For Faroese vessels the use of sorting grids is mandatory in the Russian EEZ, the Svalbard zone and international waters. The obligation to use sorting grids is required by the fishing license issued by the Faroese authorities.

3.4.2 Discarding

The mandatory use of sorting grids and the implementation of permanent and temporary closed areas are effective in minimizing the by-catch of all species. Grids are designed to minimize by-catch and, in this respect, they are highly effective (Richards A, and Hendrickson L., 2006; Isaksen, B. & A.V. Solvdal, 1997.). However, smaller individuals of several species that can pass through the grid spacing are caught and discarded.

By-catch of species other than shrimp for the total Barents Sea shrimp fishery is estimated from surveillance and research surveys. The by-catch rates in specific areas are then multiplied by the corresponding shrimp catch from logbooks to estimate the overall by-catch. By-catch estimates since 1992 are: small cod 2–67 million fish/yr; redfish 2–25 million from 2000 -2004; haddock 1–9 million and Greenland halibut 0.5–14 million (Hvingel and Thangstad, 2010). The overall by-catch is estimated between 1-3%. Furthermore, it is estimated that by-catch is less than 1% per by-catch species.

The low discard figures described here are in line with FAO discards database data: “The fisheries for Pandalidae (*Pandalus*, *Heterocarpus* sp.) concentrated in the North Atlantic (Canada, Norway, Iceland) account for approximately 13 000 tonnes of discards. The mandatory use of Nordmore grids and other BRDs in most of these fisheries results in a relatively low discard rate (weighted discard rate of 5.4 per cent).”

In 2003 the SURVIVAL-project – a three year project, partly funded by the EU Commission – was started to assess the survival of fish (haddock, whiting, saithe and cod) escaping from towed fishing gear. The experiments showed that survival of fish that had passed through a

Report N.	2013-002	Revision	01 -2013-11-05	Page 38 of 205
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MSC FISHERY ASSESSMENT REPORT



trawl cod-end was generally good. On average the survival of both whiting and haddock was around 95%.

Overall catches in the Barents Sea shrimp fishery have declined from 83.000 tons in 2000 to 20.000 tons in 2012. Hvingel and Thangstad (2012) conclude that this development must have resulted in a drastic decline in bycatches. Current bycatch of other species is considered to be low (Hvingel and Thangstad, 2012).

Both for the Svalbard zone and the Russian EEZ bycatch limits have been defined by the Norwegian and Russian Authorities. These limits are implemented in the respective fishing licenses for these areas. For the Svalbard Fisheries Protection Zone the limits are set as a maximum number of fish per kg of shrimp. These numbers are: cod 8, haddock 20, redfish 3, and Greenland halibut 3. For the Russian EEZ the limits are set as a number per ton of shrimp. The numbers are: cod 800, haddock 2000, redfish 300 and Greenland halibut 300. (Thus these limits allow for the same fractions of the catch that are allowed.) In case bycatches are higher than the limits set a vessel should seek another fishing area at least 2 Miles away (move on rule).

When high bycatches of fish are higher than the set limits in a certain area, the area can be temporarily closed by the managing authorities of Norway and Russia.

3.4.3 Endangered, Threatened and Protected Species (ETP)

The Barents Sea is an important area for Marine mammals. The PINRO / IMR Joint Ecosystem work concludes that the most common marine mammal in the Barents Sea is the white-beaked dolphin (*Lagenorhynchus albirostris* – IUCN Least Concern). Of the baleen whales, minke (*Balaenoptera acutorostrata* – IUCN Least concern), humpback *Megaptera novaeangliae* – IUCN least concern) and fin whales (*Balaenoptera physalus* – IUCN endangered) were the most numerous. Only the last of these aforementioned marine mammal species is protected by CITES. Two other species of marine mammals which also occur in the Barents Sea are also protected by CITES: sei whale (*Balaenoptera borealis* – IUCN endangered) and blue whale (*Balaenoptera musculus* - IUCN endangered). The Joint PINRO / IMR ecosystem report states that blue and sei whales are rarer and occasionally observed in the Barents Sea. Harp Seals (*Pagophilus groenladicus* - IUCN least concern) are also present in the Barents Sea, but are not protected by CITES. No elasmobranch species occurring in the Barents Sea are protected by CITES, although some of these species which are listed by IUCN as critically endangered do occur in the Barents Sea, such as flapper / blue Skate (*Dipturus batis*) Angel shark (*Squatina squatina*) and porbeagle (NE sub-population).

The Barents Sea is an important breeding ground for seabird and is home to unique sea bird colonies, including one of the world's largest puffin colonies. There is a good level of understanding of the bird composition of the Barents Sea, including regional and seasonal distribution patterns.

The fishery is carried out near the bottom in very deep water (from 300m to 500 m.), therefore there is virtually no chance that birds or marine mammals are encountered when the net is at the fishing depth. The only possible moment of encounter would be when the net is hauled in and birds or marine mammals would be attracted by the fish in the net. This however seems unlikely in a shrimp fishery with very limited bycatch of fish. In the scientific

Report N.	2013-002	Revision	01 -2013-11-05	Page 39 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



literature no signs can be found that the bycatch of birds or mammals are an issue in the Barents Sea shrimp fisheries. The client has confirmed that no birds are caught and that seals and whales do not enter the net when it is hauled.

However some undersized individuals of species that appear on international lists of protected species may be caught. These are redfish (*Sebastes marinus* and *Sebastes mentella*), blue ling (*Molva dypterygia*) and pollock (*Theragra finnmarchica*).

The by-catch of redfish is limited to 3 fish per 10 kg of shrimp (or 300 fish per tonne in the Russian EEZ) and, should this limit be exceeded, vessels are required to move to another area.

For all species and especially the larger fish (e.g. blue ling) it can be concluded that the sorting grid would protect them from being caught. Smaller specimen could pass the sorting grid and be caught. However it is highly unlikely that this would involve a large number of individuals.

3.4.4 Habitat

The fishing gear used in the certified fleet is a relatively light otter trawl gear, with rock hopper gear. The gear operates on or near the bottom, and may thus cause some damage to benthic habitats. The gear used by the fishery is equipped with large 'rockhopper' discs which hold the head rope of the trawl some 30-40 cm above the seabed, reducing damage substantially relative to a standard trawl with a tickler chain in contact with the bottom. The contact of the trawl doors (4-6 tons) with the bottom, however, causes a clear trail which can be seen, for example, using side-scan sonar. The clump of the gear deployed by the unit of certification is a 6 ton roller type. If deployed on muddy sediments this is likely to cause some impact. The degree of impact of the clump on sandy habitats has not been investigated but is likely to be relatively minor given the overall width of the clump.

Rockhopper gear also permits trawling in areas too rough for standard trawls, which would otherwise be protected. Generally speaking, however, the vessels stay within areas that are known to be trawlable, because of the risk of snagging gear on rough ground. This is beneficial to habitats because much of the damage done by trawls is done in the first pass.

shows the fishing positions of the UoC fleet in 2013. The map shows that the fishery is highly concentrated in certain areas. These areas will be fished year after year since skippers know they are "clean ground" or have already been cleared of obstructions. Hence vessels of all nations tend to fish the same ground repeatedly rather than stray into new areas.

MSC FISHERY ASSESSMENT REPORT

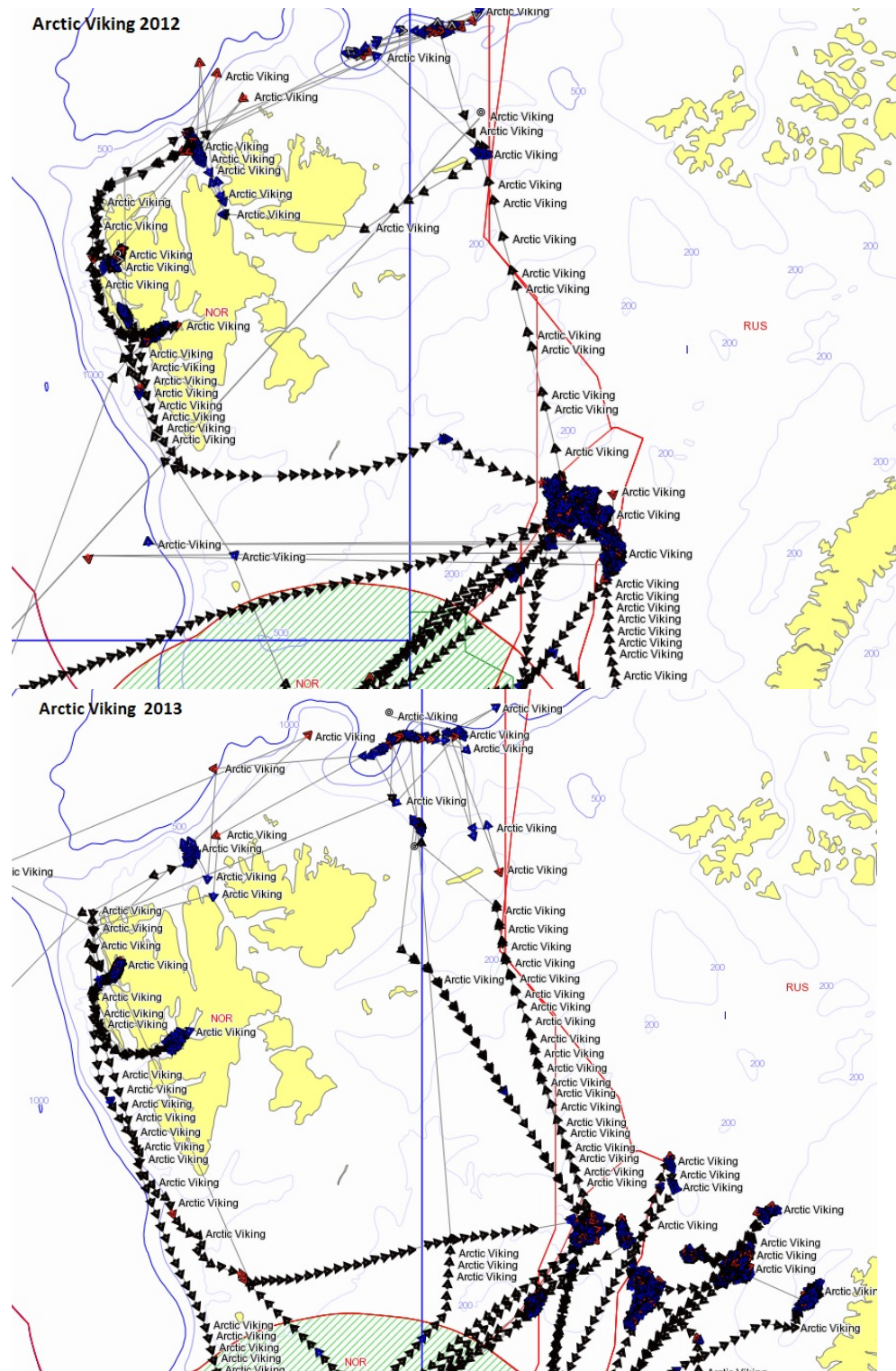


Figure 15: Map with VMS positions for the client vessel Arctic Viking. Year 2012 and 2013 (until 4.10). The red and blue spots are the fishing grounds, where the fishing concentration is. Black spots are speed more than 6 miles/hr.

MSC FISHERY ASSESSMENT REPORT

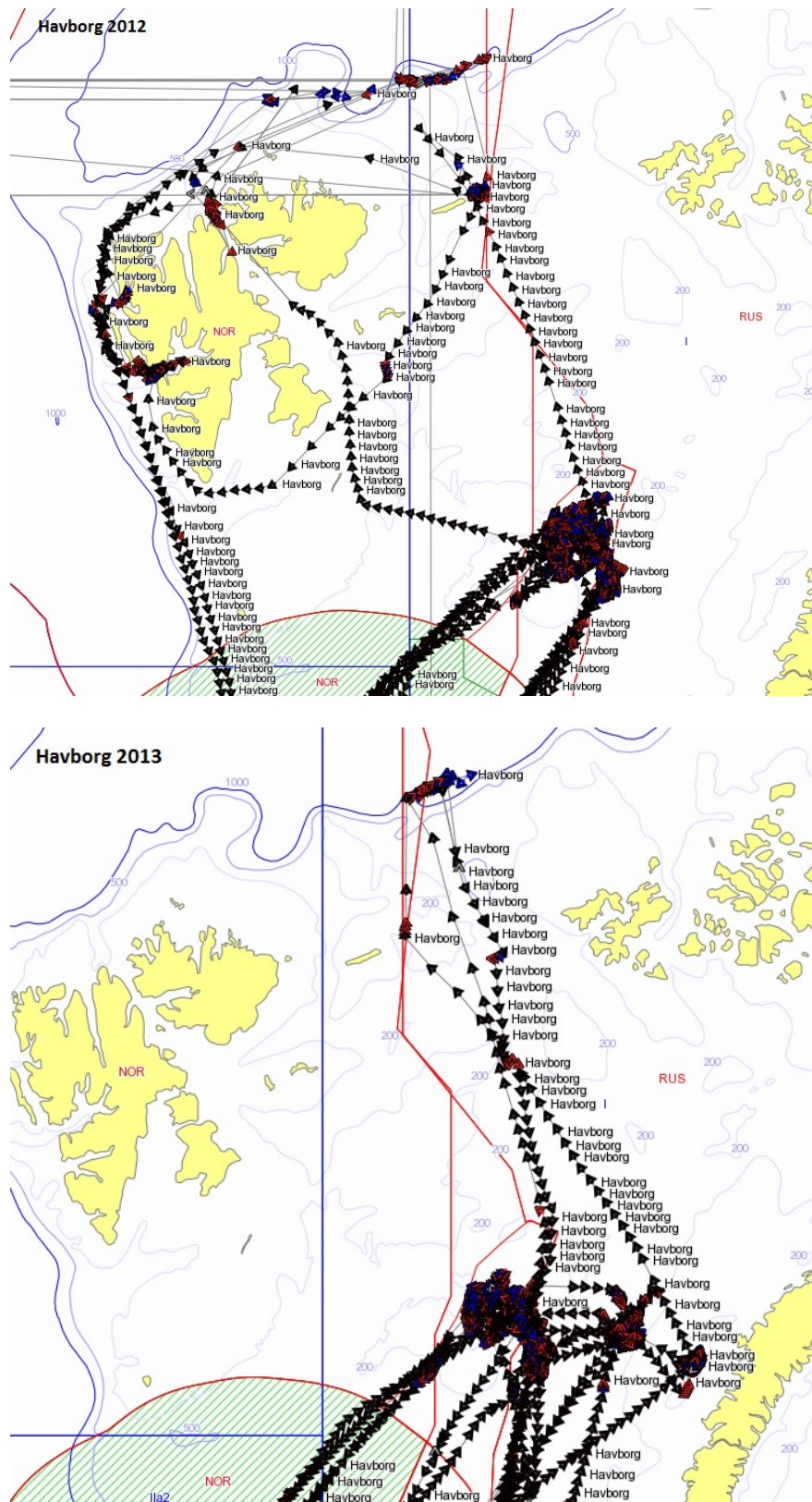


Figure 16: Map with VMS positions for the client vessel Havborg. Year 2012 and 2013 (until 4.10). The red and blue spots are the fishing grounds, where the fishing concentration is. Black spots are speed more than 6 miles/hr.

Report N.	2013-002	Revision	01 -2013-11-05	Page 42 of 205
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MSC FISHERY ASSESSMENT REPORT

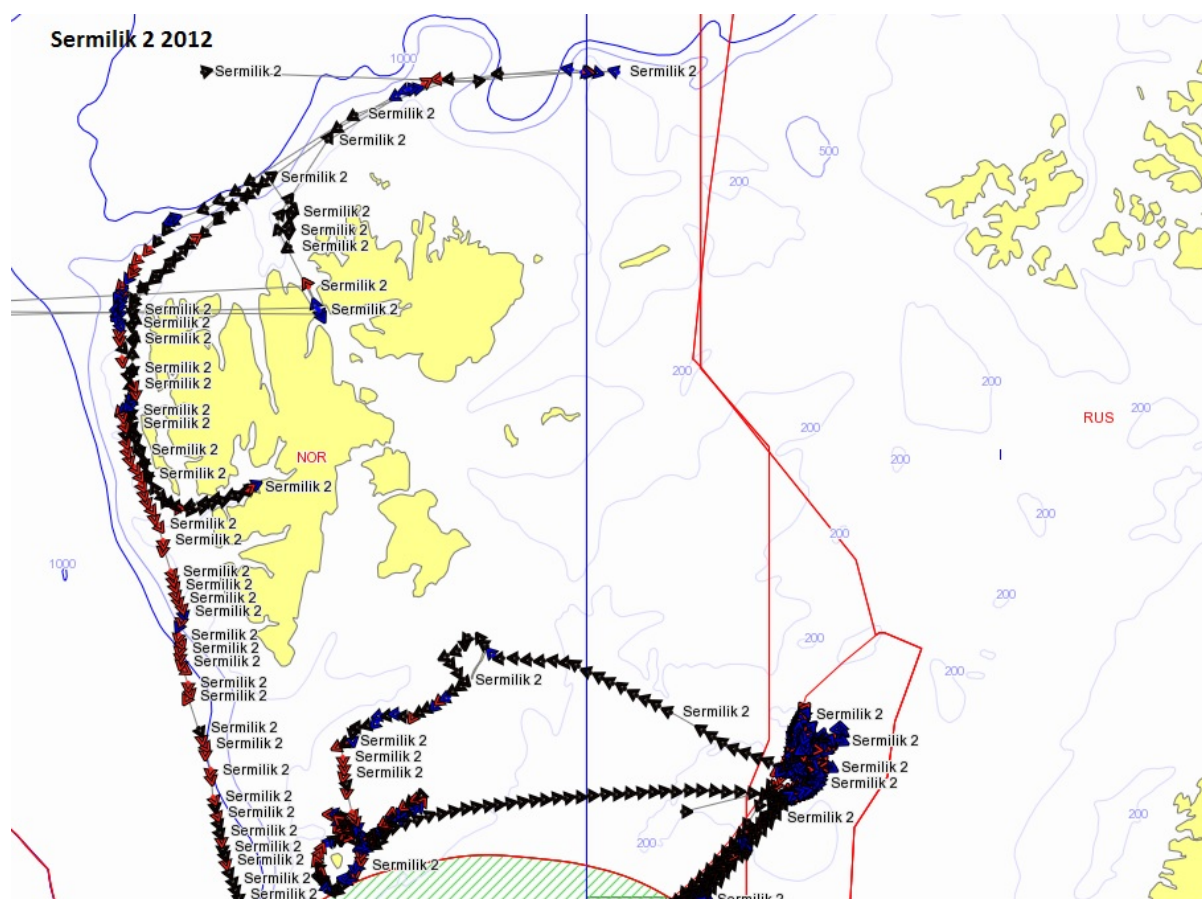


Figure 17: Map with VMS positions for the client vessel Sermilik 2. Year 2012. The red and blue spots are the fishing grounds, where the fishing concentration is. Black spots are speed more than 6 miles/hr.

Bottom trawl gears are known to impact on habitat structure and function. Particularly areas with biotic habitats generated by aggregations or colonial growth of single species are vulnerable. Such habitat-generating species are represented by a wide range of taxonomic groups, e.g. *Porifera*, *Polychaeta*, *Cnidaria*, *Mollusca* and *Bryozoa* (e.g., reviews in Jennings, 1998; Løkkeborg, 2005; Kaiser and de Groot, 2000; Moore and Jennings, 2000; Collie et al. 2000). In already disturbed areas, where the fauna comprise opportunistic, short-lived organisms, the trawl damage is less than in more pristine areas (Olsgard et al., 2008). In general, the response of benthic organisms to disturbance differs with substrate, depth, gear, and type of organism (Collie et al.; 2000).

Studies of long-term dynamics of bottom communities in the Barents Sea (Dennisenko, 2008) showed that significant increases in benthic biomass were observed during periods of reduced fishing intensity during the Second World War. Subsequently, following the peak in fishing intensity in the post war years and the 1960s and 70s, recovery of areas and bio-resources of the most common species, large taxons and trophic groups of zoobenthos was again observed. Rate of recovery is dependent on a number of issues – frequency of disturbance (natural and anthropogenic), productivity, substrate type and species. Benthic recovery rates following trawling events, are typically in the range of 2.5 to 6 years with the fastest recovery being observed in mud habitats.

Report N.	2013-002	Revision	01 -2013-11-05	Page 43 of 205
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MSC FISHERY ASSESSMENT REPORT



In the Barents Sea although the majority of the habitats may fall within the more dynamic and sedimentary range (hence quicker recovery), it is notable that some of the species composition and the substrate types on the shelf edge may show slower recovery characteristics. The main species of coral (eg. *lophelia* sp) which would be particularly vulnerable to trawl impact (potentially qualifying as a serious / irreversible impact) are located in Norwegian coastal waters and therefore beyond the area fished by the client vessels (Figure 15, Figure 16, Figure 17).

Skippers have informed the team that with the goal of reducing fuel costs the contact of the gear with the seafloor is minimized by applying a different technique with shorter fishing lines. There have also been tests with semi pelagic doors to reduce the impact further. Pictures of the catch show that the catch is very clean. Bycatch of bottom fauna is close to zero. Since bycatch of benthic organisms would affect the shrimp catch negatively these bycatches are avoided.

The fact that the ground rope does not touch the sea floor as in other trawl fisheries that target fish that dwell on the sea floor ensures that the impact on the bottom fauna is limited.

The Faroese shrimp fleet consists of 3-4 vessels. The total impact of the fishery is therefore very limited when the total area of the Barents Sea is taken into account. The areas that are fished by these vessels have generally been fished before by other fleets in the past which means that these areas have already been disturbed before and the fauna comprise of opportunistic, short-lived organisms. The trawl damage in such areas is less than in more pristine areas (Olsgard et al., 2008.).

Both Norway and Russia have established areas closed for fishing. Norway did this in the Svalbard zone and Russia in its EEZ.

The Norwegian Ministry of Fisheries and Coastal Affairs has issued a regulation that regulates fishing with bottom gear in the fisheries protection zone around Svalbard. The new regulation entered into force from 1 September 2011. The regulation establishes a distinction in existing fishing areas (where the water depth is less than 1000 m) and new fishing areas (where the water depth is more than 1000 meters). In existing fishing areas a "move on" rule is established in case a vessel encounters sponges or corals in its catch. (An encounter is defined as catching more than 30 kg of live corals or 400 kg of live sponges in a single haul.) When a vessel encounters the given quantities, the vessel shall cease fishing activities and relocate to a position at least two nautical miles from the position that on the basis of all available information is probably closest to the vulnerable benthic habitat that has been identified. The vessel shall, without delay, report the encounter to the Directorate of Fisheries, including the location and the type of habitat encountered.

A vessel must hold a special permit from the Norwegian Directorate of Fisheries to fish in new fishing areas. A special permit may only be issued if the vessel has submitted the following to the Directorate for approval:

- a detailed protocol for the exploratory fishery, including a harvesting plan describing fishing gear, target species, bycatches, dates and areas,
- a mitigation plan for avoiding damage to sensitive marine ecosystems,
- a plan for log-keeping and reporting,
- a plan for collection of data on vulnerable benthic habitats.

MSC FISHERY ASSESSMENT REPORT



For encounters with sensitive habitats the same rules apply as described above for the existing fishing grounds. The Directorate of Fisheries may lay down a requirement for a vessel to carry an observer when fishing in new fishing areas. The costs associated with carrying an observer on board, including wage costs, and also any interest on overdue payments, transport to and from the vessel, and board and lodging while at sea, shall be covered by the owner of the vessel. If sufficient documentation can be provided of bottom fisheries in areas that are deeper than 1000 meters, such areas may, on application to the Directorate of Fisheries, be classified as existing fishing areas.

A similar approach has been formulated by NEAFC in its regulations for bottom fishing in the NEAFC Regulatory Area. A distinction between existing and new fishery areas has been established. All bottom fishing activities in new bottom fishing areas or with bottom gear not previously used in the area concerned shall be considered as exploratory fisheries and shall be conducted in accordance with an Exploratory Bottom Fisheries Protocol.

These strategies imply that in existing fishing areas, where fishing has taken place for decades, the perceived impact on the ecosystem is considered tolerable and thus the fishing activity can continue, but with stricter monitoring and reporting requirements. In new fishing areas additional restrictions apply to protect vulnerable marine ecosystems (VME).

Sea bed mapping:

The integrated management plan for the Barents Sea includes a programme of research and mapping of benthic habitats for example the Norwegian MAREANO programme. This programme will contribute to periodic updates of the integrated management plan.

VMS data collection

NEAFC has recommended Member States to provide VMS data to ICES and NEAFC constituent bodies to meet the needs of both science and compliance. (Recommendation 10, 2013: made at the 31th Annual Meeting in November 2012.)

3.4.5 Ecosystem impacts

It is not the intention of the assessment team to give a lengthy and detailed description of the ecosystem in this report, but instead focus on those areas which are most relevant to the fishery assessment. Several thorough overviews of the ecosystem are available on the internet. For instance the ICES arctic fisheries working group (AFWG) provide a good and detailed overview of the Barents Sea Ecosystem. Part of this description is the following text.

“The Barents Sea is on the Arctic continental shelf. It has an average depth of 230m, and a maximum depth of about 500m at the western end of Bear Island Trough. Its topography is characterized by troughs and basins (300 m – 500m deep), separated by shallow bank areas, with depths ranging from 100-200 m. The general pattern of circulation is characterized by an inflow of relatively warm Atlantic water from the southwest and of cold Arctic water from the northeast, with these water masses separated by the Polar Front which is usually around the vicinity of Bear Island. There can be large inter-annual variability in oceanographic conditions related to variable strength in these two inflows and the precise position of the Polar Front.

The Barents Sea, in common with other high latitude marine ecosystems, has extremely high primary production from spring to autumn, but low (more or less zero) primary production in winter due to low light levels and strong wind-induced mixing. This means that the ecosystem supports large populations of secondary producers (zooplankton and small

Report N.	2013-002	Revision	01 -2013-11-05	Page 45 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



pelagic fish species such as capelin, herring, sand eels etc.) but that the size and growth rate of these populations is very dependent on environmental conditions.

More than 200 fish species are registered during surveys of the Barents Sea, with nearly 100 of them occurring regularly. Commercially important fish species include cod, haddock, saithe, capelin, and spring-spawning herring. Species distributions largely depend on the position of the Polar Front. The distribution of cod and haddock is largely overlapping. There have been significant variations in abundance and recruitment of many of these fish species due to a combination of fishing pressure and environmental variability (weather, food availability and in some cases predator abundance and distribution). Variation in the recruitment of some important species (cod, haddock and herring) can be linked to changes in the influx of Atlantic waters into the Barents Sea.

Cod, capelin, and herring are considered to be the keystone species in the Barents Sea food web. Capelin is the most important prey species in the Barents Sea: cod prey on capelin, herring, and smaller cod, while herring prey on capelin larvae. Cod is the most important predatory fish species in the Barents Sea in terms of biomass and ecosystem impact, and can feed on a wide range of prey, including larger zooplankton, most fish species and shrimp, although capelin is their preferred prey, followed most likely by euphausiids (krill). Fluctuations of the capelin stock have a strong effect on growth, maturation and fecundity of cod, as well as on cod recruitment. Herring and capelin populations are also linked, with a strong year class of herring leading to poor recruitment of capelin, presumably due to predation pressure. Other important fish species are haddock and saithe, redfish (now less important in the ecosystem due to heavy overfishing in the 1980s), Greenland halibut, long rough dab and rays (see above). Blue whiting may be present in large numbers in years when the Atlantic influence is strong.

About 25 species of marine mammals regularly occur in the Barents Sea, including seven species of pinnipeds (seals and walruses), 12 whales, 5 porpoises and dolphins and polar bear. Some of these species are migratory, and use the Barents Sea as a summer feeding area (e.g. minke whale), while others are resident (e.g. white-beaked dolphin, harbour porpoise). Marine mammals in the Barents Sea may consume up to 1.5 times the amount of fish caught in fisheries – for example, it has been calculated that the minke whale population consumes ~1.8 million tonnes of crustaceans (krill and other similar species), while harp seals consume 3-5 million tonnes of fish; mainly capelin, herring, polar cod (*Boreogadus saida*) and other gadoids.

The Barents Sea is home to ~20 million seabirds (one of the largest concentrations of seabirds in the world), who also harvest ~1.2 million tonnes of biomass from the marine ecosystem. Nearly 40 species are thought to breed regularly in the Norwegian and Barents Seas - particularly auks, gulls and fulmars.

Benthic ecosystems in the area are of course variable, but are generally composed of soft substrata with an infauna dominated by polychaetes and bivalves. Some rocky areas host diverse sponge communities and it is also an important area for deep-water corals (*Lophelia pertusa*), particularly close to the Norwegian coast (although this might be at least partly because they are better mapped in coastal areas. These deep-sea sponge and cold water coral communities are designated by OSPAR as vulnerable habitats, and are known to be susceptible to damage by bottom trawls."

In addition, an annual ecosystem report is produced each year by scientists at the IMR (Norway) and PINRO, which provides a thorough overview of the ecosystem and seeks to provide the managing authorities with science based advice in order to allow the authorities to make optimal management decisions regarding the long term utilization of the resources in the Barents Sea area. The most recent of these is the Joint IMR / PINRO State of the Barents Sea Ecosystem Report (Stiansen *et al* 2009).

Report N.	2013-002	Revision	01 -2013-11-05	Page 46 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



The Barents Sea ecosystem status report provides comprehensive information about key ecosystem components, present trends and human impacts on the Barents Sea ecosystem. The report shows that although there are several human impacts on the ecosystem the general condition of the ecosystem has remained intact.

The management strategy to protect the Barents Sea ecosystem includes measures to reduce the impact of the fishery like technical measures, closed areas and quota. Although well defined, the strategy laid down in the Integrated Management Plan does not yet cover all impacts of the fishery on the ecosystem. Measures are implemented for the Svalbard area but for international waters a full strategy is still under development in the NEAFC framework. The strategy is based on the available information that is collected through research projects like the Mareano Project and the Biological and Geological Seabed Mapping project.

The purpose of the management plans is to provide a framework for value creation through the sustainable use of natural resources and ecosystem services in the sea areas and at the same time maintain the structure, functioning, productivity and diversity of the ecosystems of the areas.

The management shall ensure that activities in the area do not threaten the environment and living resources and thus future opportunities for continued value creation. The management plan includes targets for a range of subjects on different levels:

- Biological diversity – including fisheries
- Pollution prevention – including hazardous substances
- Acute oil pollution/environmental risk
- Safe seafood
- Value creation from economic activity

Different projects improve knowledge to the management plan:

- Environmental monitoring and research
- Seabed mapping
- Geological mapping
- Seabird distribution
- Screening of hazardous chemicals

The management plan is regularly updated taking into account new knowledge and development. The first update took place in 2010

The Barents Sea is the focus of a large amount of research by IMR, PINRO and the Universities of Bergen and Tromsø. Different projects conducted in the framework of the Integrated Management plan of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten Islands improves knowledge to the management plan. These projects include: environmental monitoring and research, Seabed mapping, geological mapping, seabird distribution and screening of hazardous chemicals.

Other projects that improve the knowledge of the ecosystem are ECOSIM, the Joint Ecosystem survey (Russia and Norway) and ecosystem modelling. Development of multispecies models like MULTSPEC, AGGMULT and SYSTMOD (in Norway) and MSVPA (in Russia) provided a basis for the current ecosystem models used by ICES: EcoCod, Bifrost, Gadget and STOCOBAR. These models include cod, capelin, herring, haddock, polar cod, shrimp, harp seal and minke whale.

Report N.	2013-002	Revision	01 -2013-11-05	Page 47 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



3.5 Principle Three: Management System Background

3.5.1 Fishing Areas and jurisdiction

Politically, the picture of territorial seas ownership and access rights in the Barents Sea and Svalbard / Spitsbergen area is relatively complex. Following the United Nations conference on the Law of the Sea (UNLOSC, 1976), coastal states, including Norway and Russia, established 200 nautical mile exclusive fishing zones. The Barents Sea falls almost entirely within the 200 mile exclusive fishing zones of Norway and Russia, with the exception of a relatively small triangle of international waters in the eastern Barents Sea (the Loophole) and a larger area between mainland Norway and Jan Mayen (sometimes known as the 'banana').

Until recently the maritime delimitation between the two countries was not fully agreed, e.g. the case in the so-called grey-zone, where Russia and Norway agreed on parallel jurisdiction (Stokke 2002). The exact delineation of the Barents Sea and the Arctic Ocean was finally agreed in April 2010, during the visit of the President of the Russian Federation to Norway. The delimitation agreement was signed in Murmansk in September 2010 and entered into force in July 2011, following ratification by the Norwegian and Russian parliaments.

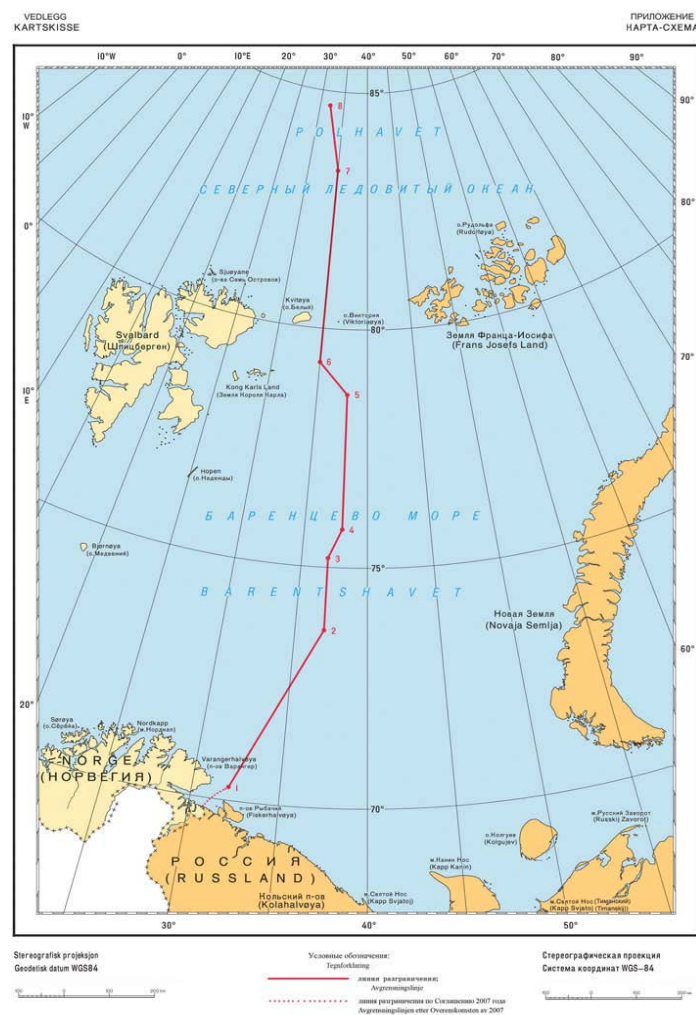


Figure 18: Agreed delineation between Russian and Norwegian waters.

MSC FISHERY ASSESSMENT REPORT



The Faroese distant water shrimp fishery takes place in the NAFO area (not covered by this certification), the Svalbard Area (The 200nm Svalbard zone has its legal foundation in the 1976 Act on the Norwegian Economic Zone), in the Loop Hole (International waters managed by NEAFC) and in the EEZ of Russian Federation.

The fishery is consequently covered by the Faroe Islands legal system, the Norwegian jurisdiction in the Svalbard fishing area and the Russian jurisdiction in EEZ of Russian Federation. The NEAFC Commission regulates fisheries in the NEAFC Regulatory area in ICES Areas Ia and Ib (International waters). The EU, Norway, Faroe Islands and Russian Federation have signed and ratified relevant international agreements such as the 1982 Law of the Sea Convention and the 1995 Straddling Stocks Agreement.

3.5.2 National level

The Ministry of Fisheries and Natural Resources is responsible for the management of all fisheries by Faroese vessels in foreign waters and international waters. The framework for the regulation of commercial fisheries, both in domestic, foreign and international waters, is the Commercial Fisheries Act of 1994 and its subsequent amendments. Based on this legislation, detailed regulations are implemented.

The Faroe Islands government holds bilateral negotiations with Norway and Russia for fishery access to their respective zones. Norway gives Faroe Islands rights measured in days and Russian quotas are measured in tonnes. The Faroese vessel owners are able to lobby and advise their minister before and during these bilateral negotiations. Faroe Islands also participates in NEAFC negotiations for the management and allocation of fishery resources in the North East Atlantic. Hitherto it has been compliant with the convention and commissions decisions but currently it is in dispute with respect to the mackerel stock and quota allocations. As a consequence Faroese vessels are currently not allowed to fish in Norwegian waters, although they are still allowed to fish in the Svalbard and Russian zones.

Once the Faroe Islands government has been allocated its national quota negotiations are held between all interested parties in Faroe for the allocation of licences. All parties understand this process and their respective roles in it. The vessels share is distributed as a result of historical rights of the vessels/ship-owners that belong to the group "Shrimp-trawlers". Fishing license is valid for 1 year.

3.5.3 Management objectives

Long-term objectives are clearly defined and explicit within Norwegian Marine Resource Act, NEAFC convention, EU Common Fisheries Policy, Faroese Commercial Fisheries Act, and are consistent with the MSC Principles and Criteria and precautionary approach.

The Norwegian Marine Resources Act states:

"The purpose of this Act is to ensure sustainable and economically profitable management of wild living marine resources and genetic material derived from them and to promote employment and settlement in coastal communities". Objectives for the protection of fish stocks in the Svalbard Fisheries Protection Zone area are formulated within the Zone act and Norwegian fisheries management system (Marine Resources Act).

The NEAFC convention states: "The objective of this Convention is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits (Article 2.)

Report N.	2013-002	Revision	01 -2013-11-05	Page 49 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



For the EU clear over-arching long term objectives are set out in the EU Common Fisheries Policy (CFP). These long term objectives are clear and explicitly defined and entirely consistent with MSC P&Cs. The 2002 reform of the CFP also embraced a more long-term approach to fisheries management, involving the establishment of multi-annual recovery plans for stocks outside safe biological limits and of multi-annual management plans for other stocks. It aimed to progressively implement an eco-system-based approach to fisheries management.

Article 15 of Council Regulation EC 1198/2006 on the European Fisheries Fund, requires that all member states:

“Shall adopt, following appropriate consultation... a national strategic plan covering the fisheries sector (which) ...sets out the priorities, objectives, the estimated public financial resources (in accordance with the CFP) ...for:

- (a) ... adjustment of fishing effort / capacity with regard to the evolution of fisheries resources, promotion of environmentally-friendly fishing methods and sustainable development of fishing activities;
- (e) the sustainable development of fisheries areas,
- (g) preserving human resources in the fisheries sector, through upgrading professional skills, securing sustainable employment and enhancing the position and role of women;
- (h) protection and enhancement of the aquatic environment related to the fisheries sector”.

The Faroe Islands Commercial Fisheries Act states:

The objective of the Faroe Islands Commercial Fisheries Act 1994 with its subsequent amendments is to be responsible for the preservation of stocks and utilisation of marine resources in a sustainable, sensible, environmentally friendly and economical manner, with responsible consideration to the natural balance between animals, plants and their marine environment. Faroese fisheries have to be managed so it can give an optimal economical contribution to the people in the Faroe Islands and especially those dependent on fisheries for living around the Islands.

The Faroese Parliament will in the spring of 2013 discuss a review of the Commercial Fisheries Act. All stakeholders involved in the fisheries will be heard.

Russian Federation Fisheries Act defines the concept of ‘protection and rational use’ of aquatic biological resources as the main objective of Russian fisheries management.

3.5.3 Decision making process

Both in Norwegian, Russian and Faroese management systems decision-making processes take place that have resulted in management measures for this fishery. For the Svalbard area Norway has developed several measures like closed areas, days at sea and technical measures. For International waters, Faroe Islands has implemented restrictions through a license system (ITQ system) and technical measures.

Within the International waters, there are established decision making processes which have been used to develop measures and strategies for fisheries other than shrimps in the Barents Sea e.g. cod and haddock. For the Faroese shrimp fishery NEAFC regulations include the “move on” rule for encounters with vulnerable marine ecosystems (VME) and catch reporting requirements (Port State Control Form, PSCF). Several other measures are

Report N.	2013-002	Revision	01 -2013-11-05	Page 50 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



implemented through the fishing license issued by the Faroese Authorities (sorting grid, retained catch, inspection programmes).

Organisations and individuals involved in the management process have been identified and functions, roles and responsibilities are explicitly defined.

- NEAFC Commission (Regulation of fishing in International Waters (NEAFC Regulatory Area))
- Faroe Islands Ministry of Fisheries (Allocation of fishing rights, licenses, Stock management, fisheries control, habitat protection)
- Fisheries Inspectorate (fisheries control and inspection, Safety at Sea)
- Faroe Islands Ship Owners Association
- Fiskivinnuráðið (Fisheries Council, the Advisory-Board of stakeholders)
- Marine Research Institute, Havstovan (marine research)

Precautionary approach

Both in the Norwegian and the NEAFC management system, the precautionary approach is used and specifically mentioned. In Norway, fish stock rebuilding primarily takes place under the Act relating to the Management of wild living marine resources. However, in special cases with a threatened and endangered marine species, this species can be prioritized according to the Nature Diversity Act. This Act then sets out requirements to protect and implement recovery strategies for the species.

The purpose of the Act relating to the management of wild living marine resources is among others to ensure sustainable and economically profitable management of wild living marine resources and genetic material derived from them. The Act also states that special importance shall be given to, among others, a precautionary approach in accordance with international agreements and guidelines,- and an ecosystem approach that takes into account habitats and biodiversity, when managing living marine resources. The Institute of Marine Research (IMR) has been reorganized to take this into account.

In the NEAFC Convention the use of the precautionary approach is described in Article 4.: It is stated that: "When making recommendations in accordance with Article 5 or 6 of this Convention the Commission shall in particular:

- a) ensure that such recommendations are based on the best scientific evidence available;
- b) apply the precautionary approach;
- c) take due account of the impact of fisheries on other species and marine ecosystems, and in doing so adopt, where necessary, conservation and management measures that address the need to minimize harmful impacts on living marine resources and marine ecosystems; and
- d) take due account of the need to conserve marine biological diversity."

In the Federal Fisheries Act of Russian Federation the precautionary approach is not mentioned explicitly, though the requirement to take the best scientific knowledge into account and to protect aquatic biological resources meets the MSC requirements of the precautionary approach. In addition to that, the Russian Constitution of 1993 clearly states that the provisions of international agreements entered by the Russian Federation stand above those of national law. E.g. 1992 Convention on Biological Diversity, 1995 Straddling Stocks Agreement, 2010 agreement between Norway and Russia on marine delimitation and cooperation in the Barents Sea.

MSC FISHERY ASSESSMENT REPORT



Also in the OSPAR Convention the precautionary approach is mentioned: Article 3 (ii) reads: “to develop means, consistent with international law, for instituting protective, conservation, restorative or precautionary measures related to specific areas or sites or related to particular species or habitats.”

Findings and relevant recommendations emerging from research, monitoring, evaluation and review activity related to this fishery, such as catch levels, catch and fishing effort, potential impact of fishing on the marine environment, are reported and available on web-pages (e.g. Faroese Ministry of Fisheries and Natural Resources, Norwegian Ministry of Fisheries and Coastal Affairs, Fisheries Directorate, NEAFC Commission, ICES, NAFO, Havstovan, IMR).

Fisheries authorities try to avoid legal disputes through dissemination of timely information through the various sources such as:

- www.fisk.fo; www.fiskin.fo; www.teygqjan.fo
- Publication and direct communication to stakeholders
- Direct contact with fishermen (e-mail, fax)

Regulations relating to bottom fishing activities:

The Norwegian Ministry of Fisheries and Coastal Affairs has issued a regulation that regulates fishing with bottom gear in the Fisheries Protection Zone around Svalbard. The new regulation entered into force from 1 September 2011. The regulation establishes a distinction between existing fishing areas (where the water depth is less than 1000 m) and new fishing areas (where the water depth is more than 1000 meters). In existing fishing areas a “move-on” rule is established in case a vessel encounters sponges or corals in its catch (an encounter is defined as catching more than 30 kg of live corals or 400 kg of live sponges in a single haul). When a vessel encounters the given quantities the vessel shall cease fishing activities and relocate to a position at least two nautical miles from the position that on the basis of all available information is probably closest to the vulnerable benthic habitat that has been identified. The vessel shall without delay report the encounter to the Directorate of Fisheries, including the location and the type of habitat encountered.

A vessel must hold a special permit from the Directorate of Fisheries to fish in new fishing areas. A special permit may only be issued if the vessel has submitted the following to the Directorate for approval:

- a detailed protocol for the exploratory fishery, including a harvesting plan describing fishing gear, target species, bycatches, dates and areas,
- a mitigation plan for avoiding damage to sensitive marine ecosystems,
- a plan for log-keeping and reporting, and
- a plan for collection of data on vulnerable benthic habitats.

For encounters with sensitive habitats the same rules apply as described above for the existing fishing grounds. The Directorate of Fisheries may lay down a requirement for a vessel to carry an observer when fishing in new fishing areas. The costs associated with carrying an observer on board, including wage costs, and also any interest on overdue payments, transport to and from the vessel, and board and lodging while at sea, shall be covered by the owner of the vessel. If sufficient documentation can be provided of bottom fisheries in areas that are deeper than 1000 metres, such areas may, on application to the Directorate of Fisheries, be classified as existing fishing areas.

MSC FISHERY ASSESSMENT REPORT



A similar approach has been formulated by NEAFC in its regulations for bottom fishing in the NEAFC Regulatory Area. A distinction between existing and new fishery areas has been established. For new fishing areas all bottom fishing activities (or when bottom gear has not been previously used in the area concerned) shall be considered as exploratory fisheries and shall be conducted in accordance with an Exploratory Bottom Fisheries Protocol.

This strategy implies that in existing fishing areas, where fishing has taken place for decades, the perceived impact on the ecosystem is considered tolerable and thus the fishing activity can continue, but with stricter monitoring and reporting requirements. In new fishing areas, additional restrictions apply to protect vulnerable marine ecosystems (VME).

3.5.4 Consultation

Within the fishery regulation, 1994, there is a clear defined consultative process. The Faroese Ministry of Fisheries consults with major fisheries stakeholders on fisheries legislation, regulations and international negotiations. Such consultations take place both through a number of formal standing advisory committees, as well as through focused consultative meetings dealing with specific issues.

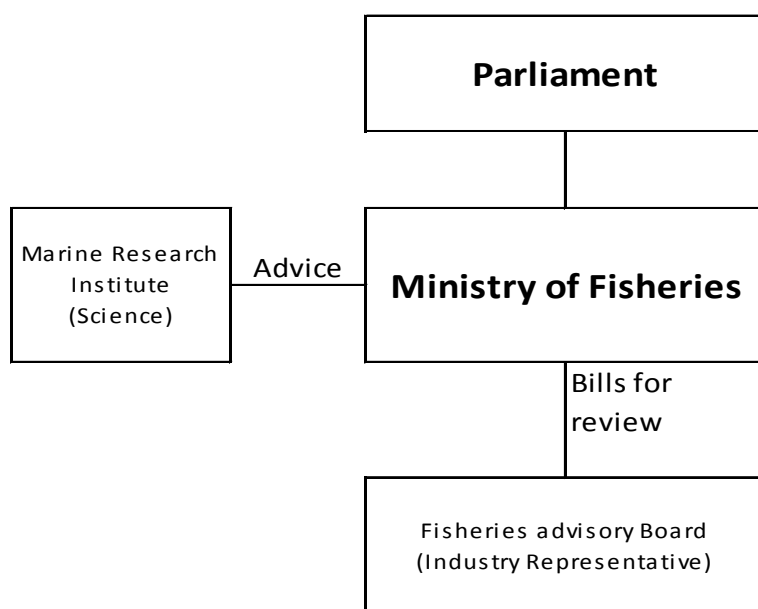


Figure 19: Consultation processes within Faroese Fisheries Management

All main groups of stakeholders (incl. fisherman, ship-owners, academics, producers, unions and other interested parties) are represented on the Fishery advisory board “Fiskivinnuráðið” which must be consulted prior to implementation of new fisheries regulations. This is enshrined within the National Fisheries regulation of 1994. “Fiskivinnuráðið” has regular meetings through the year. The Fishery Minister appoints the chairman and the secretary.

The Marine Research Institute provides the Ministry of Fisheries with scientific assessments and advice on the status and management of fish stocks and marine ecosystems around the Faroe Islands.

In the Norwegian management process there is also a strong tradition of stakeholder consultation in the Norwegian management process. Before new regulations are passed the

Report N.	2013-002	Revision	01 -2013-11-05	Page 53 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



relevant stakeholder organisations from all relevant sectors are consulted. EU has the same comprehensive stakeholder consultation framework for its member nations. In the EU for every renewal of the Common Fisheries Policy there is an extensive consultation process.

For NEAFC, the Commission adopts management measures for the fisheries in the NEAFC Regulatory Area. All Contracting parties are involved in the decision making process. At its 20th Annual Meeting, 5-9 November 2001, NEAFC agreed rules for observers in order to admit NGOs as observers to the meetings of the Commission. The rules with respect to observers state: All non- governmental organisations (NGOs) which support the objectives of the Convention, have a demonstrated interest in the species under the purview of NEAFC and are in good standing should be eligible to participate as an observer in all plenary meetings of the Commission, except meetings held in executive sessions or meetings of Heads of Delegations.

The fishery is a long-distance deep-water fishery in a very remote area and there are no people dependent on fishing shrimp for food and livelihood that applies to this fishery.

3.5.5 Monitoring, Control and Surveillance (MCS)

Norway, EU, Russia and Faroe Islands maintain a robust and effective control and surveillance regime to ensure a high degree of compliance across all fishing fleets participating in this fishery. Vessels can be, and are, warned, fined, have gear confiscated and licences suspended or withdrawn for non-compliance.

Throughout the fishing zones there is a rigorous enforcement regime to ensure a high degree of compliance across all fishing fleets participating in this fishery. All vessels must be equipped with VMS and maintain up to date logbooks which are subject to regular at sea inspections by Norwegian, Russian, EU and NEAFC fishery inspection vessels. EU inspections are organised by the European Fisheries Control Agency (EFCA). These inspections also ensure that technical measures are being complied with and the catches tally with log book records and quota allocations. Vessels must also report when they intend to enter or leave the coastal states waters and may have to await inspection before commencing fishing or leaving a coastal state's waters. The vessels shall also give pre notification to the respective authorities prior to start of fishing activities, end of fishing activities and landing.

Monitoring, control and surveillance mechanisms include the following:

- **VMS:** All vessels larger than 15 GT must have satellite vessel monitoring system in both national and international waters. The satellite vessel monitoring system (VMS) is mandatory.
- **Catch control/log books:** Faroese commercial fishing vessels operating in the North-East Atlantic must maintain a daily log of their activities in an authorised catch logbook issued for this purpose. The master of the vessel must ensure that the vessel details, gear and catch details are accurately recorded and sign the logbook every day, regardless of whether or not fishing takes place on that day. The logbook contains numbered pages in triplicate which are referred to as log sheets. Original copies of log sheets must be returned to Faroese Fisheries Authorities no later than 1 day after landing in Faroe Islands and 2-3 days if landing takes place outside Faroe Islands.

MSC FISHERY ASSESSMENT REPORT



- **Port State Control Form (PSCF):** Before landing fish the master of a vessel has to fill in a PSCF. This form will be sent by the port state to the flag state in order to verify whether the vessel had sufficient quota for the catch reported and has fished in the area declared (by cross checking with VMS data).
- **Landing control:** The Faroese Fisheries Inspection is responsible for insuring that all landings are in accordance with Faroese regulations and are properly recorded and verified. The legislation requires that all vessel landings both in Faroe Islands and outside submit logbook accompanied by the sales notes/ landing notes shortly after landing. In order to ensure that the correct quantities are deducted from fishing quotas, the Faroese Fisheries Inspection conducts a cross-check analysis on the catch.
- **EFCA:** The European Fisheries Control Agency (EFCA) is a European Union body established in 2005 to organise operational coordination of fisheries control and inspection activities by the Member States and to assist them to cooperate so as to comply with the rules of the Common EU Fisheries Policy in order to ensure its effective and uniform application.
- **Inspections at sea:** All of the coastal countries, Norway (Coast Guard) and Russia (Boarder Service), have inspection vessels doing random and risk based inspections at sea in their own Economic Zone as well as in the international zone covered by NEAFC. The inspectors have the permission to board the vessel and check fishing activities, gear used, logbook data, catch composition etc.

The Faroese Fisheries Inspection (FVE) is responsible for monitoring and inspecting catches and landings of individual vessels and the weighing-in of catches. This includes both on-board inspection and inspection of landings in port. FVE contribute to fisheries inspection in international waters of the North Atlantic at regular intervals in collaboration with the inspection services of other nations in the region.

- **NEAFC inspections** (joint deployment plans)
- **EU control** vessels in Barents Sea
- **Waste control:** It is illegal for Faroese vessels to discharge waste at sea. It is prohibited to discard trawls, nylon ends, plastic bags, oilskins or any other products containing plastics, which can be a potentially fatal hazard to many forms of marine fauna, such as seabirds. All waste from vessels, including general refuse, waste oil and other products must be taken ashore.

Legal disputes are dealt with within the Faroe Islands legal system, where there is a set of sanctions to deal with non-compliances, including fines, temporarily withdrawal of fishing licence or permanent loss of licence. Norway applies a set of sanctions in fees for infringements in the Svalbard FPZ (Honneland, 2000). Russia applies a set of sanctions in Russian EEZ. As per today, cross checks of fishing activity recorded on the VMS system, log-books and landing data did not identify any cases of systematic non-compliance within the fishery. Vessels have been inspected at sea by Norwegian, Russian, EU and NEAFC authorities and demonstrate that the fishery generally complies with regulations.

MSC FISHERY ASSESSMENT REPORT



3.5.6 Research

Research is planned and undertaken by Norway and Russia in the framework of the joint Russian-Norwegian scientific research programme on living marine resources. The research undertaken includes: investigations on fish and shrimp stocks, incl. stock size, structure and distribution, fishing technology and selectivity of fishing gear, optimal harvesting of commercial species in the Barents Sea, monitoring of the populations of marine mammals and birds.

Research is also planned in the joint NAFO/ICES Pandalus Assessment Working Group (NIPAG).

3.5.7 Evaluation

Within the Faroe Islands Management system there are mechanisms in place to periodically evaluate parts of the management system based on internal review within the Ministries and discussions within the Fisheries Commission and Fisheries Council. Currently the new national fishing strategy is being drafted, incorporating evaluation of the existing management system.

Within the Norwegian management system, reporting of regulations and enforcement to the Norwegian Parliament occur annually. The National audit office performed a major audit on the management system in 2003-2004 reviewing resource management, Ministerial management and enforcement by subsidiary bodies like the IMR and Fisheries Directorate, etc. The report was presented to the Parliament. Research is published in scientific journals and subject to regular peer review therein. IMR has also had two major scientific reviews over the last decade by independent committees.

NEAFC has established a working group on the Future of NEAFC. This working group is asked to evaluate the role of NEAFC in taking a broader ecosystem approach to fisheries management. The working group will report to the NEACFC Commission.

MSC FISHERY ASSESSMENT REPORT



4 EVALUATION PROCEDURE

4.1 Harmonised Fishery Assessment

There are several fisheries targeting *Pandalus borealis* which are already MSC Fisheries certified or undergoing certification process. Several of these fisheries take place in the North West Atlantic and do not intersect with the Faroe Islands cold water prawn fishery which takes place in the North East Atlantic. The fisheries which directly overlap with the unit of assessment are presented in the Table 7 below.

In order to ensure consistency of outcomes in assessments of overlapping fisheries the following activities were undertaken:

- Coordinated certification process
- The use of common assessment trees
- The sharing of fishery information
- Harmonisation of conclusions, scoring and conditions

The assessment team for Faroe Islands NEA cold water prawn fishery took into account the evaluation, scoring and conditions for already certified Norway North East Arctic cold water prawn fishery and harmonised the results further with the Estonia North East Arctic cold water prawn fishery undergoing assessment.

Fishery	Assessment status	FAO area	ICES area
Estonia North East Arctic cold water prawn	In assessment	Area 27 Atlantic, Northeast	ICES I and II
Norway North East Arctic cold water prawn	Certified	Area 27 Atlantic, Northeast	ICES I and II

Table 7 List of relevant overlapping fisheries and current status with the MSC programme

Fishery	PI 1.2.1	PI 1.2.2	PI 2.4.1	PI 2.4.3	PI 3.1.3	PI 3.1.4
Faroe Islands North East Arctic cold water prawn	70	75	80	75	100	90
Estonia North East Arctic cold water prawn	70	75	80	75	100	90
Norway North East Arctic cold water prawn	80	75	60	85	70	75
Justification for score difference	Assessment team has noted that Norwegian prawn fishery scored 80 on PI 1.2.1. However, a significant component	Fully harmonised	Assessment team agrees that the bottom trawl gear may cause some damage to benthic habitats. The team	Norway North East Arctic cold water prawn fishery takes place mainly in Norwegian EEZ, covered by MAREANO	Assessment team believes that absence of a HCR should not impact the	Polar cod by catch issue addressed under PI 3.1.4 in Norwegian prawn assessment is not

Report N.	2013-002	Revision	01 -2013-11-05	Page 57 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



	<p>of the Estonian and Faroese shrimp fisheries take place in International waters, where only technical measures apply, and there is currently therefore no scope for limiting fishing effort within this sub-area of the fishery. Although the proportion of the stock which is in international waters is relatively small and there is a limit on the number of the Estonian and Faroese vessels, this is a significant weakness in the harvest strategy and the assessment team does not believe that the fishery achieves SG80 for this issue.</p>		<p>has however considered that the Estonian and Faroese shrimp fleets consist of small number of vessels and the total impact of these fisheries is therefore very limited. Especially, when the vast total area of the Barents Sea is taken into account. The areas that are fished are generally fished before by other fleets in the past which means that these areas are already disturbed before and the fauna comprise of opportunistic, short-lived organisms. The trawl damage in such areas is less than in more</p>	<p>programme.</p> <p>Faroe Islands North East Arctic cold water prawn fishery mainly takes place in Svalbard, NEAFC and in 2013 also fishing areas of Russian EEZ, which are not covered by MAREANO. In order to detect any increase in risk for vulnerable bottom habitats in these areas information is needed to show that the fishery continues to be conducted in the same patchy and concentrated manner (See justification in the scoring table under PI 2.4.3). More information is also needed to show that the move on rule is consequently applied and risks for habitat continue to be low.</p>	<p>scoring of PI 3.1.3 which addresses high or broad management policy context.</p>	<p>relevant for Estonian and Faroese fisheries.</p>
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MSC FISHERY ASSESSMENT REPORT



			pristine areas. Hence, the limited scope of the fishery,			
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Table 8 Harmonized Pls

4.2 Previous assessments

There have been no previous assessments or pre-assessments conducted for this fishery.

4.3 Assessment Methodologies

The basis for the MSC-certification is the standard denoted as the “MSC Principles and Criteria for Sustainable Fisheries”, organised in three main principles. Principle 1 concentrates on the need to maintain the target stock at a sustainable level; Principle 2 draws attention to maintaining the ecosystem in which the target stock exists, and Principle 3 addresses the requirement for an effective fishery management system in order to fulfil Principles 1 and 2. In addition Principle 3 takes into account national and international regulations. The Principles 1-3, with pertaining criteria, are presented below.

The assessment team used the default assessment tree as defined in the MSC Certification Requirements v1.2 without any modifications. The MSC Full Assessment Reporting Template V1.2 is used for this report.

PRINCIPLE NUMBER 1

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery³:

Intent:

The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels and are not sacrificed in favour of short term interests. Thus, exploited populations would be maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

Criteria:

1. The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.
2. Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the

³ The sequence in which the Principles and Criteria appear does not represent a ranking of their significance, but is rather intended to provide a logical guide to certifiers when assessing a fishery. The criteria by which the MSC Principles will be implemented will be reviewed and revised as appropriate in light of relevant new information, technologies and additional consultations.

MSC FISHERY ASSESSMENT REPORT



precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.

3. Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.

PRINCIPLE NUMBER 2

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

Intent:

The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

Criteria:

1. The fishery is conducted in a way that maintains natural functional relationships among species and should not lead to trophic cascades or ecosystem state changes.
2. The fishery is conducted in a manner that does not threaten biological diversity at the genetic, species or population levels and avoids or minimises mortality of, or injuries to endangered, threatened or protected species.
3. Where exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level within specified time frames, consistent with the precautionary approach and considering the ability of the population to produce long-term potential yields.

PRINCIPLE NUMBER 3:

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

Intent:

The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principles 1 and 2, appropriate to the size and scale of the fishery.

Part A: Management System Criteria

1. The fishery shall not be conducted under a controversial unilateral exemption to an international agreement.

The management system shall:

2. Demonstrate clear long-term objectives consistent with MSC Principles and Criteria and contain a consultative process that is transparent and involves all interested and affected parties so as to consider all relevant information, including local knowledge. The impact of fishery management decisions on all those who depend on the fishery for their livelihoods, including, but not confined to subsistence, artisanal, and fishing-dependent communities shall be addressed as part of this process.

Report N.	2013-002	Revision	01 -2013-11-05	Page 60 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



3. Be appropriate to the cultural context, scale and intensity of the fishery – reflecting specific objectives, incorporating operational criteria, containing procedures for implementation and a process for monitoring and evaluating performance and acting on findings.
4. Observe the legal and customary rights and long term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability.
5. Incorporates an appropriate mechanism for the resolution of disputes arising within the system⁴.
6. Provide economic and social incentives that contribute to sustainable fishing and shall not operate with subsidies that contribute to unsustainable fishing.
7. Act in a timely and adaptive fashion on the basis of the best available information using a precautionary approach particularly when dealing with scientific uncertainty.
8. Incorporate a research plan – appropriate to the scale and intensity of the fishery – that addresses the information needs of management and provides for the dissemination of research results to all interested parties in a timely fashion.
9. Require that assessments of the biological status of the resource and impacts of the fishery have been and are periodically conducted.
10. Specify measures and strategies that demonstrably control the degree of exploitation of the resource, including, but not limited to:
 - Setting catch levels that will maintain the target population and ecological community's high productivity relative to its potential productivity, and account for the non-target species (or size, age, sex) captured and landed in association with, or as a consequence of, fishing for target species.
 - Identifying appropriate fishing methods that minimise adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas.
 - Providing for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames.
 - Mechanisms in place to limit or close fisheries when designated catch limits are reached.
 - Establishing no-take zones where appropriate.
11. Contains appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that established limits to exploitation are not exceeded and specifies corrective actions to be taken in the event that they are.

Part B: Operational Criteria

Fishing operation shall:

12. Make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimise

⁴ Outstanding disputes of substantial magnitude involving a significant number of interests will normally disqualify a fishery from certification.

MSC FISHERY ASSESSMENT REPORT



mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive.

13. Implement appropriate fishing methods designed to minimise adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas.
14. Not use destructive fishing practices such as fishing with poisons or explosives.
15. Minimise operational waste such as lost fishing gear, oil spills, on-board spoilage of catch, etc.
16. Be conducted in compliance with the fishery management system and all legal and administrative requirements.
17. Assist and co-operate with management authorities in the collection of catch, discard, and other information of importance to effective management of the resources and the fishery.

The MSC Principles and Criteria presented above set the requirements for the fishery that undergoes certification. MSC's certification methodology is based on a structured hierarchy of *Sub-criteria* and *Performance indicators*. The overall performance is decided on the basis of the scoring criteria that the fishery gets during assessment. These sub-criteria and performance indicators have been developed by the MSC in the form of a default assessment tree.

When a fishery is evaluated the performance indicators (normally specific statements or questions) are checked out, and each performance indicator has three different "scoring guideposts" that can be defined. MSC characterises these scoring points as follows:

- Perfect practice, representing the level of performance that would be expected in a theoretically 'perfect' fishery (100 points).
- Exemplary or best practice (80 points).
- Minimum sustainable practice (60 points).

An overview of the assessment methodology is given in Marine Stewardship Council Certification requirements v 1.2 and Guidance to the MSC certification requirements v 1.1. This guidance illustrates how the MSC Principles and Criteria give a basis for sub-criteria and performance indicators defined by DNV, resulting in various scores for the fishery.

4.4 Evaluation Processes and Techniques

Site visits to the fishery were performed by the certification body (here DNV) and the assessment team and consultations were done with interested stakeholders. The performance indicators and the pertaining scoring systems were evaluated, and it was judged if the fishery meets the requirements for MSC certification.

In order to fulfil the requirements for certification the following minimum scores are required:

- The fishery must obtain a score of 80 or more for each of the three MSC Principles, based on the weighted aggregate scores for all Performance Indicators under each Criterion in each Principle.
- The fishery must obtain a score of 60 or more for each Performance Indicator under each Criterion in each Principle.

Even though a fishery fulfils the criteria for certification, there may still be some important potential risks to future sustainability that are revealed during assessment. These are

Report N.	2013-002	Revision	01 -2013-11-05	Page 62 of 205
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MSC FISHERY ASSESSMENT REPORT



performance indicators that score less than 80, but more than 60. In order to be granted a MSC fishery certificate the client must agree to further improvements to raise the score to 80. The certification body (here DNV) sets a timescale for the fishery to improve the relevant areas, so that the certification process can continue.

Default performance indicators and the scorings allocated in the evaluation are enclosed in chapter 6.2.

4.4.1 Site Visits

Relevant stakeholders have been identified and stakeholder meetings were scheduled and carried out as planned in Torshavn (Faroe Islands) in January 2013. Persons consulted and key issues discussed during these site-visits are outlined in Table 9. Information gathered was used as a basis for this report and is presented throughout several chapters and in the scoring tables.

Name	Affiliation	Date	Key issues	
Eyðun Durhuus (Managing director)	Maresco AS	16.01.2013	Basic info about the companies: <ul style="list-style-type: none">• Ownership• History• Organizational structure	
Johannes Joensen (Captain)	P/F Havborg		Review of fishing operations: <ul style="list-style-type: none">• Fishing season• fishing area• gear used• Historical fishing levels (quotas and catches)	
Edna Steinberg (Project Manager)	P/F Havborg		Review of impact on ecosystem: <ul style="list-style-type: none">• List of all by-catch of fish species: (species and quantities)• By-catch of marine mammals, ETP species, birds.• List of commercial/non-commercial species which are usually discarded• Loss of fishing gear	
Martin Joensen (Project Manager)	P/F Thor		Compliance with rules and regulations <ul style="list-style-type: none">• Disputes with national/ international authorities for the last 5 years.• Records of sanctions and penalties in 2011, 2012.	
Pall Johan Poulsen (Captain)	P/F Thor		Chain of Custody start: <ul style="list-style-type: none">• Review of traceability system on board and at landing• Labelling of products• First point of landing• First point of sale• Main products• Main markets	
Niklai Johan Petersen (Captain)	P/F Líðin			
Johan Joensen (Director)	P/F Líðin			
Eilif Gaard, director	Institute of Marine Research (Havstovan), Faroe Islands	15.01.2013	<ul style="list-style-type: none">• Stock status, stock structure and recruitment• Review of Limit and Target reference points established for the stock• Approach to stock assessments• Sampling programmes and level of sampling	
Jan Arge Jakobsen, scientist				
Report N.	2013-002	Revision	01 -2013-11-05	Page 63 of 205

MSC FISHERY ASSESSMENT REPORT



Eyduna I Homrum, scientist			<ul style="list-style-type: none"> • Level of discards (composition of species, quantities) • Level of by-catch (composition of species, quantities) • Monitoring programmes for ETP species. • Impact of fisheries on ecosystem and marine habitats • Fisheries objectives
Ulla S. Wang Jóhan Simonsen Meinhard Gaardlykke Janet S. Nørregaard	Ministry of Fisheries and Fisheries Inspection	15.01.2013	<ul style="list-style-type: none"> • Fisheries Management • Consultation and decision-making process • Mechanisms for resolution of legal disputes • Review of regulations for shrimp in ICES division I and II • Harvest strategy for shrimp • Long-term objectives for Faroe Islands fisheries • Strategy for minimising or eliminating ETP by-catch • Strategy in scientific research. • Research programmes for shrimp fishery under assessment • Strategy and plans for protection of sensitive habitats. • Control, surveillance and monitoring routines/regulations applied to Faroe Islands shrimp fishery in ICES division I and II • Logbooks: recording of non-commercial species • Significant discrepancies found at landing control for shrimp fisheries in 2011/2012. • Quota and level of catches (2010-2012) • Observed fishing patterns (gear used, fishing area, number of boats, fishing season). • Level of slipping/discards in shrimp fisheries. • Fishermen's compliance with laws and regulations.

Table 9 Site visits conducted and key issues discussed

4.4.2 Consultations

Information on the assessment process was made publicly available through www.msc.org at given stages of the assessment as outlined in *Table 10*.

In addition to that, all relevant stakeholders identified at the beginning of the assessment (34 stakeholders) were reached through direct e-mails and given a possibility to monitor the assessment process and provide a feedback to the assessment team.

As no stakeholder comments were submitted during the stakeholder consultancy period prior to the site visit in Torshavn, information gathered during the site visits formed the main basis of the stakeholder consultancy for this assessment (ref. section 4.4.1 above).

Report N.	2013-002	Revision	01 -2013-11-05	Page 64 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT

Date	Information	Media
20 September 2012	Notification of Full assessment	Direct E-mail/letter Notification on MSC website
20 September 2012	Notification of Assessment Team	Direct E-mail Notification on MSC website
30 October 2012	Confirmation of Assessment Team	Direct E-mail Notification on MSC website
30 October 2012	Announcement of default assessment tree	Direct E-mail Notification on MSC website
15-21 October 2012	Advertisement of certification + Invitation to contribute to assessment process	Advertisement on www.intrafish.com
17 October 2012	Advertisement of certification + Invitation to contribute to assessment process	Advertisement in Dimmalætting
30 October 2012	Stakeholder Notification: Site Visit scheduled	Direct E-mail Notification on MSC website
19 March 2013	Notification of Proposed Peer Reviewers + Revised Timeline	Direct E-mail Notification on MSC website
16 April 2013	Notification of Confirmed Peer Reviewers	Direct E-mail Notification on MSC website
25 June 2013	Revised timeline	Direct E-mail Notification on MSC website
27 August 2013	Notification of Public Comment Draft Report	Direct E-mail Notification on MSC website
5 November 2013	Notification of Final Report	Direct E-mail Notification on MSC website

Table 10 Consultations during assessment process

4.4.3 Evaluation Techniques

The full assessment was publicly announced on 20 September 2012 through www.msc.org and supplemented with advertisements on www.intrafish.com (15 - 21 October 2012) and in Dimmalætting (17 October 2012). Assessment team chose to announce the assessment in English language on www.intrafish.com to secure worldwide coverage of potential stakeholders and in Faroese language in a local Faroese newspaper Dimmalætting to reach potential interested parties in Faroe Islands. There is no fisheries related newspaper in Faroe Islands as yet, thus Dimmalætting, the most read local media, was considered to be the best choice.

At the beginning of the assessment, the assessment team compiled a stakeholder list based on guidance from the client and on previously conducted stakeholder consultancy for assessment of Norway NEA Cold Water Prawn fishery. The list covers 34 stakeholders and

Report N.	2013-002	Revision	01 -2013-11-05	Page 65 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



has been used at every stage of the consultation process undertaken for Faroese prawn fishery.

Based on the information obtained through the client and through the similar assessment of Norway North East Arctic Cold Water Prawn fishery and Estonia North East Arctic Cold Water Prawn fishery it was made clear to the assessment team that it is highly unlikely that there are any main Principle 2 species taken in the UofC. This is due to the use of obligatory sorting grids.

Site visits were performed in January 2013 in Torshavn, Faroe Islands and conducted by members of the assessment team specified in section 2.1. Stakeholder consultations were performed in the form of direct meetings. Information on meeting's participants and issues discussed could be found in Table 9. The performance indicators and the pertaining scoring systems were evaluated jointly by the assessment team and all scoring was based on unanimous conclusions by the entire team during the scoring meeting which took place in Copenhagen, Denmark during 17-18 January 2013.

The RBF was not used for this assessment.

In order to fulfill the requirements for certification the following minimum scores are required:

- The fishery must obtain a score of 80 or more for each of the three MSC Principles, based on the weighted aggregate scores for all *Performance Indicators* under each *Criterion* in each *Principle*.
- The fishery must obtain a score of 60 or more for each *Performance Indicator* under each *Criterion* in each *Principle*.

Even though a fishery fulfills the criteria for certification, there may still be some important potential risks to future sustainability that are revealed during assessment. These are performance indicators that score less than 80, but more than 60. In order to be granted a MSC fishery certificate the client must agree to do some further improvements regarding these points. The certification body (here DNV) sets a timescale for the fishery to improve the relevant areas, so that the certification process can continue.

The Faroe Islands North East Arctic cold water prawn Fishery achieved a score of 80 or more for each of the three MSC Principles, and did not score under 60 for any of the set MSC Criteria. The assessment team therefore recommends the certification of the Faroe Islands North East Arctic cold water prawn Fishery for the client Maresco AS with conditions as described in Appendix 1.2.

The fishery attained a score of below 80 against 2 Scoring Indicators. The assessment team has therefore set conditions for continuing certification that the client is required to address. The conditions are aimed at improving performance to at least the 80 level within the periods set by the DNV assessment team but no longer than the term of the certification.

Default performance indicators and the scorings allocated in the evaluation are enclosed in section 6.2.

MSC FISHERY ASSESSMENT REPORT



5 TRACEABILITY

5.1 Eligibility Date

5.1.1 Target Eligibility Date

The target Eligibility date was moved from 1st of January 2013 till **1st of March 2013**, in line with the revised assessment timeline. The target Eligibility date is set to six months prior to the publication of the most recent Public Comment Draft Report. It's a year-round fishery and TED is not connected to the start of the fishing year.

5.1.2 The Actual Eligibility Date

(REQUIRED FOR PCR ONLY – NOT YET APPLICABLE)

The report shall include:

- a. The actual eligibility date.
- b. The rationale for any difference in this date from the target eligibility date

5.2 Traceability within the Fishery

There is a sufficient system of tracking and tracing in the Faroe Islands North East Arctic Cold Water Prawn fishery to ensure that all shrimp products originating from the certified fishery, and sold as certified, could be identified prior to or at the point of landing.

Faroese vessels fish in the Svalbard FPZ, in EEZ of Russian Federation and in international waters managed by NEAFC and require a licence to fish in all areas issued by the Ministry of Fisheries in Faroe Islands. In all areas, Faroese vessels have a Vessel Monitoring System (VMS) on board and must complete log books. Faroe Islands are a signatory to the Svalbard Treaty, and Faroese vessels are therefore allowed to fish in the Svalbard FPZ under Norwegian regulations. In this area vessels must notify Norwegian authorities prior to commencement of fishing, and weekly catch reports in the form of a Port State Control Form (PSC) must be made to both Norwegian and Faroese authorities. The number of vessels permitted to fish in the Svalbard FPZ is limited by country and by an overall limit on effective fishing days (922 for Faroe Islands). Faroe Islands are also a contracting party to NEAFC and Faroese vessels are allowed to fish in the area of international waters known as the Loop Hole. In this area fishing activities must be undertaken as set out in the NEAFC Scheme of Control and Enforcement which includes the completion of catch on entry (COE) and catch on exit (COX) forms when entering or exiting the area, a Port State Control Form (PSC) when landing shrimps in another country, and an EU catch certificate if the shrimps are destined for the EU market.

Faroe Islands vessels also have quota for the long-distance shrimp fisheries in NAFO area, which is outside the UoC. Due to the strict system of control, monitoring and enforcement, there is no opportunity for the client fleet to substitute certified shrimp products with non-certified prior to or at the point of landing. All Faroese shrimp catches taken in the UoC are properly reported, labeled and recorded.

There is no transshipment taking place in the client fishery.

MSC FISHERY ASSESSMENT REPORT

5.2.1 At-Sea processing

Processing of shrimp on board involves the following steps:

1. grading
2. cooking
3. freezing
4. packing and labeling

Main product range produced on Faroese vessels includes the following:

- raw frozen/small-size/ industrial shrimp (for peeling industry)
- cooked shell-on (for Europe and China)
- raw shell-on (for Japan and Europe)

All shrimp catches in the UoC are sorted, processed, packed and labeled after every haul and within 24 hours. If not, shrimp will be spoiled and lose its market value. Pictures and description of labels are provided below to illustrate how the shrimp originating from the UoC could be identified.

Products are labeled according to EU regulation on labeling. Each label has a bar-code and provides information on the following:

- Producer/ Vessel
- Country of origin
- Catch area
- Product
- Size
- Net weight
- Production date
- Shelf life

Labeling system, existing control and reporting requirements all ensure that shrimp products originating from the UoC and sold as MSC at points of landing come from the certified fishery.



MSC FISHERY ASSESSMENT REPORT

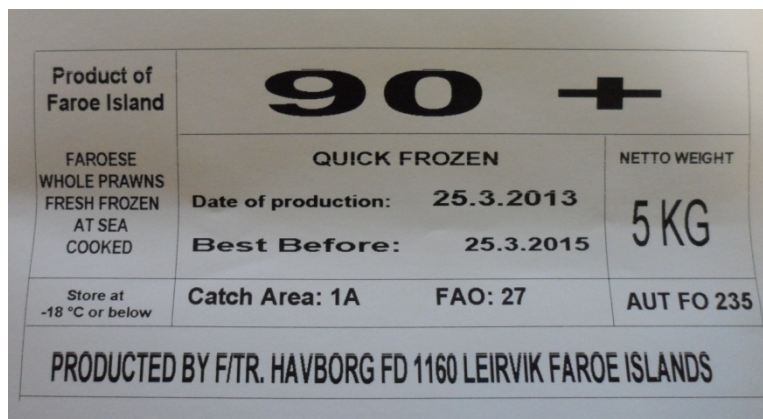


Figure 20 Example of box/ labelling used on shrimp products originating from the client fishery.

5.3 Eligibility to Enter Further Chains of Custody

Pandalus borealis products landed by Faroe Islands registered vessels and originating from Faroe Islands North East Arctic Cold Water Prawn fishery, conducted by bottom trawl in ICES divisions I and II and operating under shrimp quota issued by authorities of Faroe Islands, will be eligible to enter Chain of Custody and carry the MSC logo.

The vessels in the client fishery are the only vessels licensed to fish for shrimp in the Barents Sea under Faroe Islands Fisheries management. Thus, the client fleet's catch is equal to the total Faroe Islands landings from this fishery.

Chain of custody will commence following the sale of frozen *Pandalus borealis* products at the point of landing (auction, cold/freezer store or processing plant). Land-based peeling/processing plants as well as cold/freezer stores that perform anything more than movement of product must have separate CoC certification.

Main markets:

- Scandinavia (Denmark, Sweden, Norway)
- Europe
- China
- Japan

Points of landing depend on the fishing area and product form. The largest prawns are frozen whole and usually sold to Japan; the medium sized prawns get cooked and frozen whole and sold to Scandinavian markets (Denmark, Sweden). The smallest prawns are frozen shell-on and sold to a peeling industry for further processing.

Client Vessel	Port of landing	Country of landing
Arctic Viking	Tromsø	Norway
	Kårvikhamn	Norway
	Hafnarfjörður	Iceland
	Kollafjörður	Faroe Islands
Havborg	Tromsø	Norway
	Kårvikhamn	Norway
	Hafnarfjörður	Iceland
Sermelik II	Tromsø	Norway

Table 11: Main point of landing

Report N.	2013-002	Revision	01 -2013-11-05	Page 69 of 205
-----------	----------	----------	----------------	----------------

MSC FISHERY ASSESSMENT REPORT



6 EVALUATION RESULTS

6.1 Principle Level Scores

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	84,4 PASS
Principle 2 – Ecosystem	87,0 PASS
Principle 3 – Management System	90,8 PASS

Table 12 Final Principle Scores

MSC FISHERY ASSESSMENT REPORT

6.2 Summary of Scores

Fishery Assessment Scoring Worksheet version 1 - effective November 14, 2011												
Faroe Islands North East Arctic Cold Water Prawn												
Note: Scores are to be entered in the green-shaded cells in column K												
Columns G, H and L apply in fisheries where the stock rebuilding PI (1.1.3) is NOT triggered												
Columns I, J and M give the Principle 1 Outcome score contributions in fisheries where the stock rebuilding PI (1.1.3) is trigger												
Prin- ciple	Wt (L1)	Component	Wt (L2)	PI No.	Performance Indicator (PI)	Wt (L3)	Weight in			Score	Contribution to Principle Score	
						Either			Or		Either	Or
One	1	Outcome	0,5	1.1.1	Stock status	0,5	0,25	0,333	0,1667	100	25,00	16,67
				1.1.2	Reference points	0,5	0,25	0,333	0,1667	80	20,00	13,33
				1.1.3	Stock rebuilding			0,333	0,1667			0,00
		Management	0,5	1.2.1	Harvest strategy	0,25	0,125			70	8,75	8,75
				1.2.2	Harvest control rules & tools	0,25	0,125			75	9,38	9,38
				1.2.3	Information & monitoring	0,25	0,125			80	10,00	10,00
				1.2.4	Assessment of stock status	0,25	0,125			90	11,25	11,25
Two	1	Retained species	0,2	2.1.1	Outcome	0,333	0,0667			100	6,67	6,67
				2.1.2	Management	0,333	0,0667			100	6,67	6,67
				2.1.3	Information	0,333	0,0667			100	6,67	6,67
	Bycatch species	0,2	2.2.1	Outcome	0,333	0,0667			80	5,33	5,33	
			2.2.2	Management	0,333	0,0667			85	5,67	5,67	
			2.2.3	Information	0,333	0,0667			80	5,33	5,33	
	ETP species	0,2	2.3.1	Outcome	0,333	0,0667			85	5,67	5,67	
			2.3.2	Management	0,333	0,0667			90	6,00	6,00	
			2.3.3	Information	0,333	0,0667			80	5,33	5,33	
	Habitats	0,2	2.4.1	Outcome	0,333	0,0667			80	5,33	5,33	
			2.4.2	Management	0,333	0,0667			80	5,33	5,33	
			2.4.3	Information	0,333	0,0667			75	5,00	5,00	
	Ecosystem	0,2	2.5.1	Outcome	0,333	0,0667			90	6,00	6,00	
			2.5.2	Management	0,333	0,0667			90	6,00	6,00	
			2.5.3	Information	0,333	0,0667			90	6,00	6,00	
Three	1	Governance and policy	0,5	3.1.1	Legal & customary framework	0,25	0,125			100	12,50	12,50
				3.1.2	Consultation, roles &	0,25	0,125			90	11,25	11,25
				3.1.3	Long term objectives	0,25	0,125			100	12,50	12,50
				3.1.4	Incentives for sustainable fishing	0,25	0,125			100	12,50	12,50
	Fishery specific management system	0,5	3.2.1	Fishery specific objectives	0,2	0,1			80	8,00	8,00	
			3.2.2	Decision making processes	0,2	0,1			80	8,00	8,00	
			3.2.3	Compliance & enforcement	0,2	0,1			100	10,00	10,00	
			3.2.4	Research plan	0,2	0,1			80	8,00	8,00	
			3.2.5	Management performance	0,2	0,1			80	8,00	8,00	
Overall weighted Principle-level scores										Either	Or	
Principle 1 - Target species						Stock rebuilding PI not scored				84,4		
						Stock rebuilding PI scored					69,4	
Principle 2 - Ecosystem										87,0		
Principle 3 - Management										90,8		

MSC FISHERY ASSESSMENT REPORT

6.3 Summary of Conditions

Condition number	Condition	Performance Indicator	Related previously raised condition? (Y/N/N/A)
1	By the fourth annual surveillance, regulations limiting fishing effort in international waters (ICES Ia and Ib), that are responsive to the state of the stock, should be implemented to demonstrate that the elements of the harvest strategy work together towards achieving management objectives for the Barents Sea shrimp stock as a whole.	1.2.1	N/A
2	By the fourth annual surveillance, well defined harvest control rules shall be implemented for the shrimp stock as a whole to ensure that the exploitation rates are reduced as limit reference points are approached.	1.2.2	N/A
3	The fishery is required to collect sufficient information on bycatches and spatial distribution of the fishery in order to detect any increase in risk for vulnerable bottom habitats (e.g. due to changes in fishing pattern or effectiveness of the move on rule).	2.4.3	N/A

Table 13 Summary of Conditions

6.3.1 Recommendations

Recommendation number	Recommendation	Performance Indicator	Related previously raised recommendation? (Y/N/N/A)
1	The assessment team recommends that an observer programme is introduced for the Faroese fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.	1.2.3	N/A

6.4 Determination, Formal Conclusion and Agreement

The Faroe Islands North East Arctic cold water prawn Fishery achieved a score of 80 or more for each of the three MSC Principles, and did not score under 60 for any of the set MSC Criteria. The assessment team therefore recommends the certification of the Faroe Islands North East Arctic cold water prawn Fishery for the client Maresco AS with conditions as described in Appendix 1.2. Following this decision by the assessment team, and review by peer-reviewers and stakeholders, the determination will be presented to DNV Business Assurance decision making entity that the fishery has passed its assessment and should be certified.

MSC FISHERY ASSESSMENT REPORT



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Report N.	2013-002	Revision	01 -2013-11-05	Page 73 of 205
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MSC FISHERY ASSESSMENT REPORT



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MSC FISHERY ASSESSMENT REPORT



APPENDICES

APPENDIX 1 SCORING AND RATIONALES

Appendix 1.1 Performance Indicator Scores and Rationale

Evaluation Table PI 1.1.1

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	It is likely that the stock is above the point where recruitment would be impaired.
			Whilst <i>Pandalus borealis</i> in the Barents Sea and Svalbard Fishery Protection Zone (FPZ) is considered as a single stock (Martinez <i>et al.</i> , 2006), Faroe Islands vessels are restricted to fishing in only part of that stock – in the Svalbard FPZ, in an area of international waters to the south east of Svalbard known as the Loop Hole (ICES Area Ia), and in the Russian EEZ through a bi-lateral agreement with Russia. However the status of the stock is assessed against reference points at the scale of the whole Barents Sea stock, and no information is available on trends in stock biomass and recruitment within sub-areas of the stock. The NAFO/ICES Pandalus Assessment Group (NIPAG) report for 2012 estimated that stock biomass in 2012 was very much higher than Bmsy, and had been since the fishery commenced in 1970. It is likely therefore that the stock is above the point at which recruitment would be impaired. Recruitment indices (estimated abundance of shrimp of 13-16mm carapace length) derived from Russian and Norwegian research surveys showed no obvious trend over the period 2004-2012.
80	a	Y	It is highly likely that the stock is above the point where recruitment would be impaired.
	b	Y	The 2012 NIPAG report concluded that the risk of the biomass falling below Bmsy is 3% and the risk of the biomass falling below Btrigger and Blim are both less than 1%. It is highly likely therefore that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point. A specific target reference point has not been defined explicitly for this fishery. However a key output of the annual assessments of stock status is an estimate of the current level of biomass in relation to Bmsy. The 2012 NIPAG report concluded that stock biomass has been well above Bmsy throughout the history of the fishery from 1970-2012 and was close to carrying capacity in 2012. It seems practicable to assume therefore that Bmsy can be considered to be an implicit target reference point above which the stock has remained.
100	a	Y	There is a high degree of certainty that the stock is above the point where recruitment would be impaired.
			The 2012 NIPAG report concluded that the risk of the biomass falling below Bmsy is 3% and the risk of biomass falling below Btrigger and Blim are both less than 1%. In addition, the fishing mortality rate (F) has been well below Fmsy throughout the history of the fishery, and the risk of F exceeding Fmsy was 1%. There is a high degree of certainty therefore that the stock is above the point where recruitment would be impaired.

MSC FISHERY ASSESSMENT REPORT



PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing	
	b	Y	<p>There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.</p> <p>A specific target reference point has not been defined explicitly for this fishery. However annual assessments of stock status conclude that stock biomass has been well above the implicit target reference point of Bmsy and close to carrying capacity throughout the history of the fishery from 1970-2012, so it can be concluded that there is a high degree of certainty that the stock has over recent years been above any practicable target reference point.</p>
		References	<p>Hvingel, C. 2012. Shrimp (<i>Pandalus borealis</i>) in the Barents Sea – Stock assessment 2012. NAFO SCR Doc. 12/49.</p> <p>Hvingel, C. and Thangstad, T. 2012b. Research survey information regarding northern shrimp (<i>Pandalus borealis</i>) in the Barents Sea and Svalbard area 2004-2012. NAFO SCR Doc. 12/50.</p> <p>Martinez, I., Aschan, M., Skerjdal, T. and Aljanabi, S.M. 2006. The genetic structure of <i>Pandalus borealis</i> in the Northeast Atlantic determined by RAPD analysis. ICES Journal of Marine Science, 63: 840-850.</p> <p>NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromso, Norway. ICES CM 2012/ACOM:14.</p> <p>Zakharov, D.V. and Lyubin, P.A. 2012. Results of Russian investigations of the northern shrimp in the Barents Sea in 2004-2012.</p>
Stock Status relative to Reference Points			
	Type of reference point	Value of reference point	Current stock status relative to reference point
Target reference point	No specific target reference point has been defined explicitly for the fishery, although Bmsy can be considered to be an implicit TRP.	Specific values of the reference points are not provided in the assessment reports. Measures of stock biomass are given as relative (B/Bmsy) rather than as absolute values.	In 2012, B/Bmsy = 1.87
Limit reference point	Fmsy Flim (1.7 x Fmsy) Blim (0.3 x Bmsy) Btrigger (0.5x Bmsy)	Specific values of the reference points are not provided in the assessment reports. Measures of stock biomass and fishing mortality are given as relative (B/Bmsy, F/Fmsy) rather than as absolute values.	In 2012, F/Fmsy = 0.04
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 1.1.2

PI 1.1.2		Limit and target reference points are appropriate for the stock	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.
			Reference points are derived within the Maximum Sustainable Yield (MSY) framework adopted generically within ICES and are consistent with the Precautionary Approach (PA).
80	a	Y	Reference points are appropriate for the stock and can be estimated.
			Stock status is evaluated in relation to the MSY reference points Btrigger and Fmsy and the PA reference points Blim and Flim. Bmsy is used as an implicit target reference point.
	b	Y	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.
			The stock has remained above Btrigger throughout the history of the fishery. Btrigger is the biomass encountered with low probability if Fmsy is implemented. It is set at 50% of Bmsy (the 10 th percentile of the Bmsy estimate) which is significantly above Blim (30% of Bmsy) below which recruitment is expected to be impaired. Similarly F has been well below Fmsy in recent years. Fmsy is significantly below Flim (defined as 170% of Fmsy), which is the value of F which would drive the stock to Blim.
	c	Y	The target reference point is such that the stock is maintained at a level consistent with B _{MSY} or some measure or surrogate with similar intent or outcome.
			Although a target reference point is not defined explicitly, the assessment of stock status estimates that stock biomass has been above Bmsy throughout the history of the fishery, and is currently close to carrying capacity. Implicit within the harvest strategy is that biomass should be maintained above Bmsy. The assessment calculates the risk of biomass falling below Bmsy, Btrigger (50% of Bmsy) and Blim (30% of Bmsy).
	d	N/A	Key low trophic level species, the target reference point takes into account the ecological role of the stock.
			<i>Pandalus borealis</i> is not a key trophic level species, as it does not meet all the criteria set out in paragraph CB2.3.13 of the MSC Certification Requirements v1.2. In particular, shrimp do not form dense schools. Whilst shrimp are potentially a major source of prey for cod, the shrimp population is considered to be near carrying capacity currently and so the effects of the fishery on the ecological role of shrimp are not currently important. Research to date has not yet identified a clear predator/prey relationship between shrimp and cod in the Barents Sea area.
100	b	N	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionary issues .
			The ecological role of the shrimp stock in the Barents Sea is not well understood, and has not been taken into account in the setting of limit reference points. Thus SG100 is not achieved.

MSC FISHERY ASSESSMENT REPORT



PI 1.1.2		Limit and target reference points are appropriate for the stock	
SG	Issue	Met? (Y/N)	Justification/Rationale
	c	N	<p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p> <p>The ecological role of the shrimp stock in the Barents Sea is not well understood, and has not been taken into account in the setting of a target reference point. Thus SG100 is not achieved.</p>
References			<p>http://www.ices.dk/committe/acom/comwork/report/2012/2012/General_context_of_ICES_advice_2012.pdf</p> <p>Hvingel, C. 2012. Shrimp (<i>Pandalus borealis</i>) in the Barents Sea – Stock assessment 2012. NAFO SCR Doc. 12/49.</p> <p>NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromsø, Norway. ICES CM 2012/ACOM:14.</p>
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 1.1.3

PI 1.1.3		Where the stock is depleted, there is evidence of stock rebuilding	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	NA	Where stocks are depleted rebuilding strategies which have a reasonable expectation of success are in place. The stock is not considered to be depleted.
	b	NA	A rebuilding timeframe is specified for the depleted stock that is the shorter of 30 years or 3 times its generation time. For cases where 3 generations is less than 5 years, the rebuilding timeframe is up to 5 years. Although the stock is not considered to be depleted, the assessment model estimates that the fishery would take between 4 and 14 years to rebuild the stock from Blim to Bmsy. The wide range in the estimate of rebuilding time reflects the wide confidence interval around the estimate of r , the intrinsic rate of increase.
	c	NA	Monitoring is in place to determine whether they are effective in rebuilding the stock within a specified timeframe.
80	a	NA	Where stocks are depleted rebuilding strategies are in place.
	b	NA	A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 years or 2 times its generation time . For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.
	c	NA	There is evidence that they are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within a specified timeframe.
100	a	NA	Where stocks are depleted, strategies are demonstrated to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the specified timeframe .
	b	NA	The shortest practicable rebuilding timeframe is specified which does not exceed one generation time for the depleted stock.
References		NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromsø, Norway. ICES CM 2012/ACOM:14.	
OVERALL PERFORMANCE INDICATOR SCORE:			NA
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT



Evaluation Table: PI 1.2.1

PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The guiding principles for Faroe Islands fisheries that govern the harvest strategy of the shrimp fishery are that there should be sustainable utilisation of fisheries resources from a biological, economic and social perspective, that fisheries management should follow scientific advice and that fishing vessels must comply with regulations. The Faroe Islands shrimp fishery in the Barents Sea is a component of a much larger fishery exploited by vessels from a range of national fleets extending over a wider geographical area than that fished by Faroe Islands vessels. The stock management objective for the whole Barents Sea fishery is to maintain the fishery within agreed limits based on annual stock assessments.</p> <p>For the whole fishery the harvest strategy is based primarily on effort limitation and technical conservation measures. There is no TAC for this fishery, except in the Russian zone. All Faroe Islands vessels require a licence to fish for shrimps issued by the Faroe Islands Ministry of Fisheries and Fisheries Inspection (FLV), and must have a Vessel Monitoring System (VMS) on board, must complete log books, and must complete all required catch declaration forms in both the Svalbard FPZ and international waters. Within the Svalbard FPZ the Faroe Islands fleet is subject to effort limitation through restrictions on the number of vessels and effective fishing days. Mortalities of juvenile shrimp are minimised through a minimum landing size, mesh size regulation, and mandatory sorting grids which also limit bycatch. Area closures can be invoked if there is a high bycatch of juvenile fish or shrimp. There are no seasonal closures of the fishery, although most effort is in spring and summer months. The area of the shrimp stock in international waters, the Loop Hole, which is managed by NEAFC, is fished by Faroe Islands vessels and those from other nations. Fishing in this area is regulated solely by technical conservation measures, although Faroe Islands authorities limit the number of Faroe Islands vessels that are permitted to fish in the area. The fishery in this area represents only a small component of the overall stock distribution, and so the overall lack of effort limitation in this small area is not expected to have any impact on the likelihood of achieving the overall stock management objectives.</p> <p>The components of this harvest strategy form an implicit management plan, which along with monitoring of the fishery, and annual assessment of the status of the stock in relation to reference points, is expected to achieve stock management objectives.</p>
	b	Y	<p>The harvest strategy is likely to work based on prior experience or plausible argument.</p> <p>A harvest strategy based on strong limitations on fishing effort and protection of juveniles through technical conservation measures is likely to work based on prior experience in other fisheries, and annual stock assessments have concluded that throughout the history of the fishery, biomass has been above Bmsy and likely to remain so under the current harvest strategy.</p>

MSC FISHERY ASSESSMENT REPORT

PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
	c	Y	<p>Monitoring is in place that is expected to determine whether the harvest strategy is working.</p> <p>There is an effective monitoring system in place for all fleets including Faroe Islands vessels exploiting this stock, incorporating VMS on participating vessels, log books, detailed recording of landings and inspection of vessels, which confirms that the harvest strategy is effective, and assessments show that the stock is being maintained within agreed limits.</p>
80	a	N	<p>The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p> <p>For the shrimp stock as a whole, the various components of the harvest strategy do work together to control fishing mortality and maintain stock biomass, and hence ensure that the stock is maintained above its implicit target reference point and that limit reference points are not exceeded. Controls on numbers of fishing days and fishing vessels control fishing mortality and limit the impact on stock biomass, and the technical conservation measures ensure that stock biomass is not reduced significantly due to juvenile mortality. The annual assessment of the status of the stock in relation to reference points ensures that the harvest strategy can be responsive to the state of the stock.</p> <p>However, a significant component of the Faroe Islands shrimp fishery takes place in International waters, where only technical measures apply, and there is currently therefore no scope for limiting fishing effort within this sub-area of the fishery. Although the proportion of the stock which is in international waters is relatively small and there is a limit on the number of the Faroe Islands vessels, this is a significant weakness in the harvest strategy and the assessment team does not believe that the fishery achieves SG80 for this issue.</p>
	b	Y	<p>The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives.</p> <p>The harvest strategy has not been fully tested through, for example, a management strategy evaluation (MSE), but there is a rigorous monitoring programme in place including monitoring of fishing activity through the VMS system, accurate detailed recording of landings and completion of log books by all Faroe Islands vessels. Cross-checks by Faroe Islands authorities show that these elements of the harvest strategy are working effectively. Vessel inspections confirm that there is compliance with all management regulations. Fishery-independent stock surveys demonstrate that recruitment has not been impaired under the current harvest strategy, and annual assessments of stock status show that biomass has been above Bmsy and F has been below Fmsy throughout the history of the fishery. It is reasonable to assume therefore that the harvest strategy is achieving its objectives.</p>
100	a	N	<p>The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.</p>

MSC FISHERY ASSESSMENT REPORT

PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
			There is no formal management plan within which a harvest strategy has been designed to meet the management objectives, and there is no clear statement of how the strategy is modified in response to stock changes.
	b	N	The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
			The harvest strategy has not been fully evaluated, although it does appear to be maintaining stocks at target levels.
	d	N	The harvest strategy is periodically reviewed and improved as necessary.
Whilst elements of the harvest strategy may be modified from time to time in response to the state of the stock, there is no regular formal review of the harvest strategy.			
References		Fisheries regulations in Norwegian waters - http://www.fiskeridir.no/english/fisheries/regulations Licence to fish in Russian waters: http://www.teyggjan.fo/SqlServerReports/ReportViewer.aspx?key=0&Fiskiloyvi_Skipld=8938 NEAFC Scheme of Control and Enforcement NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromso, Norway. ICES CM 2012/ACOM:14.	
OVERALL PERFORMANCE INDICATOR SCORE:			70
CONDITION NUMBER (if relevant):			1

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 1.2.2

PI 1.2.2		There are well defined and effective harvest control rules in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</p> <p>Although there are no formally defined harvest control rules, the fishery is managed through a series of regulations including effort limitation, technical conservation measures and partial TACs in some areas, and it is generally understood that these regulations can be changed in order to reduce the exploitation rate if limit reference points are approached. In the Faroe Islands, licences are valid for one year only, so the Faroe Islands authorities can react rapidly to any change in stock status. In addition, within the Svalbard FPZ, vessels must cease fishing in areas where the bycatch of cod and haddock is over 10% or when more than 10% of the catch of shrimps are undersized (<15mm CL) or when the numbers of undersized cod, haddock or redfish reach prescribed numbers per 10kg of shrimps caught. Similar bycatch regulations apply to Faroe Islands vessels fishing for shrimp in Russian waters.</p>
	c	Y	<p>There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</p> <p>Annual assessments of the status of the stock provide strong evidence that the management tools in place are appropriate to this fishery and appear to be effective in controlling the level of exploitation within the fishery as a whole.</p>
80	a	N	<p>Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>Whilst it is generally understood that fishery regulations can be changed in order to reduce the exploitation rate if limit reference points are approached, there are no explicit harvest control rules in place which define what management action will be invoked if the stock biomass declines to levels close to Btrigger or Blim, or if fishing mortality increases to levels close to Flim.</p> <p>Within the Svalbard FPZ there are explicit rules about closing the fishery if too many young fish or shrimp are caught. Vessels must cease fishing in areas where the bycatch of cod and haddock is over 10% or when more than 10% of the catch of shrimps are undersized (<15mm CL) or when the numbers of undersized cod, haddock or redfish reach prescribed numbers per 10kg of shrimps caught. In Russian waters, the bycatch of Faroe Islands shrimp vessels are regulated through a bi-lateral agreement between Faroe Islands and Russia. Faroe Islands vessels must cease fishing in an area if bycatches of juvenile cod, haddock, redfish and Greenland halibut exceed 800, 2000, 300 and 300 individuals respectively per one tonne of shrimp.</p>
	b	Y	<p>The selection of the harvest control rules takes into account the main uncertainties.</p> <p>The management tools currently in place (effort limitation, technical conservation measures, partial TACs) can be considered to be implicit</p>

MSC FISHERY ASSESSMENT REPORT

PI 1.2.2		There are well defined and effective harvest control rules in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
100			harvest control rules as they have been developed and modified on the basis of observed changes in the fishery between 1970 and 2012 underpinned by the outputs from stock assessments. The current stock assessment model explicitly accounts for inherent uncertainties in input parameters in a quantitative manner and so it can be concluded that the selection of the implicit harvest control rules takes the main uncertainties into account.
	c	Y	<p>Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p> <p>Annual assessments of the status of the stock provide strong evidence that the management tools in place are appropriate to this fishery and appear to be effective in controlling the level of exploitation.</p>
	b	N	<p>The design of the harvest control rules takes into account a wide range of uncertainties.</p> <p>There are no clearly defined harvest control rules, and the current implicit control rules do not take into account a wide range of uncertainties such as the ecological role of the stock.</p>
	c	N	<p>Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.</p> <p>As there are no well-defined harvest control rules in use, this SG is not met.</p>
References			<p>Fisheries regulations in Norwegian waters - http://www.fiskeridir.no/english/fisheries/regulations</p> <p>Protocol of the Thirty Sixth session in the Joint Faroese-Russian Fisheries Commission</p> <p>NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromsø, Norway. ICES CM 2012/ACOM:14.</p>
OVERALL PERFORMANCE INDICATOR SCORE:			75
CONDITION NUMBER (if relevant):			2

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 1.2.3

PI 1.2.3		Relevant information is collected to support the harvest strategy	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.
			There is good information available on the genetics of <i>Pandalus borealis</i> in relation to the distribution of the fishery in the Barents Sea and Svalbard, research surveys and observer programmes provide data on the size range and reproductive state of the stock, and the licensing of all vessels, VMS, log books and obligatory catch returns ensure that the fleet composition is well understood.
	b	Y	Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.
			The assessment of the Barents Sea stock uses a series of biomass indices. Standardised annual catch rate data calculated from log books of the Norwegian fleet along with three trawl survey biomass indices provide independent estimates of stock abundance. Log books and mandatory catch declarations ensure that fishery removals are closely monitored across the fleet.
80	a	Y	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.
			Genetics studies of <i>Pandalus borealis</i> have concluded that the populations of the Barents Sea and Svalbard can be considered to be a single population (Martinez <i>et al.</i> , 2006), and research surveys and observer programmes on some components of the fleet provide data on the size range and reproductive state of the stock. The licensing of all vessels, VMS, log books and obligatory catch returns ensure that the fleet composition is well understood.
	b	Y	There is good information on the composition of the Faroe Islands fleet, but the assessment team recommends that an observer programme is introduced for the Faroe Islands fleet in the Barents Sea and Svalbard area to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps.
			Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule , and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.
			Good information about abundance and fishery removals is available for the Barents Sea stock and is used in annual assessments of the status of the stock in relation to reference points, and the assessments evaluate the risk of various catch options. The assessment of the Barents Sea stock uses a series of biomass indices. For Norwegian vessels, the largest component of the shrimp fishing fleet, standardized annual catch rate data are calculated from log books with a GLM using individual vessel, season, area and gear type as variables. The resulting index is considered to be indicative of shrimp biomass. Research surveys provide indices of stock

MSC FISHERY ASSESSMENT REPORT

PI 1.2.3		Relevant information is collected to support the harvest strategy	
SG	Issue	Met? (Y/N)	Justification/Rationale
100			<p>biomass, abundance, recruitment and demographic composition (size, sex, reproductive status) and also monitor other ecosystem variables.</p> <p>Log books and mandatory catch declarations ensure that fishery removals are closely monitored across the fleet. VMS data, log book returns and mandatory catch returns for Faroe Islands vessels are cross-checked by the Faroe Islands authorities providing detailed information of fishery removals by the fleet and confirming compliance of vessels with current regulations, in particular the location of fishing.</p> <p>Raw catch data from Faroe Islands vessels are incorporated in the assessment model, but catch per unit effort data, whilst available from the fleet from log books, are not used in the assessment. The key fishery-independent survey of the stock is the joint Norwegian-Russian ecosystem survey. Faroe Islands do not undertake any fishery-independent stock surveys.</p>
		Y	<p>There is good information on all other fishery removals from the stock.</p> <p>Mandatory catch returns ensure that landings from all components of the shrimp fleet in the Barents Sea are recorded. Mesh size regulations and the use of Nordmore sorting grids ensures that there is little discarded. There are no other fisheries targeting shrimp using other gears and no fisheries targeting other species which retain shrimp as bycatch or discard shrimp.</p>
	a	N	<p>A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.</p> <p>There is a comprehensive range of information for much of the fleet that exploits this stock. There is strong genetic evidence that shrimp in the Barents Sea and Svalbard area constitute a single stock, and research surveys and observer programmes provide detailed information on stock biomass, abundance, recruitment and demographic composition. There is a comprehensive system of mandatory catch returns which along with VMS data and electronic log book returns ensure that fishery removals are fully recorded. Cross checks by national authorities confirm that fishery removals are recorded accurately. The joint Norwegian-Russian ecosystem survey provides additional environmental information on the stock area.</p> <p>As noted in 80a, there is currently no observer programme for Faroe Islands shrimp vessels fishing in the Barents Sea and so there is a gap in knowledge of the bycatch, discards and demographic structure of the shrimp stock for this component of the fleet, and for that reason the SG 100 is not met.</p>
	b	N	<p>All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.</p>

MSC FISHERY ASSESSMENT REPORT

PI 1.2.3		Relevant information is collected to support the harvest strategy	
SG	Issue	Met? (Y/N)	Justification/Rationale
			There is a lack of understanding of the inherent uncertainties in the data, although the assessment model considers the robustness of the assessment and management to these uncertainties.
References			<p>Hvingel, C. and Thangstad, T. 2012a. The Norwegian fishery for northern shrimp (<i>Pandalus borealis</i>) in the Barents Sea and round Svalbard 1970-2012. NAFO SCR Doc. 12/51.</p> <p>Hvingel, C. and Thangstad, T. 2012b. Research survey information regarding northern shrimp (<i>Pandalus borealis</i>) in the Barents Sea and Svalbard area 2004-2012. NAFO SCR Doc. 12/50.</p> <p>Martinez, I., Aschan, M., Skerjadal, T. and Aljanabi, S.M. 2006. The genetic structure of <i>Pandalus borealis</i> in the Northeast Atlantic determined by RAPD analysis. ICES Journal of Marine Science, 63: 840-850.</p> <p>NAFO/ICES, 2012. NAFO/ICES Pandalus Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromso, Norway. ICES CM 2012/ACOM:14.</p> <p>Zakharov, D.V. and Lyubin, P.A. 2012. Results of Russian investigations of the northern shrimp in the Barents Sea in 2004-2012.</p>
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant): Recommendation SG80a			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 1.2.4

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	b	Y	<p>The assessment estimates stock status relative to reference points.</p> <p>Whilst <i>Pandalus borealis</i> in the Barents Sea and Svalbard Fishery Protection Zone (FPZ) is considered as a single stock (Martinez <i>et al.</i>, 2006), Faroe Islands vessels are restricted to fishing in only part of that stock – in the Svalbard FPZ, in an area of international waters to the south east of Svalbard known as the Loop Hole (ICES Area Ia), and in the Russian EEZ through a bi-lateral agreement with Russia. However the status of the stock is assessed against reference points at the scale of the whole Barents Sea stock, and no information is available on trends in stock biomass and recruitment within sub-areas of the stock.</p> <p>The stock assessment model used by the NAFO/ICES <i>Pandalus</i> Assessment Group (NIPAG) is a stochastic surplus-production model. The model is formulated in a state-space framework and Bayesian methods are used to derive posterior likelihood distributions of the parameters. The model synthesises information from input priors including the initial population biomass in 1969, the carrying capacity (K) and maximum Sustainable Yield (MSY), yield data based on reported shrimp catches since 1970, and four independent series of shrimp biomass: standardised CPUE from commercial vessels, a Norwegian trawl-survey biomass index, a Russian trawl-survey biomass index, and a trawl-survey biomass index from the more recent joint Norwegian-Russian ecosystem survey. Biomass is measured relative to the biomass that would yield MSY, Bmsy, and fishing mortality is scaled to the fishing mortality at MSY, Fmsy.</p> <p>The model estimates the current biomass in relation to Bmsy and the reference points, Btrigger and Blim set at 50% and 30% of Bmsy respectively, and the current fishing mortality in relation to Fmsy and Flim, set at 170% of Fmsy. In addition the model estimates the risk of biomass falling below these reference points and the risk of fishing mortality exceeding these reference points for a range of future catch options.</p>
	c	Y	<p>The assessment identifies major sources of uncertainty.</p> <p>The major sources of uncertainty are incorporated within the assessment approach. The NIPAG report notes that the model may perform less well if there is a sudden change in recruitment. Research surveys show that stock has been distributed further to the east in recent years, and this change in distribution may be associated with observed changes in water temperatures.</p>
80	a	Y	<p>The assessment is appropriate for the stock and for the harvest control rule.</p> <p>The assessment model was specifically designed for the <i>Pandalus borealis</i> fishery. A stock-production model is appropriate because shrimps cannot be aged. The model produced good predictions of the four independent biomass indices used as input to the 2012 assessment, evaluates stock status relative to reference points and evaluates the risk that biomass might be below Bmsy and fishing mortality might exceed Fmsy for a range of future catch options.</p>

MSC FISHERY ASSESSMENT REPORT

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
100	c	Y	<p>The assessment takes uncertainty into account.</p> <p>The assessment evaluates the risk that biomass might be below Bmsy, Btrigger and Blim and the risk that fishing mortality might exceed Fmsy for a range of future catch options.</p>
	e	Y	<p>The assessment of stock status is subject to peer review.</p> <p>The stock assessment is undertaken by Norwegian scientists and presented at the NAFO/ICES <i>Pandalus</i> Assessment Group (NIPAG) along with assessments of other <i>Pandalus</i> stocks. There is therefore an inherent peer review by the various members of NIPAG, including scientists from Norway, Russian Federation, Canada, Denmark, Greenland, Sweden, Spain, France and Faroe Islands, and the NAFO Secretariat. The draft report is then peer reviewed by the ICES Review Group.</p>
	a	N	<p>The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.</p> <p>The assessment model was specifically designed for the <i>Pandalus borealis</i> fishery. A stock-production model is appropriate because shrimps cannot be aged. The model produced good predictions of the four independent biomass indices used as input to the 2012 assessment, and evaluates stock status relative to reference points and evaluates the risk that biomass might be below Bmsy and fishing mortality might exceed Fmsy for a range of future catch options. The assessment also considers how bottom temperatures can be used to infer changes in distribution of shrimp over recent years. Fish species, particularly cod, are known predators of <i>P. borealis</i>, and predation mortality is thought to be an important factor in shrimp stock dynamics. At present the model does not explicitly incorporate predation because the relationship between shrimp and cod densities is not known for this shrimp stock, and so the SG100 is not achieved.</p>
	c	Y	<p>The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.</p> <p>The assessment model is a Bayesian model which provides posterior distributions of parameter estimates, and which provides projections of estimated risk of falling below biomass reference points and of exceeding fishing mortality reference points.</p>
	d	N	<p>The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.</p> <p>The assessment model has been found to be relatively insensitive to priors for initial stock biomass and carrying capacity, produced good predictions of the four independent biomass indices used as input to the 2012 assessment and is considered to be robust in its response to annual changes. The model is considered to be an improvement on previous models where trends in biological information, fishery data or research survey data were used in a 'traffic light' indicator approach.</p> <p>Predation is not explicitly incorporated into the stock assessment model for the Barents Sea, but in other <i>P. borealis</i> fisheries e.g. West Greenland, the model explicitly includes cod predation and the addition of this component provided a better fit than alternative models. The SG100 is therefore not</p>
Report N. 2013-002		Revision	01 -2013-11-05
		Page 90 of 205	

MSC FISHERY ASSESSMENT REPORT

PI 1.2.4		There is an adequate assessment of the stock status	
SG	Issue	Met? (Y/N)	Justification/Rationale
			met.
	e	Y	<p>The assessment has been internally and externally peer reviewed.</p> <p>The stock assessment is peer reviewed annually by all members of NIPAG and by the ICES Review Group, whose members are stock assessment scientists not involved with the <i>Pandalus borealis</i> assessments and, from time to time, scientists who are outside the ICES assessment process. Such a review group can be considered as providing external peer review, and the assessment model itself (Hvingel and Kingsley, 2006) has been published in a peer-reviewed journal.</p>
References			<p>Hvingel, C. 2012. Shrimp (<i>Pandalus borealis</i>) in the Barents Sea – Stock assessment 2012. NAFO SCR Doc. 12/49.</p> <p>Hvingel, C. and Kingsley, M.C.S. 2006. A framework to model shrimp (<i>Pandalus borealis</i>) stock dynamics and to quantify the risk associated with alternative management options, using Bayesian methods. ICES Journal of Marine Science, 63: 68-82.</p> <p>Intertek Moody Marine 2012. MSC PCDR for West Greenland Cold Water Prawn Trawl Fishery.</p> <p>Martinez, I., Aschan, M., Skerjadal, T. and Aljanabi, S.M. 2006. The genetic structure of <i>Pandalus borealis</i> in the Northeast Atlantic determined by RAPD analysis. ICES Journal of Marine Science, 63: 840-850.</p> <p>NAFO/ICES, 2012. NAFO/ICES <i>Pandalus</i> Assessment Group Meeting, 17-24 October 2012, Institute of Marine Research, Tromso, Norway. ICES CM 2012/ACOM:14.</p>
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.1.1

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Main retained species are likely to be within biologically based limits (if not, go to scoring issue d below).
			In this fishery all (client) vessels at all times use a Nordmøre sorting grid. All larger fish are guided out of an opening in the upper side of the net. This practice means that only small specimens that can pass between the bars of the grid are caught. These small fish are not retained and are therefore dealt with under Component 2.2 Bycatch. Landings data show that only <i>Pandalus borealis</i> are retained. Consequently there are no (main) retained species in this fishery.
	c	Y	If main retained species are outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.
			N/A There are no (main) retained species.
	d	Y	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.
			N/A There are no (main) retained species.
80	a	Y	Main retained species are highly likely to be within biologically based limits (if not, go to scoring issue c below).
			N/A There are no (main) retained species.
	c	Y	If main retained species are outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.
			N/A There are no (main) retained species.
100	a	Y	There is a high degree of certainty that retained species are within biologically based limits and fluctuating around their target reference points.
			No fish are retained in the Faroese shrimp fishery. Incidental catches of small fish are therefore dealt with under component 2.2 Bycatch. Consequently there are no (main) retained species in this fishery.
	b	Y	Target reference points are defined for retained species.
			Not applicable since there are no fish retained in the Faroese shrimp fishery. Incidental catches of small fish are therefore dealt with under component 2.2 Bycatch. Consequently there are no (main) retained species in this fishery.
References		Personal communications from: Ministry of Fisheries, Fisheries Inspection, and skippers. Landing data.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.1.2

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>There are no (main) retained species. There is a strategy in place for managing retained species. See SG100 a.</p>
	b	Y	<p>The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).</p> <p>Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish.</p>
80	a	Y	<p>There is a partial strategy in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>There are no (main) retained species. There is a strategy in place for managing retained species. See SG100 a.</p>
	b	Y	<p>There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish. Landings data show that there are no retained species in this fishery.</p>
	c	Y	<p>There is some evidence that the partial strategy is being implemented successfully.</p> <p>All the measures are currently implemented and enforced. E.g. use of sorting grids monitored by Norwegian, Russian and EU inspections at sea. The use of sorting grids is required by the licence issued by the Faroese authorities.</p>
100	a	Y	<p>There is a strategy in place for managing retained species.</p> <p>There are no (main) retained species in this fishery. The Faroese vessels do not have quota that would allow them to land other species than shrimp from the Russian EEZ, the Svalbard zone and international waters (as regulated by NEAFC). Therefore sorting grids are used at all time. Bycatch of fish would even be detrimental to the quality of the shrimp caught and the sorting of bycatch would require extra work without benefit. The team considers the use of sorting grids an effective strategy to manage (prevent the catch of) retained species. For Faroese vessels the use of sorting grids is mandatory in the Russian EEZ, the Svalbard zone and international waters. The obligation to use sorting grids is required by the fishing license issued by the Faroese authorities.</p>
	b	Y	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.</p> <p>Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the sorting grid effectively reduces the bycatch of fish. Landings data show that</p>
Report N.		2013-002	Revision
			01 -2013-11-05
			Page 93 of 205

MSC FISHERY ASSESSMENT REPORT

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			there are no retained species.
	c	Y	There is clear evidence that the strategy is being implemented successfully . The fact that technical measures (sorting grids) are used on all vessels and no other species than shrimp are landed provides evidence that there are no retained species and that the strategy is implemented successfully.
	d	Y	There is some evidence that the strategy is achieving its overall objective . Landings data show that there are no retained species. This provides clear evidence that the strategy is achieving its objective.
References			Richards A, and Hendrickson L., 2006 Isaksen, B. & A.V. Solvdal, 1997. Protocol of the Thirty sixth session in the Joint Faroese-Russian Fisheries Commission. Norwegian Regulations for the Svalbard zone (http://www.fiskeridir.no/english/fisheries/regulations E.G: Regulations relating to the design and mounting of sorting grids in shrimp trawls (081015) http://www.fiskeridir.no/english/fisheries/regulations/080115-regulations-relating-to-the-design-and-mounting-of-sorting-grids-in-shrimp-trawls Personal communications from: Ministry of Fisheries, Fisheries Inspection, and skippers. Landing data.
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.1.3

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Qualitative information is available on the amount of main retained species taken by the fishery.
			Landings data show that in this fishery there are no retained species other than shrimp. See SG100a.
	b	Y	Information is adequate to qualitatively assess outcome status with respect to biologically based limits.
			Not applicable, since there are no retained species other than shrimp.
	c	Y	Information is adequate to support measures to manage main retained species.
			There is adequate information in place to support a comprehensive strategy to manage main retained species. See SG100c.
80	a	Y	Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.
			Landings data show that in this fishery there are no retained species other than shrimp. See SG100a.
	b	Y	Information is sufficient to estimate outcome status with respect to biologically based limits.
			Not applicable, since there are no retained species other than shrimp.
	c	Y	Information is adequate to support a partial strategy to manage main retained species.
			There is adequate information in place to support a comprehensive strategy to manage main retained species. See SG100c.
100	a	Y	Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)
			The recording of all landings by the UoC vessels will continue. If there were any retained species in this fishery they would be recorded in the landings statistics of the Faroese Fisheries Inspectorate. See SG100d.
	b	Y	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.
			Landings data as collected by the Faroese Fisheries Inspectorate show that in this fishery there are no retained species other than shrimp. The information is accurate and verifiable. There is an Electronic Reporting System (ERS) in place, Catches have to be reported to the Fisheries Inspectorate on a daily basis. Prior to landing the vessel has to notify the authorities of the state where the fish will be landed (the Port state) of the quantities on board. This state (in most cases Norway since most catch is landed in Tromsø) will send a so called Port State Control Form (PSCF) to the Faroese authorities (the Flag state) for validation. With this procedure there is a check on the landed quantities with the quantities as reported in the Logbook (ERS).
	c	Y	Information is sufficient to quantitatively estimate outcome status with a high degree of certainty .
			Not applicable, since there are no retained species other than shrimp.
100	c	Y	Information is adequate to support a comprehensive strategy to manage retained species, and evaluate with a high degree of certainty whether the

MSC FISHERY ASSESSMENT REPORT



PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species	
SG	Issue	Met? (Y/N)	Justification/Rationale
			strategy is achieving its objective.
			As described under SG100a there is adequate information on all catches and landings available. This information is adequate to support a comprehensive strategy to manage main retained species and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	d	Y	Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species. The recording and reporting through ERS of all landings by the UoC vessels is mandatory and will be continued. If there were any retained species in this fishery they would be recorded in the landings statistics of the Faroese Fisheries Inspectorate. See SG100a.
References		Hvingel, C. & T. Thangstad, 2012. Personal communications from: Ministry of Fisheries, Fisheries Inspection, and skippers. Landing data through ERS system.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.2.1

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups		
SG	Issue	Met? (Y/N)	Justification/Rationale	
60	a	Y	Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).	
			There are no main bycatch species. See SG80a.	
	b	Y	If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.	
			N/A. See SG80a.	
	c	Y	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery.	
			N/A There are no main bycatch species. See SG80a.	
80	a	Y	Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).	
			The mandatory use of sorting grids and the implementation of permanent and temporary closed areas are effective in minimizing the by-catch of all species. Grids are designed to minimize by-catch and, in this respect, they are highly effective (Richards A, and Hendrickson L., 2006; Isaksen, B. & A.V. Solvdal, 1997.)	
			However, smaller individuals of several species can pass through the grid spacing (19 mm) and are caught and discarded.	
			By-catch of species other than shrimp is estimated from surveillance and research surveys. The by-catch rates in specific areas are then multiplied by the corresponding shrimp catch from logbooks to estimate the overall by-catch. By-catch estimates since 1992 are: small cod 2–67 million fish/yr; redfish 2–25 million from 2000 -2004; haddock 1–9 million and Greenland halibut 0.5–14 million (Hvingel and Thangstad, 2010). The overall by-catch is estimated between 1-3%. Furthermore, it is estimated that by-catch is less than 1% per by-catch species.	
			The low discard figures described here are in line with FAO discards database data: "The fisheries for Pandalidae (<i>Pandalus</i> , <i>Heterocarpus</i> sp.) concentrated in the North Atlantic (Canada, Norway, Iceland) account for approximately 13 000 tonnes of discards. The mandatory use of Nordmore grids and other BRDs in most of these fisheries results in a relatively low discard rate (weighted discard rate of 5.4 percent)." (http://www.fao.org/docrep/008/y5936e/y5936e0a.htm)	
			In 2003 the SURVIVAL-project – a three year project, partly funded by the EU Commission – was started to assess the survival of fish (haddock, whiting, saithe and cod) escaping from towed fishing gear. The experiments showed that survival of fish that had passed through a trawl codend was generally good. On average the survival of both whiting and haddock was around 95%.	
Overall catches in the Barents Sea shrimp fishery have declined from				
Report N.	2013-002	Revision	01 -2013-11-05	Page 97 of 205

MSC FISHERY ASSESSMENT REPORT

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups	
SG	Issue	Met? (Y/N)	Justification/Rationale
			83.000 tons in 2000 to 20.000 tons in 2012. Hvingel and Thangstad (2012) conclude that this development must have resulted in a drastic decline in bycatches. Current bycatch of other species is considered to be low (Hvingel and Thangstad, 2012).
			The team has considered that the amount of discards of discarded species has no significant impact on the stock level of discarded species and that consequently the bycatch species should not be considered as <u>main</u> bycatch species.
	b	Y	If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding. N/A since no bycatch species are considered to be "main" bycatch species.
100	a	N	There is a high degree of certainty that bycatch species are within biologically based limits. Among the species that are caught and discarded are juveniles of redfish, haddock, Greenland halibut, polar cod and capelin. There is no evidence that all these bycatch species are within biological based limits.
References		Hvingel and Thangstad, 2012.	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.2.2

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are measures in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.
			There are no main discarded species in this fishery (See PI 2.2.1.). There is a strategy in place for managing main discarded retained species. See SG100 a.
	b	Y	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).
			Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish.
80	a	Y	There is a partial strategy in place, if necessary, for managing bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.
			The mandatory use of sorting grids, discard limits and the implementation of temporary closed areas are considered as an effective strategy to minimize the by-catch of all species. See SG100a.
	b	Y	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved.
			Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish.
	c	Y	There is some evidence that the partial strategy is being implemented successfully.
			All vessels use sorting grids and this is monitored by Norwegian and EU inspections at sea (and occasionally in Norwegian ports).
100	a	Y	The use of the sorting grid is required by the license issued by the Faroese authorities.
			There is a strategy in place for managing and minimising bycatch.
			For Faroese vessels the use of sorting grids is mandatory in the Russian EEZ, the Svalbard zone and international waters. The obligation to use sorting grids is required by the fishing license issues by the Faroese authorities. The Faroese vessels do not have quota that would allow them to land other species than shrimp from the Russian EEZ, the Svalbard zone and international waters (as regulated by NEAFC). Bycatch of fish would be detrimental to the quality of the shrimp caught and the sorting of bycatch would require extra work without benefit. Therefore sorting grids would still be used in the fishery even if their use was not mandatory.
			Both for the Svalbard zone and the Russian EEZ bycatch limits have been defined by the Norwegian and Russian Authorities. These limits are implemented in the respective fishing licenses for these areas. For the Svalbard Fisheries Protection Zone the limits are set as a maximum number of fish per kg of shrimp. These numbers are: cod 8, haddock 20, redfish 3, and Greenland halibut 3. For the Russian EEZ the limits are set as a number

MSC FISHERY ASSESSMENT REPORT

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>per ton of shrimp. The numbers are: cod 800, haddock 2000, redfish 300 and Grenland halibut 300. (Thus these limits allow for the same fractions of the catch that are allowed.) In case bycatches are higher than the limits set a vessel should seek another fishing area at least 2 nautical miles away (move on rule).</p> <p>When high bycatches of fish are higher than the set limits in a certain area the area can be temporarily closed by the managing authorities of Norway and Russia.</p> <p>The team considers the mandatory use of sorting grids, discard limits and the implementation of temporary closed areas as a strategy to minimize the by-catch of all species.</p>
	b	N	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.</p> <p>Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish. Some information is available on discard levels in the fishery. This information supports the conclusion that the strategy is very likely to work. It can however not be concluded that testing supports high confidence.</p>
	c	N	<p>There is clear evidence that the strategy is being implemented successfully.</p> <p>There is some information on discards of several discarded species. There is insufficient information to conclude that the strategy is successfully implemented for all species that are caught.</p>
	d	N	<p>There is some evidence that the strategy is achieving its objective.</p> <p>There is some information on discards of several discarded species. There is insufficient information to conclude that the strategy is successful for all species that are caught.</p>
References		Hvingel and Thangstad, 2012.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 100 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.2.3

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	Qualitative information is available on the main bycatch species affected by the fishery.		
			No bycatch species are considered to be “main” bycatch species. See PI 2.2.1. Some information is available on bycatch (discarded) species.		
	b	Y	Information is adequate to broadly understand outcome status with respect to biologically based limits		
			Some quantitative information is available on bycatch (discarded) species. See SG80a.		
	c	Y	Information is adequate to support measures to manage bycatch.		
			Information is available on the numbers of discarded individuals of undersized fish that pass through the bars of the sorting grid. This information shows that the numbers of discarded fish are insignificant compared to total stock size. There is also information collected on numbers of bycatch. This information is used to close areas where bycatches are higher than certain threshold levels. The available information is sufficient to support measures to manage bycatch.		
80	a	Y	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.		
			No bycatch species are considered to be “main” bycatch species. See PI 2.2.1.		
			By-catch of species other than shrimp is estimated from surveillance and research surveys. The by-catch rates in specific areas are then multiplied by the corresponding shrimp catch from logbooks to estimate the overall by-catch (Hvingel and Thangstad, 2012). It is concluded therefore that some quantitative information is available on bycatch (discarded) species.		
	b	Y	Information is sufficient to estimate outcome status with respect to biologically based limits.		
			The overall by-catch is estimated between 1-3% of total catch. Furthermore, it is estimated that by-catch is less than 1% of total catch per by-catch species. This information is considered to be sufficient to conclude that there are no main bycatch species.		
	c	Y	Information is adequate to support a partial strategy to manage main bycatch species.		
			The main strategy that is implemented is the use of sorting grids and the temporary closure of areas with high bycatch levels. Observers on board of commercial vessels collect information on bycatch levels. This information is used to close areas were bycatches are higher than certain threshold levels. The information collected is considered adequate to support the partial management strategy that is in place.		
	d	Y	Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the		
Report N.	2013-002		Revision	01 -2013-11-05	Page 101 of 205

MSC FISHERY ASSESSMENT REPORT

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch	
SG	Issue	Met? (Y/N)	Justification/Rationale
100			operation of the fishery or the effectiveness of the strategy).
			Information on bycatches in the fishery is collected on a regular basis. Samples are taken on board of commercial vessels by observers and reported to the managing authorities. This means that it can be concluded that sufficient data will be collected in the future to detect any increase in risk to main bycatch species.
	a	N	Accurate and verifiable information is available on the amount of all bycatch and the consequences for the status of affected populations.
	b	N	From observer trips and data collected on board of commercial vessels information is available on discard rates. This information is used to estimate the total number of individuals of several species that are caught. These estimates are considered to be rough estimates since confidence limits are quite large. It cannot therefore be concluded that accurate information is available on the amount of all bycatch.
			Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty .
	c	N	As described under SG100a rough estimates of bycatch numbers are available for several important bycatch species. The information is considered insufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty for all discarded species.
			Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective .
	d	N	As described under SG100a rough estimates of bycatch numbers are available for several important bycatch species. The information is considered insufficient to evaluate with a high degree of certainty whether a strategy is achieving its objective.
			Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.
References		Hvingel and Thangstad, 2012.	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 102 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.3.1

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.
			The fishery does not cause any mortality of ETP species like whales, seals or birds and the effects on other species (fish) are likely to be within limits of national and international requirements for protection of ETP species. See SG80a.
	b	Y	Known direct effects are unlikely to create unacceptable impacts to ETP species.
			The fishery does not cause any mortality of ETP species like whales, seals or birds and the effects on other species (fish) are unlikely to create unacceptable impacts. See SG80b.
80	a	Y	<p>The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.</p> <p>The fishery is carried out near the bottom in very deep water (from 300m to 500 m.), therefore there is virtually no chance that birds or marine mammals are encountered when the net is at the fishing depth. The only possible moment of encounter would be when the net is hauled in and birds or marine mammals would be attracted by the fish in the net. This however seems unlikely in a shrimp fishery with very limited bycatch of fish. In the scientific literature no signs can be found that the bycatch of birds or mammals are an issue in the Barents Sea shrimp fisheries. The client has confirmed that no birds are caught and that seals and whales do not enter the net when it is hauled.</p> <p>So it can be concluded that it is highly likely that the effects of the fishery on birds and marine mammals are within limits of national and international requirements for protection of ETP species.</p> <p>However some undersized individuals of species that appear on international lists of protected species may be caught. These are redfish (<i>Sebastes marinus</i> and <i>Sebastes mentella</i>), blue ling (<i>Molva dypterygia</i>) and pollock (<i>Theragra finnmarchica</i>).</p> <p>The by-catch of redfish is limited to 3 fish per 10 kg of shrimp (or 300 fish per tonne in the Russian EEZ) and, should this limit be exceeded, vessels are required to move to another area.</p> <p>For all species and especially the larger fish (e.g. blue ling) it can be concluded that the sorting grid would protect them from being caught. Smaller specimens could pass the sorting grid and be caught. However it is highly unlikely that this would involve a large number of individuals.</p> <p>Therefore, the team concludes that effects of the shrimp fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.</p>
	b	Y	Direct effects are highly unlikely to create unacceptable impacts to ETP species.

Report N.	2013-002	Revision	01 -2013-11-05	Page 103 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

			The mandatory use of sorting grids and the implementation of permanent and temporary closed areas as necessary are effective for minimizing the by-catch of all ETP species. Therefore it is considered highly likely that there are no detrimental impacts on ETP species.
	c	Y	<p>Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.</p> <p>Larger ETP species caught in the net will escape through the use of sorting grids. This could result in some injury and consequently death for some individual fish. The team however has considered that this would affect a limited number of animals and that there is therefore a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species. See SG100c.</p>
100	a	N	<p>There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.</p> <p>Although it is considered highly likely that there are no detrimental impacts on ETP species there is insufficient information to conclude with a high degree of certainty that effects on all species are within limits of national and international requirements for protection of ETP species.</p>
			<p>There is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.</p> <p>The mandatory use of sorting grids and the implementation of permanent and temporary closed areas as necessary are effective for minimizing the by-catch of all ETP species. Although it is considered highly likely that there are no detrimental impacts on ETP species there is insufficient information to conclude that there is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.</p>
	b	N	
c	Y	<p>There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.</p> <p>Larger ETP species caught in the net will escape through the use of sorting grids. This could result in some injury and consequently death for some individual fish. The team has considered that this could only affect a very limited number of animals and that there is therefore a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.</p>	
References		Hvingel and Thangstad, 2012.	
OVERALL PERFORMANCE INDICATOR SCORE:			85
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 104 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.3.2

PI 2.3		The fishery has in place precautionary management strategies designed to:			
		<ul style="list-style-type: none">• Meet national and international requirements;• Ensure the fishery does not pose a risk of serious harm to ETP species;• Ensure the fishery does not hinder recovery of ETP species; and• Minimise mortality of ETP species.			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	There are measures in place that minimise mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.		
			The mandatory use of sorting grids and the implementation of closed areas when certain threshold levels are exceeded are considered to be an effective and comprehensive strategy for managing and minimizing by catch of ETP species. See SG100a.		
	b	Y	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).		
			It is considered highly likely that the mandatory use of sorting grids is an effective method to reduce bycatch levels to acceptable levels. See SGG80b.		
80	a	Y	There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, that is designed to be highly likely to achieve national and international requirements for the protection of ETP species.		
			The mandatory use of sorting grids and the implementation of closed areas when certain threshold levels are exceeded are considered to be an effective and comprehensive strategy for managing and minimizing catch of ETP species. See SG100a.		
	b	Y	There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.		
			Research on the effectiveness of Nordmøre sorting grids (Richards & Hendrickson, 2006; Isaksen, B. & A.V. Solvdal, 1997) has shown that the Nordmøre sorting grid effectively reduces the bycatch of fish and other larger animals.		
	c	Y	Data on bycatch levels of protected fish species like <i>Sebastes spp.</i> provide sufficient confidence that the strategy will work.		
			There is evidence that the strategy is being implemented successfully.		
100	a	Y	There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality that is designed to achieve above national and international requirements for the protection of ETP species.		
			The mandatory use of sorting grids and the implementation of closed areas when certain threshold levels are exceeded are considered to be an effective and comprehensive strategy for managing and minimizing catch of ETP species.		
	b	N	The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.		
			Although there is sufficient information that supports the conclusion that the		
Report N.	2013-002		Revision	01 -2013-11-05	Page 105 of 205

MSC FISHERY ASSESSMENT REPORT



PI 2.3		The fishery has in place precautionary management strategies designed to: <ul style="list-style-type: none"> • Meet national and international requirements; • Ensure the fishery does not pose a risk of serious harm to ETP species; • Ensure the fishery does not hinder recovery of ETP species; and • Minimise mortality of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
			strategy works there is no quantitative analysis for all species that supports with high confidence that the strategy works for all species involved.
	c	Y	There is clear evidence that the strategy is being implemented successfully. Observations during inspections show that all vessels in the fishery effectively use sorting grids. Data on bycatch levels of protected fish species like <i>Sebastes spp.</i> provide sufficient evidence that the strategy is implemented successfully.
	d	N	There is evidence that the strategy is achieving its objective. Although there is sufficient information that supports the conclusion that the strategy works there is no quantitative analysis for all species that supports with high confidence that the strategy is achieving its objectives for all species involved.
References		Richards & Hendrickson, 2006 Isaksen, B. & A.V. Solvdal, 1997	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 106 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.3.3

PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETP species including:	
		<ul style="list-style-type: none">Information for the development of the management strategy;Information to assess the effectiveness of the management strategy; andInformation to determine the outcome status of ETP species.	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.
			Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species. See SG80a.
	b	Y	Information is adequate to broadly understand the impact of the fishery on ETP species.
			The available information is considered sufficient to conclude that the fishery is not a threat to protection and recovery of the ETP species. See SG80b.
	c	Y	Information is adequate to support measures to manage the impacts on ETP species.
			See SG80c.
80	a	Y	Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
			Based on the low levels of ETP by-catch observed in the fishery (less than 1% per species), the fishery related mortality for ETP species is considered to be close to zero. This estimate can be considered as a quantitative estimate and therefore it is concluded that sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
	b	Y	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.
			Based on the low levels of ETP by-catch observed in the fishery (less than 1% per species), the fishery related mortality for ETP species is considered to be close to zero. The available information is considered sufficient to conclude that the fishery is not a threat to protection and recovery of the ETP species.
	c	Y	Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.
			Observer trips and scientific research trips are conducted on a regular basis in the Barents Sea shrimp fishery. The information that is collected is sufficient to measure trends and to support the strategy that is in place (the use of sorting grids).
100	a	N	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
			Information is sufficient to quantitatively estimate outcome status for ETP species. However the information is sometimes available on a species group level and not on species level. Therefore the team concluded that this issue is not met.
	b	N	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.

Report N.	2013-002	Revision	01 -2013-11-05	Page 107 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETP species including: <ul style="list-style-type: none"> • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Since there is no information on the quantity of ETP species that are caught in the nets but escape through the use of sorting grids and the consequent mortality this scoring issue is not met.
	c	N	Information is adequate to support a comprehensive strategy to manage impacts, minimise mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives. Since it has been concluded that there is a strategy in place and not a comprehensive strategy this issue is not met.
References		Personal communications from: Ministry of Fisheries, Fisheries Inspection, and skippers.	
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 108 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.4.1

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis and function	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	<p>The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p> <p>See SG 80.</p>
80	a	Y	<p>The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p> <p>The fishing gear used in the certified fleet is a relatively light otter trawl gear, with rock hopper gear. The gear operates on or near the bottom, and may thus cause some damage to benthic habitats. The gear used by the fishery is equipped with large 'rockhopper' discs which hold the head rope of the trawl some 30-40 cm above the seabed, reducing damage substantially relative to a standard trawl with a tickler chain in contact with the bottom. The contact of the trawl doors (4-6 tons) with the bottom, however, causes a clear trail which can be seen, for example, using side-scan sonar.</p> <p>The clump of the gear deployed by the unit of certification is a 6 ton roller type. If deployed on muddy sediments this is likely to cause some impact. The degree of impact of the clump on sandy habitats is not investigated but is likely to be relatively minor given the overall width of the clump.</p> <p>Rockhopper gear also permits trawling in areas too rough for standard trawls, which would otherwise be protected. Generally speaking, however, the vessels stay within areas that are known to be trawlable, because of the risk of snagging gear on rough ground. This is beneficial to habitats because much of the damage done by trawls is done in the first pass</p> <p>Bottom trawl gears are known to impact on habitat structure and function. Particularly areas with biotic habitats generated by aggregations or colonial growth of single species are vulnerable. Such habitat-generating species are represented by a wide range of taxonomic groups, e.g. <i>Porifera</i>, <i>Polychaeta</i>, <i>Cnidaria</i>, <i>Mollusca</i> and <i>Bryozoa</i> (e.g., reviews in Jennings, 1998; Løkkeborg, 2005; Kaiser and de Groot, 2000; Moore and Jennings, 2000; Collie et al. 2000).</p> <p>In already disturbed areas, where the fauna consists of more opportunistic, short-lived organisms, the trawl damage is less than in more pristine areas (Olsgard et al., 2008). In general, the response of benthic organisms to disturbance differs with substrate, depth, gear, and type of organism (Collie et al.; 2000).</p> <p>Studies of long-term dynamics of bottom communities in the Barents Sea (Dennisenko, 2008) showed that significant increases in benthic biomass were observed during periods of reduced fishing intensity during the Second World War. Subsequently, following the peak in fishing intensity in the post war years and the 1960s and 70s, recovery of areas and bioresources of the most common species, large taxons and trophic groups of zoobenthos was again observed. Rate of recovery is dependent on a number of issues – frequency of disturbance (natural and anthropogenic), productivity, substrate</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 109 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis and function	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
			<p>type and species. Benthic recovery rates following trawling events, are typically in the range of 2.5 to 6 years with the fastest recovery being observed in mud habitats.</p> <p>The impacts of experimental trawling have been studied on a high seas fishing ground in the Barents Sea (Kutti et al. 2005.) Trawling seems to affect the benthic assemblage mainly through resuspension of surface sediment and through relocation of shallow burrowing infaunal species to the surface of the seafloor.</p> <p>In the Barents Sea although the majority of the habitats may fall within the more dynamic and sedimentary range (hence quicker recovery), it is notable that some of the species composition and the substrate types on the shelf edge may show slower recovery characteristics.</p> <p>The main species of coral (eg. <i>Lophelia</i> sp) which would be particularly vulnerable to trawl impact (potentially qualifying as a serious / irreversible impact) are mainly located in Norwegian coastal waters. <i>Lophelia</i> is located largely within the 12nm zone and only for a limited part outside this zone in the Norwegian EEZ. The client fishery does not take place in these areas (See VMS maps) and therefore there is no or very limited possible interaction with <i>Lophelia</i>.</p> <p>Skippers have informed the team that, with the goal of reducing fuel costs, the contact of the gear with the seafloor is minimized by applying a different technique with shorter fishing lines. There have also been tests with semi pelagic doors to reduce the impact further. Pictures of the catch show that the catch is very clean. Bycatch of bottom fauna is close to zero. Since bycatch of benthic organisms would affect the shrimp catch negatively these bycatches and thus areas where these bycatches occur are avoided. The consequence is that the fishery predominantly takes place in areas with a sandy or muddy bottom.</p> <p>Not only do skippers not wish to fish in a manner that puts their gear at risk or diminishes the value of the catch, but with the position-fixing and ground-discrimination electronics at their disposal, there is no need for them to do so. They can identify and avoid significant coral features or dense and extensive sponge beds. Their fishing is most concentrated in areas that they know are "clean ground" or have already been cleared of obstructions. Hence vessels of all nations tend to fish the same ground repeatedly rather than stray into new areas. This established practice helps to minimise overhead costs (gear damage) and minimise the risk of reduced catch value (crushed fish). This approach and the environmental safeguards it represents (along with advisory and statutory protection measures) have been recognised, described and referred to both implicitly and explicitly in the MSC assessment reports on NE Arctic trawl fisheries.</p> <p>The fact that the ground rope does not touch the seafloor like in other trawl fisheries that target fish that dwell on the sea floor ensures that the impact</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 110 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis and function	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
			<p>on the bottom fauna is limited.</p> <p>The team has also considered that the Faroese shrimp fleet only consists of 3-4 vessels. The total impact of the fishery is therefore very limited when the vast total area of the Barents Sea is taken into account. The areas that are fished are generally fished before by other fleets in the past which means that these areas are already disturbed before and the fauna comprise of opportunistic, short-lived organisms. The trawl damage in such areas is less than in more pristine areas (Olsgard et al., 2008.).</p> <p>Fishing in new areas is regulated now by a new regulation of the Norwegian authorities. For these areas strict requirements apply. In existing fishing areas, where fishing has taken place for decades, the perceived impact on the ecosystem is considered tolerable and thus the fishing activity can continue.</p> <p>The team has evaluated the VMS data of the client fleet. The map with fishing tracks confirms that the client fishery is concentrated in a limited area. This means that huge areas are not impacted by the client fishery. The areas that the client fishes are visited year after year since the skippers are familiar with these fishing grounds and know where the good fishing places are. The team has placed a condition on the information PI 2.4.3. The client should provide the audit team with VMS data on every surveillance visit so that the team can ascertain itself that the fishery continues to target the same fishing grounds and does not shift to previously unfished fishing grounds where the bottom habitat might be more vulnerable to the impact of the gear. See Figure 15, Figure 16 and Figure 17 for map showing the fishing locations of the client fleet.</p> <p>The limited scope of the fishery (3-4 vessels), change to the lighter gears (new trawls doors are developed), large unfished areas and areas which were extensively fished in the past make it highly unlikely for this fishery to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p>
100	a	N	<p>There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p> <p>Under SG80 it is concluded that the impact on bottom habitats is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm. The judgement of the team is partly based on the general information from experimental studies on impacts of fishing, the type of gear used in this fishery, the spatial distribution of the fishery and interviews with fishing skippers on the nature of the fishing operations. However there have been not many studies specifically investigating or modelling the impact of shrimp trawling on the habitats in the Barents Sea. Therefore the team concludes that this issue is not met.</p>
References		Collie, J.S., Hall, S.J., Kaiser ,M.J., and Poiner, I.R. 2000. A quantitative analysis of fishing impacts on shelfsea benthos. Journal of Animal Ecology, 69: 785-798.	

Report N.	2013-002	Revision	01 -2013-11-05	Page 111 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis and function	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
			<p>MAREANO Seabed mapping project - http://www.mareano.no</p> <p>Hiddink J.G., Jennings S., and Kaiser M.J (2006). Indicators of the Ecological Impact of Bottom-Trawl Disturbance on Seabed Communities. Ecosystems (2006) 9: 1190–1199.</p> <p>Denisenko N.V., Denisenko S.G. 1991. On impact of bottom trawling on benthos in the Barents Sea// Environmental situation and protection of flora and fauna of the Barents Sea. Apatity, published by Kola Science Centre of USSR Academy of Science. S. 158-164.</p> <p>Joint Norwegian-Russian environmental status Report on the Barents Sea Ecosystem, 2008 http://www.regjeringen.no/upload/MD/Vedlegg/Svalbard%20og%20polaromraadene/imr-pinro_2009.pdf</p> <p>Kaiser, M.J., and De Groot, S.J. 2000. Effects of Fishing on non-target Species and Habitats. Blackwell, Oxford.</p> <p>Kutti, T., Høisæter, T., Rapp, H.T., Humborstad, O.B., Løkkeborg, S. and Nøttestad, L. 2005. Immediate effects of experimental otter trawling on a sub-arctic benthic assemblage inside Bear Island Fishery Protection Zone in the Barents Sea. In Benthic Habitats and the Effects of Fishing. P.W. Barnes and J.P. Thomas (Eds.). American Fishery Society Symposia.</p> <p>Løkkeborg S. 2005. Impacts of trawling and scallop dredging on benthic habitats and communities. FAO fisheries technical paper 472, 69 p.</p> <p>Olsgard, Schaanning, Widdicombe, Kendall, Austen. 2008. Effects of bottom trawling on ecosystem functioning. Journal of Experimental Marine Biology and Ecology 366:1-2:123-133.</p> <p>Moore, G., and Jennings, S. 2000. Commercial fishing: the wider ecological impacts. British Ecological Society, Blackwell Science, Cambridge.</p>
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 112 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.4.2

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	<p>There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.</p> <p>The measures that are in place (closed areas, move on rules, introducing less damaging fishing gears) constitute a partial strategy, that is expected to achieve the Habitat Outcome 80 level of performance. See SG80a.</p>
	b	Y	<p>The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).</p> <p>The measures that are in place (closed areas, move on rules, introducing less damaging fishing gears) constitute a partial strategy. The partial strategy is considered likely to work. See SG80b.</p>
80	a	Y	<p>There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.</p> <p>There are several measures in place that together form a partial strategy to ensure that the fishery does not pose a risk of serious or irreversible harm to habitat types. These measures are:</p> <p><u>Fishing method:</u> As described under PI 2.4.1 the gear in use is a relatively light gear and bottom impact is reduced by the use of rubber discs that keep the ground rope above the sea floor. The Client is working towards the use of more semi pelagic trawls and trials have been done with semi-pelagic doors. The length of fishing lines has been reduced which results in a steeper angle and thus more lift of the gear and less bottom impact. .</p> <p><u>Closed areas:</u> Both Norway and Russia have established areas closed for fishing. Norway did this in the Svalbard zone and Russia in its EEZ.</p> <p><u>Regulations relating to bottom fishing activities:</u> The Norwegian Ministry of Fisheries and Coastal Affairs has issued a regulation that regulates fishing with bottom gear in the fisheries protection zone around Svalbard. The regulation entered into force from 1 September 2011. The regulation establishes a distinction in existing fishing areas (where the water depth is less than 1000 m) and new fishing areas (where the water depth is more than 1000 meters). In existing fishing areas a "move on" rule is established in case a vessel encounters sponges or corals in its catch. (An encounter is defined as catching more than 30 kg of live corals or 400 kg of live sponges in a single haul.) When a vessel encounters the given quantities the vessel shall cease fishing activities and relocate to a position at least two nautical miles from the position that on the basis of all available information is probably closest to the vulnerable benthic habitat that has been identified. The vessel shall without delay report the encounter to the Directorate of Fisheries, including the location and the type of habitat encountered.</p> <p>For new fishing areas vessels must hold a special permit from the Directorate of Fisheries to fish in new fishing areas. A special permit may only be issued if the vessel has submitted the following to the Directorate for</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 113 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
			<p>approval:</p> <ul style="list-style-type: none">• a detailed protocol for the exploratory fishery, including a harvesting plan describing fishing gear, target species, bycatches, dates and areas, and• a mitigation plan for avoiding damage to sensitive marine ecosystems, and• a plan for log-keeping and reporting, and• a plan for collection of data on vulnerable benthic habitats. <p>For encounters with sensitive habitats the same rules apply as described above for the existing fishing grounds. The Directorate of Fisheries may lay down a requirement for a vessel to carry an observer when fishing in new fishing areas. The costs associated with carrying an observer on board, including wage costs, and also any interest on overdue payments, transport to and from the vessel, and board and lodging while at sea, shall be covered by the owner of the vessel. If sufficient documentation can be provided of bottom fisheries in areas that are deeper than 1000 metres, such areas may, on application to the Directorate of Fisheries, be classified as existing fishing areas.</p> <p>A similar approach for bottom fishing has been implemented by NEAFC in its Regulatory Area. A distinction between existing and new fishery areas has been established. For new fishing areas all bottom fishing activities (or when bottom gear have not been previously used in the area), shall be considered as exploratory fisheries and shall be conducted in accordance with an Exploratory Bottom Fisheries Protocol.</p> <p>These strategies imply that in existing fishing areas, where fishing has taken place for decades, the perceived impact on the ecosystem is considered tolerable and thus the fishing activity can continue, but with stricter monitoring and reporting requirements. In new fishing areas additional restrictions apply to protect vulnerable marine ecosystems (VME).</p> <p><u>Sea bed mapping:</u> The integrated management plan for the Barents Sea includes a programme of research and mapping of benthic habitats for example the Norwegian MAREANO programme . This programme will contribute to periodic updates of the integrated management plan.</p> <p><u>VMS data collection</u> NEAFC has recommended Member States to provide VMS data to ICES and NEAFC constituent bodies To meet the needs of both science and compliance. (Recommendation 10, 2013: made at the 31th Annual Meeting in November 2012.)</p> <p>The team has considered that the measures described here together constitute a partial strategy and that the partial strategy is expected to achieve the Habitat Outcome 80 level of performance or above.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 114 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
	b	Y	<p>There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.</p> <p>Regulations and fishing license requirements are strictly enforced in all fishing areas. There is no signs of any non-compliance.</p> <p>Vessel captains have expressed that they never “encounter” sponges and corals in the quantities that are described in the “move on” rule. The fishing gear is designed in such a way that these animals are caught in much smaller quantities.</p> <p>The sea-bed mapping and the collection of VMS data is an ongoing process that will result in the accumulation of data needed to carry out the strategies as laid down in the Barents Sea Management plan.</p> <p>The team concluded that there is some objective basis for confidence that the measures will work.</p>
	c	Y	<p>There is some evidence that the partial strategy is being implemented successfully.</p> <p>Closures are well enforced, thanks to VMS and at sea enforcement. Research is on-going and regularly updated and feeds directly into management decision-making.</p>
	a	N	<p>There is a strategy in place for managing the impact of the fishery on habitat types.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
	b	N	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
100	b	N	<p>Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
	c	N	<p>There is clear evidence that that strategy is being implemented successfully.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
	d	N	<p>There is some evidence that the strategy is achieving its objective.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
	d	N	<p>There is some evidence that the strategy is achieving its objective.</p> <p>The team has considered that the measures that are in place together form a partial strategy.</p>
References			<p>Consolidated text of all NEAFC recommendations on regulating bottom fishing. http://www.neafc.org/system/files/Consolidated_bottomfishing_regs_as_amended_by_rec_12_2013.pdf MAREANO Seabed mapping project - http://www.mareano.no</p> <p>Norwegian Ministry of the Environment (2006). Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands. Report No. 8 to the Storting (2005–2006), recommendation of 31 March 2006 by the Ministry of the Environment.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 115 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 116 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.4.3

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There is basic understanding of the types and distribution of main habitats in the area of the fishery.
			Work by both PINRO and IMR has provided good understanding of seabed substrate types and characteristic benthic in-fauna in different areas of the Barents Sea.
	b	Y	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.
			The impact of trawls on different types of benthos has been well studied. Habitat mapping is ongoing and VMS data are available.
80	a	Y	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.
			Benthic mapping and sampling in the Barents Sea is carried out during an annual survey in close collaboration with Russian scientists. Annually since 2004, the Polar Research Institute of Fisheries and Oceanography- NM Knipovich (PINRO) and the Norwegian Institute of Marine Research (IMR) have had cooperation on studying and monitoring the invertebrate benthic animals, taken by bottom trawls, from the Norwegian-Russian Ecosystem Surveys covering the entire Barents Sea. The work is still ongoing.
	b	Y	Benthic habitat mapping also takes place in the framework of the MAREANO project. Information from MAREANO is the main input into the benthic component of the Barents Sea integrated management plan. MAREANO provide a variety of interactive maps on their website. The areas of habitat that the MARPANO project have already mapped in detail give an indication of the level of information that is achievable, as this ambitious project continues and expands. The project has already identified main vulnerable areas. As stated above even before this project existing work by both PINRO and IMR provided good understanding of seabed substrate types and characteristic benthic in fauna in different areas of the Barents Sea.
			The team has considered that general information on the distribution of invertebrate benthic species is available to a level of detail relevant to the scale and intensity of the fishery.
	b	Y	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.
			There is information available from VMS on the exact location of fishing activity, which allows both the spatial extent and timing to be determined. There is also sufficient data on the nature of impacts of trawl gears on bottom habitats. There is also some more localised (Barents Sea) research on the impacts of trawl gears. In particular, the work by S.G. Denisenko and N.V. Denisenko has strengthened understanding of the impact of bottom trawling on benthic communities in the Barents Sea.

Report N.	2013-002	Revision	01 -2013-11-05	Page 117 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

	c	N	<p>Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p> <p>The collection of VMS data on the exact location of fishing activity will be continued. However also data on the effectiveness of the move on rule concerning VME are needed in order to make it possible to conclude that sufficient data continue to be collected to detect any increase in risk to habitat. Therefore a Condition was formulated.</p>
100	a	N	<p>The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.</p> <p>The areas of habitat that the MAREANO project have already mapped in detail give an indication of the level of information that is achievable. Not all areas have been covered however so it cannot be concluded that the distribution of all habitat types is known over their range.</p>
	b	N	<p>The physical impacts of the gear on the habitat types have been quantified fully.</p> <p>General impacts of bottom trawl gear have been studied, but the impacts of the shrimp trawling in the Barents Sea have not been quantified yet.</p>
	c	N	<p>Changes in habitat distributions over time are measured.</p> <p>Changes in habitat distributions may be detected in the future when the benthic surveys are repeated over time. Given the vast area that has to be covered, distances between sample stations are large which make it difficult to conclude that changes in habitat distributions are measured over time.</p>
References			Denisenko N.V., Denisenko S.G. 1991. On impact of bottom trawling on benthos in the Barents Sea// Environmental situation and protection of flora and fauna of the Barents Sea. Apatity, published by Kola Science Centre of USSR Academy of Science. S. 158-164.
OVERALL PERFORMANCE INDICATOR SCORE:			75
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 118 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.5.1

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function			
SG	Issue	Met? (Y/P/N)	Justification/Rationale		
60	a	Y	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.		
			The impact of the fishery on the total shrimp stock is limited and the stock has remained at its carrying capacity since the start of the fishery. Therefore it is concluded that this issue is met. See SG80.		
80	a	Y	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.		
			<p>Cod is the one of the key predators in the Barents Sea ecosystem. Capelin and herring are the main prey species. Although shrimp form an important part of the Barents Sea food web its significance for the ecosystem as a whole is less pronounced. As is concluded under Principle 1 the shrimp stock has remained at its carrying capacity since the start of the fishery in the early 1970s. The proportion of the total stock that is harvested annually is limited. Therefore it is concluded that the fishery is highly unlikely to have a significant impact on predator-prey relationships within the Barents Sea ecosystem.</p> <p>Other impacts of the fishery have been considered under the ETP and Habitat Components. As has been concluded there is no significant impact on top predators like sea mammals and birds. The impact on habitat is considered not to be at the level that ecosystem structure and function could be harmed to a point where there would be a serious or irreversible harm.</p>		
100	a	P	There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.		
			<p>The annual Barents Sea ecosystem status report provides comprehensive information about key ecosystem components, presents trends and human impacts on the Barents Sea ecosystem. The reports show that although there are several human impacts on the ecosystem the general condition of the ecosystem has remained intact.</p> <p>The purpose of the Integrated Management Plan for the Barents Sea is to provide a framework for value creation through the sustainable use of natural resources and ecosystem services in the sea areas and at the same time maintain the structure, functioning, productivity and diversity of the ecosystems of the areas. The measures implemented under the plan are likely to constrain any ecosystem impacts of the fishery.</p> <p>Concerning the shrimp fishery the low bycatch and discard levels and the fact that the fishery harvests a very limited part of the total stock (as scientific results show) provide evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. However since not all habitat impacts of the fishery have been studied in detail the team concludes that this scoring issue is only partially met.</p>		
References		Joint Norwegian-Russian environmental status Report on the Barents Sea			
Report N.	2013-002		Revision	01 -2013-11-05	Page 119 of 205

MSC FISHERY ASSESSMENT REPORT



PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function	
SG	Issue	Met? (Y/P/ N)	Justification/Rationale
			Ecosystem, 2008 (http://www.regjeringen.no/upload/MD/Vedlegg/Svalbard%20og%20polaromraadene/imr-pinro_2009.pdf)
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 120 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.5.2

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	There are measures in place, if necessary.		
			The team has concluded that the Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten Islands constitutes a full management strategy that is laid down in a plan as required by SG100a.		
	b	Y	The measures take into account potential impacts of the fishery on key elements of the ecosystem.		
			The strategy to protect the Barents Sea ecosystem includes measures to restrain impacts on the shrimp stock, other fish stocks, and the wider ecosystem (bottom life, protected species). Therefore the team concludes that this issue is met. See SG80b.		
	c	Y	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).		
			There are measures in place to protect both target and other species (temporary closure of high juvenile fish concentration, closure of areas, etc). Based on the fact that sorting grids are consequently used in this fishery and that research has shown that that these grids effectively reduce bycatch the team concluded that the measures that form the strategy are likely to work.		
80	a	Y	There is a partial strategy in place, if necessary.		
			The team has concluded that the Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten Islands constitutes a full management strategy that is laid down in a plan as required by SG100a.		
	b	Y	The partial strategy takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.		
			The strategy to protect the Barents Sea ecosystem includes measures to restrain impacts on the shrimp stock, other fish stocks, and the wider ecosystem (bottom life, protected species). The strategy is based on the available information that is collected through research projects like the Mareano Project and the Biological and Geological Seabed Mapping project.		
		Y	The team has considered that the strategy is expected to restrain the impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance. The measures that together form the strategy to limit the impact of the fishery on the ecosystem are highly likely to prevent the disruption of the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm. .		
			The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).		
		Y	Based upon prior experience in other shrimp fisheries, and information about the fishery, the measures in place are considered likely to work, and considered to exceed general practice in terms of non-target species. See SG100c.		
			There is some evidence that the measures comprising the partial strategy		
Report N.	2013-002		Revision	01 -2013-11-05	Page 121 of 205

MSC FISHERY ASSESSMENT REPORT

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function	
SG	Issue	Met? (Y/N)	Justification/Rationale
			are being implemented successfully .
			Information provided by the client and the Faroese Authorities shows that fishermen and the Faroese Authorities are well informed and regularly updated concerning all regulations that exist. Information about VMS monitoring, catch recording and daily email communications with the fleet showed that the measures are implemented and that there is no sign of non-compliance. The fact that sorting grids are consequently used in this fishery and that this without doubt will reduce impacts of the shrimp and fish stock in the Barents Sea forms evidence that the strategy is implemented successfully.
100	a	Y	<p>There is a strategy that consists of a plan, in place.</p> <p>There is a strategy that consists of a plan: in this case, the plan for Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten Islands. The decision to make the management plan was made by the government in 2002. That year the Norwegian government presented the report Protecting the Riches of the Seas – which might be considered as the Norwegian Marine Strategy.</p> <p>The purpose of the management plans is to provide a framework for value creation through the sustainable use of natural resources and ecosystem services in the sea areas and at the same time maintain the structure, functioning, productivity and diversity of the ecosystems of the areas.</p> <p>The management shall ensure that activities in the area do not threaten the environment and living resources and thus future opportunities for continued value creation. The management plan includes targets for a range of subjects on different levels:</p> <ul style="list-style-type: none"> • Biological diversity – including fisheries • Pollution prevention – including hazardous substances • Acute oil pollution/environmental risk • Safe seafood • Value creation from economic activity <p>Different projects improves knowledge to the management plan:</p> <ul style="list-style-type: none"> • Environmental monitoring and research • Seabed mapping • Geological mapping • Seabird distribution • Screening of hazardous chemicals <p>The management plan is regularly updated taking into account new knowledge and development. The first update took place in 2010.</p> <p>The team concludes that a management strategy for the Barents Sea ecosystem is in place and that since the strategy is clearly incorporated in a plan that this issue is fully met.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 122 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function	
SG	Issue	Met? (Y/N)	Justification/Rationale
	b	N	<p>The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.</p> <p>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.</p> <p>The management strategy to protect the Barents Sea ecosystem includes measures to reduce the impact of fishery like technical measures, closed areas and quota. Although well defined, the strategy laid down in the Integrated Management Plan does not yet cover all impacts of the fishery on the ecosystem. Measures are implemented for the Svalbard area but for international waters a full strategy is still under development in the NEAFC framework. The management strategy takes into account some ecosystem impacts but the functional relationships between the fishery and the Components and elements of the ecosystem are not yet all well understood. Therefor this scoring issue is not met.</p>
	c	Y	<p>The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.</p> <p>Based upon prior experience in other shrimp fisheries, and information about the fishery, the measures in place are considered likely to work, and considered to exceed general practice in terms of non-target species.</p>
	d	N	<p>There is evidence that the measures are being implemented successfully.</p> <p>Under SG80d the team has concluded that there is some evidence that the measures are implemented successfully. However there is insufficient information about the effect of all measures (positive effects on ETP species, reduction of impact on bottom habitat) to conclude that there is evidence that all measures taken are implemented successfully.</p>
	References		<p>Stiansen, J.E., Korneev, O., Titov, O., Arneberg, P. (Eds.), Filin, A., Hansen, J.R., Høines, Å., Marasaev, S. (Co-eds.) 2009. Joint Norwegian-Russian environmental status 2008. Report on the Barents Sea Ecosystem. Part II – Complete report. IMR/PINRO Joint Report Series, 2009(3), 375 pp. ISSN 1502-8828.</p> <p>Norwegian Ministry of the Environment (2006). Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands. Report No. 8 to the Storting (2005–2006), recommendation of 31 March 2006 by the Ministry of the Environment.</p> <p>www.mareano.no</p>
	OVERALL PERFORMANCE INDICATOR SCORE:		90
	CONDITION NUMBER (if relevant):		

Report N.	2013-002	Revision	01 -2013-11-05	Page 123 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 2.5.3

Evaluation Table: PI 2.5.3

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	<p>Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity).</p> <p>The Barents Sea ecosystem is a well-studied ecosystem. Research conducted by research institutes in Russia and Norway has resulted in the publication of countless scientific publications on different aspects of the ecosystem. This information is adequate to identify the key elements of the ecosystem.</p>		
	b	Y	<p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.</p> <p>The impacts that bottom trawl fisheries (targeting shrimp) may have on the environment have been studied in many areas of the world where trawling takes place. Extensive work has been done and is published in scientific articles and books. From this information the main impacts of the fishery on the ecosystem can be inferred.</p>		
80	a	Y	<p>Information is adequate to broadly understand the key elements of the ecosystem.</p> <p>The Barents Sea is the focus of a large amount of research by IMR, PINRO and the Universities of Bergen and Tromsø. Different projects conducted in the framework of the Integrated Management plan of the Marine Environment of the Barents Sea and the Sea Areas off Lofoten Islands improve knowledge in relation to the management plan. These projects include: environmental monitoring and research, Seabed mapping, geological mapping, seabird distribution and screening of hazardous chemicals.</p> <p>Other projects that improve the knowledge of the ecosystem are ECOSIM, the Joint Ecosystem survey (Russia and Norway) and ecosystem modelling. Development of multispecies models like MULTSPEC, AGGMULT and SYSTMOD (in Norway) and MSVPA (in Russia) provided a basis for the current ecosystem models used by ICES: EcoCod, Bifrost, Gadget and STOCOBAR. These models include cod, capelin, herring, haddock, polar cod, shrimp, harp seal and minke whale.</p> <p>The team concludes that the information is adequate to broadly understand the key elements of the ecosystem.</p>		
	b	Y	<p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.</p> <p>The existing information is sufficient to infer the main impacts of the fishery on the key elements of the ecosystem (trophic structure and function, community composition, productivity pattern and biodiversity). Impacts on the shrimp stock and bycatch species have been investigated in detail and this allows for the conclusion that impacts on trophic structure are known.</p>		
	c	Y	<p>The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.</p> <p>Work that is carried out in the framework of the Joint Russian-Norwegian ecosystem programme and the annual Barents Sea ecosystem status report</p>		
Report N.	2013-002		Revision	01 -2013-11-05	Page 124 of 205

MSC FISHERY ASSESSMENT REPORT

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem	
SG	Issue	Met? (Y/N)	Justification/Rationale
			provides comprehensive information about key ecosystem components. The functions of these Components in the ecosystem have been well studied and are understood. The impacts of the fishery on the shrimp stock, bycatch species and ETP species have been identified.
	d	Y	<p>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.</p> <p>The existing information is sufficient to infer the main impacts of the fishery on the Components in the ecosystem. The impacts that bottom trawl fisheries (targeting shrimp) may have on the environment have been studied in many areas of the world where trawling takes place. Extensive work has been done and is published in scientific articles and books.</p> <p>There is also sufficient information on ETP species, (through regular monitoring), shrimp catches and stock developments, and bycatch rates. From this information some of the main impacts of the fishery on the Components of the ecosystem can be inferred.</p>
	e	Y	<p>Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p> <p>Work that is carried out in the framework of the Joint Russian-Norwegian ecosystem programme and the annual Barents Sea ecosystem status reports provide comprehensive information to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p>
	b	N	<p>Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.</p> <p>Not all main interactions between the fishery and the key ecosystem elements have been investigated in detail. Therefore this issue is not met.</p>
	c	Y	<p>The impacts of the fishery on target, Bycatch and ETP species are identified and the main functions of these Components in the ecosystem are understood.</p> <p>The annual Barents Sea ecosystem status report provides comprehensive information about key ecosystem components. The functions of these Components in the ecosystem have been well studied and are understood. The impacts of the fishery on the shrimp stock, bycatch species and ETP species have been identified.</p>
100	d	N	<p>Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.</p> <p>The impact of the bottom trawls on benthic habitats can be inferred from existing scientific knowledge. Research specifically the impact of shrimp trawling on benthic habitats in the Barents Sea has not yet been carried out. Therefore it is not concluded that all impacts of the fishery on the Components and elements can be inferred.</p>
	e	Y	Information is sufficient to support the development of strategies to manage ecosystem impacts.

Report N.	2013-002	Revision	01 -2013-11-05	Page 125 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Work that is carried out in the framework of the Joint Russian-Norwegian ecosystem programme and the annual Barents Sea ecosystem status reports provide comprehensive information to support the development of strategies to manage ecosystem impacts.
References			ECOSIM, Mareano Stiansen, J.E., Korneev, O., Titov, O., Arneberg, P. (Eds.), Filin, A., Hansen, J.R., Høines, Å., Marasaev, S. (Co-eds.) 2009. Joint Norwegian-Russian environmental status 2008. Report on the Barents Sea Ecosystem. Part II – Complete report. IMR/PINRO Joint Report Series, 2009(3), 375 pp. ISSN 1502-8828.
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 126 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.1.1

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it:	
		<ul style="list-style-type: none"> Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and Incorporates an appropriate dispute resolution framework. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.
			The management system is consistent with national and international laws. There is a Faroese legal system and Norwegian jurisdiction in the Svalbard fishing area. NEAFC Commission regulates the fishery in 1a and 1b (International waters).
	b	Y	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.
			Administrative disputes are dealt within the Faroese law system. Disputes arising within the Svalbard FPZ are dealt with and resolved by the Norwegian (Directorate of Fisheries) and Faroe Islands authorities (Fishery Ministry).
	c	Y	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability of the fishery.
			Neither the management authorities nor the fishery has been subject to court challenges in the last 5 years.
	d	Y	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
			It is a long-distance deep-water fishery in a very remote area and there are no people dependent on fishing shrimp for food and livelihood that applies to this fishery.
80	b	Y	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.
			Legal disputes are dealt with within the Faroe Islands legal system. In the case of infringements within the Svalbard FPZ, disputes could be also resolved within the Norwegian and Russian legal system within Russian EEZ.
	c	Y	The management system or fishery is attempting to comply in a timely fashion within binding judicial decisions arising from any legal challenges. The management system is designed to deal with judicial decision in a timely fashion; however for this fishery no legal challenges have been reported or documented in recent years.

Report N.	2013-002	Revision	01 -2013-11-05	Page 127 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 3.1.1		<p>The management system exists within an appropriate legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> • Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
100	d	Y	There are no people dependent on fishing shrimp for food and livelihood that applies to this fishery.
			It is a long-distance deep-water fishery in a very remote area and there are no people dependent on fishing shrimp for food and livelihood that applies to this fishery.
	b	Y	The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective .
			Legal disputes are dealt with within the Faroe Islands legal system. In the case of infringements within the Svalbard FPZ, disputes could be also resolved within the Norwegian and Russian legal system within the Russian EEZ.
	c	Y	The system has been tested and there are examples of cases which have been resolved within the Faroese legal system.
			<p>The management system or fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.</p> <p>The Faroese fisheries authorities try to avoid legal disputes through dissemination of timely information through the various sources such as:</p> <ul style="list-style-type: none"> • www.fisk.fo; www.fiskin.fo; www.teyggjan.fo • Publication and direct communication to stakeholders • Direct contact with fishermen (e-mail, fax) <p>Regulations set by Norway in the Svalbard FPZ are non-discriminatory in relation to other national fleets (Ref. Svalbard Treaty 1920, §2).</p> <p>Regulations regarding the Svalbard Fishery are published by the Norwegian Directorate of Fisheries (www.fiskeridir.no) and also communicated to relevant Faroe Islands authorities.</p> <p>Regulations in the NEAFC area (Ref. NEAFC Scheme of Control and Enforcement) are published on www.neafc.com.</p> <p>Fishing activities in the Russian EEZ are covered by Faroe Islands – Russian Federation Bilateral Agreement.</p>
	d	Y	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.

Report N.	2013-002	Revision	01 -2013-11-05	Page 128 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 3.1.1		<p>The management system exists within an appropriate legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> • Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; • Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and • Incorporates an appropriate dispute resolution framework. 	
SG	Issue	Met? (Y/N)	Justification/Rationale
			It is a long-distance deep-water fishery in a very remote area and there are no people dependent on fishing shrimp for food and livelihood that applies to this fishery.
References			<p>Svalbard Treaty 1920, §2</p> <p>The Norwegian Ministry of Fisheries and Coastal Affairs: http://www.fisheries.no</p> <p>Norwegian Directorate on Fisheries: www.fiskeridir.no</p> <p>Norwegian Ministry of Fisheries and Coastal Affairs: http://www.regjeringen.no/en/dep/fkd.html?id=257</p> <p>NEAFC Commission: www.neafc.org</p> <p>Faroese fisheries law of 1994 with supporting regulations: http://www.logir.fo/foldb/llofo/1994/0000028.htm</p> <p>Faroe Islands Ministry of Fishery: www.fisk.fo</p> <p>General Information on fisheries in Faroe Islands: www.fishin.fo</p> <p>Registry of vessels and fishing licences: www.teyggjan.fo</p>
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 129 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.1.2

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.</p> <p>Organisations involved in the management of the shrimp fisheries are identified and include NEAFC Commission, relevant government ministries, scientific organisations (NAFO/ICES) and research institutes, fishery industry organisations and NGOs.</p> <p>Their roles and responsibilities are defined and generally understood. See PI 3.1.2 SG 80 and 100.</p> <p>The Faroe Islands government holds bilateral negotiations with Norway and Russia for fishery access to their respective zones. The Faroese vessel owners are able to lobby and advise their minister before and during these bilateral negotiations. Once the Faroe Islands government has been allocated its national quota, negotiations are held between all interested parties in Faroe for the allocation of licences to catch this quota. All parties understand this process and their respective roles in it.</p>		
	b	Y	<p>The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.</p> <p>The Faroe Islands fisheries authorities consult with all relevant stakeholder groups regarding new fisheries measures prior to their implementation.</p>		
80	a	Y	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.</p> <p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined:</p> <p>NEAFC Commission Faroe Islands Ministry of Fisheries (Allocation of fishing rights, licenses) Fisheries Inspectorate (fisheries control and inspection) Faroe Islands Marine Institute (marine research) Faroe Islands Ship Owners Association (Fishing industry representatives) Fishery advisory board “Fiskivinnuráðið” represented by main groups of stakeholders</p> <p>National quota and/or effort allocations are made through bilateral negotiations. The Faroese allocation is then distributed to the vessels on a yearly basis through individual licenses. The vessels share is distributed as a result of historical rights of the vessels/ship-owners that belong to the group “Shrimp-trawlers”. The management system includes a consultation process that regularly seeks and accepts relevant information, including local knowledge</p> <p>The management system includes a process that regularly seeks and</p>		
Report N.	2013-002		Revision	01 -2013-11-05	Page 130 of 205

MSC FISHERY ASSESSMENT REPORT

PI 3.1.2		<p>The management system has effective consultation processes that are open to interested and affected parties.</p> <p>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</p>	
SG	Issue	Met? (Y/N)	Justification/Rationale
			accepts relevant information, including local knowledge. The consultation process and the communication between the Fishery Ministry and respectively the Ship-owners association and "Fiskivinnuráðið" – representing all stakeholders within the fishery - provides opportunity for all interested parties to be involved. Appropriate information is fed through to ICES assessment working groups.
	b	Y	<p>The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.</p> <p>Within the fishery regulation, 1994, there is a clear defined consultative process. The Ministry of Fisheries and Natural Resources consults with major fisheries stakeholders on fisheries legislation, regulations and international negotiations. Such consultations take place both through a number of formal standing advisory committees, as well as through focused consultative meetings dealing with specific issues.</p>
	c	Y	<p>The consultation process provides opportunity for all interested and affected parties to be involved.</p> <p>All main groups of stakeholders are represented on the Fishery advisory board "Fiskivinnuráðið".</p>
	a	Y	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.</p> <p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined:</p> <p>NEAFC Commission Faroe Islands Ministry of Fisheries (Allocation of fishing rights, licenses, Stock management, fisheries control, habitat protection) Fisheries Inspectorate (fisheries control and inspection, Safety at Sea) Faroe Islands Marine Institute (marine research) Faroe Islands Ship Owners Association Fiskivinnuráðið (Fisheries Council, the Advisory-Board of stakeholders)</p>
	b	N	<p>The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.</p> <p>Within the fishery regulation, 1994, there is a clear defined consultative process. The Ministry of Fisheries and Natural Resources consults with major fisheries stakeholders on fisheries legislation, regulations and international negotiations. Such consultations take place both through a number of formal standing advisory committees, as well as through focused consultative meetings dealing with specific issues.</p> <p>Assessment team was not able to obtain evidence on how "management</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 131 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 3.1.2		<p>The management system has effective consultation processes that are open to interested and affected parties.</p> <p>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</p>	
SG	Issue	Met? (Y/N)	Justification/Rationale
			system demonstrates consideration of the information and explains how it is used or not used ". Thus it is the view of the assessment team that SG 100 b is not met.
	c	Y	<p>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.</p> <p>All main groups of stakeholders (incl. unions, academics, and other representatives) are represented on the Fishery advisory board "Fiskivinnuráðið" which must be consulted prior to implementation of new fisheries regulations. This is enshrined within the National Fisheries regulation of 1994.</p>
References		<p>National Fisheries regulation of 1994.</p> <p>Minutes of meetings from Fishery advisory board "Fiskivinnuráðið"(available on requests).</p>	
OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 132 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.1.3

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy
			Long-term objectives are defined within the Faroe Islands Fisheries Policy, the Norwegian Marine Resource Act, the Federal Fisheries Act of the Russian Federation, and the NEAFC convention and are consistent with the MSC Principles and Criteria and the precautionary approach.
80	a	Y	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy.
			Long-term objectives are clearly defined and explicit within the Faroe Islands Fisheries Policy, the Norwegian Marine Resource Act, the Federal Fisheries Act of the Russian Federation, and the NEAFC convention and are consistent with the MSC Principles and Criteria and the precautionary approach.
100	a	Y	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy.
			Long-term objectives are clearly defined and required within the Faroe Islands Fisheries Policy, the Norwegian Marine Resource Act, the Federal Fisheries Act of the Russian Federation, and the NEAFC convention and are consistent with the MSC Principles and Criteria and the precautionary approach.
References			The Norwegian Ministry of Fisheries and Coastal Affairs: http://www.fisheries.no/resource_management/control_monitoring_surveillance www.neafc.org Svalbard Treaty 1920, §2 Norwegian Directorate on Fisheries: www.fiskeridir.no Norwegian Ministry of Fisheries and Coastal Affairs: http://www.regjeringen.no/en/dep/fkd.html?id=257 NEAFC Commission: www.neafc.org Faroese fisheries law of 1994 with supporting regulations: http://www.logir.fo/foldb/llofo/1994/0000028.htm Faroe Islands Ministry of Fishery: www.fisk.fo General Information on fihseries in Faroe Islands: www.fishin.fo Registry of vessels and fishing licences: www.teyggjan.fo
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 133 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.1.4

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.
			The overarching principle of the Faroe Islands fisheries strategy is that fishing capacity should match fishing opportunities.
			Authorities actively facilitate discussions between fishermen and scientists.
80	a	Y	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise.
			The overarching principle of the Faroe Islands fishing strategy is that fishing capacity should match fishing opportunities. There are no subsidies within the Faroe Islands fisheries management system that could result in an increase of fishing capacity.
			Authorities actively facilitate discussions between fishermen and scientists.
100	a	Y	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they not contribute to unsustainable fishing practices.
			In common with most other fisheries in the north east Atlantic the principal social and economic incentive is to avoid the penalties associated with non-compliance with the fishery management regime. Thus, in this fishery there are penalties for failing to comply with technical regulations applied to the gear, failure to recognize and comply with seasonal and area closures, failure to retain and record non target species. Any one failure in compliance can result in suspension of fishing licences, imposition of fines or both. These penalties are sufficiently severe to incentivise compliance with the regulations which in turn are consistent with MSC principles 1& 2.
			The national policy and regulation are reviewed every year and the current fishing regulation of 1994 is in the process of being updated. The fishery is also subject to the Norwegian law (in the Svalbard area), Russian law in Russian EEZ and NEAFC convention in the NEAFC area. Neither the Norwegian and Russian regulations nor NEAFC convention provide for incentives for unsustainable fishing practices. There are no subsidies under the Faroese Management System that could lead to increase of fishing capacity. Neither the Norwegian nor Russian management systems support Faroese companies to increase their fishing capacity. The objective of NEAFC convention is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits (Article 2).
References		Faroe Islands Fishing Regulation 1994, National legislation - 28 from 10.03.1994	

Report N.	2013-002	Revision	01 -2013-11-05	Page 134 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing	
SG	Issue	Met? (Y/P/ N)	Justification/Rationale
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 135 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.2.1

PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2	
SG	Issue	Met? (Y/P/N)	Justification/Rationale
60	a	Y	<p>Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system.</p> <p>Objectives for this shrimp fishery, as for other Faroe Islands fisheries, are formulated within the Faroe Islands Fishery Regulation of 1994. These objectives amongst others are focused on achieving a balance between fishing capacity and fishing possibilities and minimising impact of fisheries on the ecosystem through increasing the selectivity and other relevant measures.</p>
			<p>Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.</p> <p>Long-term objectives for this shrimp fishery, as for other Faroe Islands fisheries, are formulated within the Faroe Islands Fishery Regulation of 1994, Chapter 1, §2. These objectives amongst others are focused on achieving a balance between fishing capacity and fishing possibilities and minimising impact of fisheries on the ecosystem through increasing the selectivity and other relevant measures.</p> <p>The fisheries conducted in Svalbard area is de facto managed within the Norwegian fisheries management system which is consistent with achieving the outcomes expressed by MSC's Principles 1 and 2</p> <p>The management of the shrimp fisheries in the Russian zone is de facto managed within the Russian and Norwegian Joint Commission (JNRFC). The JNRFC has an explicit, internationally assessed long-term management plan and strategy for the sustainable utilization of the stock. Short-term objectives are expressed in terms of TACs; the ICES considers the long-term management objectives to be consistent with the MSY.</p> <p>The fisheries in International waters are managed by the NEAFC.</p> <p>The short and long-term objectives, are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, and are explicit within the fishery's management system.</p>
100	a	N	<p>Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.</p> <p>Although there are short and long-term objectives in place, not all of them could be measurable against well-defined targets. E.g. ICES sets the precautionary reference points for the shrimp fishery in the Barents Sea, but the TACs are yet to be established.</p>
			<p>References</p> <p>Svalbard Treaty 1920, §2 Norwegian Directorate on Fisheries: www.fiskeridir.no</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 136 of 205
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MSC FISHERY ASSESSMENT REPORT



PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2	
SG	Issue	Met? (Y/P N)	Justification/Rationale
			<p>Norwegian Ministry of Fisheries and Coastal Affairs: http://www.regjeringen.no/en/dep/fkd.html?id=257</p> <p>NEAFC Commission: www.neafc.org</p> <p>Faroese fisheries law of 1994 with supporting regulations: http://www.logir.fo/foldb/llofo/1994/0000028.htm</p> <p>Faroe Islands Ministry of Fishery: www.fisk.fo</p> <p>General Information on fisheries in Faroe Islands: www.fishin.fo</p> <p>Registry of vessels and fishing licences: www.teygjan.fo</p>
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 137 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.2.2

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.
			In Norwegian, Russian and Faroe Islands management systems decision-making processes take place that have resulted in management measures for this fishery. For the Svalbard area Norway has developed several measures like closed areas, days at sea, technical measures. For International waters, Faroe Islands has implemented restrictions through a license system and technical measures. NEAFC Commission has taken several decisions to regulate the fishery in International waters.
	b	Y	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.
80	a	Y	Decision making processes for this fishery are guided by scientific advice by NAFO/ICES. The scientific assessments are published rapidly on NAFO and ICES web-sites. Decision making processes take into account the wider implications of management measures.
			There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.
	b	Y	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.
	a	Y	Within Norwegian, Russian and Faroe Islands management systems decision-making process takes place that have resulted in management measures for this fishery. For the Svalbard area Norway has developed several measures like closed areas, days at sea, technical measures. Within Russian waters quota is set on an annual basis.
			Within the International waters, there are established decision making processes which have been used to develop measures and strategies for fisheries other than shrimps in the Barents Sea e.g. cod and haddock. Whilst there are some gaps in the management of shrimps in International waters, these established decision-making processes could be used to develop measures and strategies to achieve sustainability of the shrimp fishery.
	b	Y	Whilst the gaps in management measures for shrimps in International waters have been addressed in Conditions 1 and 2, the assessment team believes that there are established decision-making processes in place which could be used to develop measures and strategies for the shrimp fishery and so the fishery meets the SG 80.
			Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.

Report N.	2013-002	Revision	01 -2013-11-05	Page 138 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives		
SG	Issue	Met? (Y/N)	Justification/Rationale	
			Findings and relevant recommendations emerging from research, monitoring, evaluation and review activity related to this fishery, such as catch levels, catch and fishing effort, potential impact of fishing on the marine environment, are formally reported and available on web-pages (e.g. Faroe Islands Ministry of Fisheries, Norwegian Ministry of Fisheries and Coastal Affairs, Fisheries Directorate, NEAFC Commission, ICES, NAFO). Thus, it can be concluded that serious and other issues are dealt with in an effective and timely manner.	
	c	Y	Decision-making processes use the precautionary approach and are based on best available information. Decision-making processes use the precautionary approach enshrined within National fisheries regulations and are based on the best available information obtained through ICES, IMR (Norway), PINRO (Russia), Havstovan (Faroe Islands) and other research institutes.	
	d	Y	Explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. Minutes from NEAFC Commission are published on www.neafc.org and minutes from consultations with Faroe Islands Fishery advisory board "Fiskivinnuráðið" could be made available on request. These minutes provide explanations on management decisions. Findings and relevant recommendations emerging from research, monitoring, evaluation and review activity related to this fishery, such as catch levels, catch and fishing effort, potential impact of fishing on the marine environment, are reported and available on web-pages (e.g. Faroe Islands Ministry of Fisheries, Norwegian Ministry of Fisheries and Coastal Affairs, Fisheries Directorate, NEAFC Commission, ICES, NAFO, Faroe Islands Marine Institute).	
100	b	N	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions. Existing decision-making processes have not yet responded to all issues identified. E.g. Absence of effort limitations on the shrimp fishery in the International waters and it's implication for the shrimp stock as a whole.	
	d	N	Formal reporting to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. There is no formal reporting to all interested stakeholders which describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity, within the Faroese Management system.	
References		Svalbard Treaty 1920, §2 Norwegian Directorate on Fisheries: www.fiskeridir.no Norwegian Ministry of Fisheries and Coastal Affairs: http://www.regjeringen.no/en/dep/fkd.html?id=257 NEAFC Commission: www.neafc.org		
Report N.	2013-002	Revision	01 -2013-11-05	Page 139 of 205

MSC FISHERY ASSESSMENT REPORT



PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Faroese fisheries law of 1994 with supporting regulations: http://www.logir.fo/foldb/llofo/1994/0000028.htm Faroe Islands Ministry of Fishery: www.fisk.fo General Information on fisheries in Faroe Islands: www.fishin.fo Registry of vessels and fishing licences: www.teyggjan.fo
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 140 of 205
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MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.2.3

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	a	Y	Monitoring, control and surveillance mechanisms exist and are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.
			Norway, Russia NEAFC and the Faroe Islands maintain a robust and effective control and surveillance regime. There is a rigorous enforcement regime to ensure a high degree of compliance across all fishing fleets participating in this fishery.
			Monitoring, control and surveillance mechanisms are implemented and include the following: -VMS -ERS/Catch control/e-log books -Port State Control (PSCF) in NEAFC -Landing control -EFCA -Inspections at sea by Norwegian Coast Guard and Russian Inspection authorities -NEAFC inspections (joint deployment plans) -EU inspections in the Barents Sea -Mission reports -National cross-check controls (e.g. landings against VMS position, etc.) -gear control at port
	b	Y	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.
			Sanctions are available and management authorities apply them where appropriate.
	c	Y	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery. All vessels must maintain up-to-date log books when fishing in the Svalbard zone, the Russian EEZ and the International zone and comply with all reporting procedures.
80	a	Y	A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.
			Norway, Russia, NEAFC and Faroe Islands maintain a robust and effective control and surveillance regime. Vessels can be, and are, warned, fined, have gear confiscated and licences suspended or withdrawn for non-compliance.
	b	Y	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.
			Sanctions for non-compliance exist and are applied as appropriate to coastal state vessels and third party vessels, e.g. Faroese, with equal vigour.
	c	Y	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.

Report N.	2013-002	Revision	01 -2013-11-05	Page 141 of 205
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MSC FISHERY ASSESSMENT REPORT

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with	
SG	Issue	Met? (Y/N)	Justification/Rationale
			Cross checks of fishing activity recorded on the VMS system and COE/COX forms and landings data did not identify any cases of systematic non-compliance within the fishery. Vessels have been inspected at sea by Norwegian, Faroe Islands, Russian authorities and NEAFC members and demonstrate that the fishery generally complies with fisheries regulations.
	d	Y	There is no evidence of systematic non-compliance.
			Cross checks of fishing activity recorded on the VMS system and COE/COX forms and landings data did not identify any cases of systematic non-compliance within the fishery.
100	a	Y	<p>A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.</p> <p>Throughout all fishing zones there is a rigorous enforcement regime to ensure a high degree of compliance across all fishing fleets participating in this fishery. All vessels must be equipped with VMS and maintain up to date logbooks which are subject to frequent at sea inspections by Norwegian and Russian fishery inspection vessels. These inspections also ensure that technical measures are being complied with and the catches tally with log book records and quota allocations. Vessels must also report when they intend to enter or leave the coastal states waters and may have to await inspection before commencing fishing or leaving a coastal state's waters.</p> <p>Monitoring, control and surveillance mechanisms are implemented and include the following:</p> <ul style="list-style-type: none"> -VMS -Catch control/e-log books/COE and COX -Port State Control (PSCF) and in NEAFC and CCS (Catch Certification Scheme) for landings going to EU -Landing control -EFCA (European Fisheries Control Agency) http://cfca.europa.eu/pages/home/home.htm -Inspections at sea by Norwegian Coast Guard, Russian inspectors (Russian EEZ), NEAFC inspections (joint deployment plans) -Mission reports -National cross-check controls (e.g. landings against VMS position, etc.) -gear control at port
	b	Y	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
			The coastal states apply severe penalties for any infringements of any regulations at any time a vessel is in their waters. Penalties can be financial, suspension or loss of licence all of which are effective deterrents against non-compliance. There is general satisfaction among all parties that application of penalties is consistent and effective. The international efforts coordinated through NEAFC for port-state reporting of landings has established a 'black-list' system to eliminate IUU fishing.

Report N.	2013-002	Revision	01 -2013-11-05	Page 142 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with	
SG	Issue	Met? (Y/N)	Justification/Rationale
	c	Y	<p>There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.</p> <p>Both among fishing skippers and officials there is a high degree of confidence that regulations are complied with by virtually all vessels, virtually all of the time. Insofar as there are any uncertainties they relate primarily to the frequency and extent that discarding may take place but the general perception is that any discarding is at a very low level.</p>
References		Faroes Fisheries Inspection: www.fve.fo NEAFC: www.neafc.org Site interviews with Faroese officials and skippers.	
OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 143 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.2.4

PI 3.2.4		The fishery has a research plan that addresses the information needs of management			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2.		
			Research for the shrimp fishery is undertaken by a joint NAFO/ICES Pandalus Assessment Working Group called NIPAG		
	b	Y	IMR and PINRO are also conducting research activities in the Barents Sea, Research results are available to interested parties.		
			Research findings are made available through annual reports and ICES papers published on ICES, IMR and PINRO web sites.		
80	a	Y	A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.		
			Research is planned by Norway and Russia in the framework of the joint Russian-Norwegian scientific research programme on living marine resources. The research undertaken includes: investigations on fish and shrimp stocks, incl. stock size, structure and distribution, -fishing technology and selectivity of fishing gear, optimal harvesting of commercial species in the Barents Sea, monitoring of the populations of marine mammals and birds. Research is also planned in a strategic manner annually through the joint NAFO/ICES Pandalus Assessment Working Group (NIPAG). NIPAG provides a peer review of the stock assessment of the Barents Sea fishery and identifies priorities for research that will fill gaps in the understanding of the biology of shrimp in the Barents Sea, and improve the assessment methodology and consequent management advice for the fishery. For example, in 2012 NIPAG recommended that demographic information should be collected from the Norwegian part of the ecosystem survey, a means of predicting recruitment to the fishable stock should be standardised, work should be continued on including explicit information on recruitment in the assessment model, and that the stock assessment should be documented more fully by including all background documents into a single technical annex. In addition the ICES Review Group makes recommendations on improvements to the assessment methodology particularly in relation to the provision of management advice.		
	b	Y	Research results are disseminated to all interested parties in a timely fashion.		
			Key information is made available through ICES biannual publication of scientific advice to fishery managers; other relevant research and associated information is available on ICES, IMR, PINRO and JNFRC web sites.		
100	a	N	A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.		
			Norway has maintained a comprehensive research programme throughout the Barents Sea for a many decades. De facto the shrimp fisheries are co-		
Report N.	2013-002		Revision	01 -2013-11-05	Page 144 of 205

MSC FISHERY ASSESSMENT REPORT

			<p>ordinated through or contribute to the joint Norway – Russia Barents Sea research programme, and the MAREANO project. All this work underpins the Barents Sea management plan and the JNRFC fish stock assessments helping to provide reliable and timely information to support the objectives consistent with MSC principles 1 and 2.</p> <p>However Barents Sea shrimp stock is not formally a part of the common research programme and doesn't include other fishing nations.</p>
	b	N	<p>Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available.</p> <p>Planning takes place, but cannot be concluded that a comprehensive research plan is disseminated to all interested parties.</p>
References			<p>Russian-Norwegian scientific research programme on living marine resources (2012) www.neafc.org www.ices.dk Svalbard Treaty 1920, §2 Norwegian Directorate on Fisheries: www.fiskeridir.no Norwegian Ministry of Fisheries and Coastal Affairs: http://www.regjeringen.no/en/dep/fkd.html?id=257 NEAFC Commission: www.neafc.org Faroese fisheries law of 1994 with supporting regulations: http://www.logir.fo/foldb/llofo/1994/0000028.htm Faroe Islands Ministry of Fishery: www.fisk.fo General Information on fisheries in Faroe Islands: www.fishin.fo Registry of vessels and fishing licences: www.teyggjan.fo</p>
OVERALL PERFORMANCE INDICATOR SCORE:			80
CONDITION NUMBER (if relevant):			

Report N.	2013-002	Revision	01 -2013-11-05	Page 145 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Evaluation Table: PI 3.2.5

Evaluation Table: PI 3.2.5

PI 3.2.5		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system			
SG	Issue	Met? (Y/N)	Justification/Rationale		
60	a	Y	The fishery has in place mechanisms to evaluate some parts of the management system.		
			Within the Faroe Islands Management system there are mechanisms in place to periodically evaluate parts of the management system based on internal review within the Ministries and discussions within the Fisheries Advisory Board.		
			In 2013 there is planned a revision of the National fisheries policy. In December 4 th 2012 the Parliament discussed a revision of the fishery politics.(FISKIVINNULÓGGÁVAN ENDURSKOÐAN OG NÝSKIPANIR Frágreiðing til aðalorðaskiftis sambært § 51, stk. 4 í tingskipanini Løgtingsmál nr. F-2/2012 http://fisk.fo/Files/Billeder/Fisk/01_stjornarskrivstovan/FR%C3%81GREI%C3%90ING%20TIL%20A%C3%90ALOR%C3%90ASKIFTIS%20-%20des.%202012.pdf)		
	b	Y	The fishery-specific management system is subject to occasional internal review. The fishery-specific management system is subject to regular internal review. See SG 80b.		
80	a	Y	The fishery has in place mechanisms to evaluate key parts of the management system		
			Within the Faroe Islands Management system there are mechanisms in place to periodically evaluate parts of the management system. Currently the new national fishing policy is being drafted, incorporating evaluation of the key parts of the existing management system.		
			Within the Norwegian management system, reporting of regulations and enforcement to the Norwegian Parliament occur annually. The National audit office performed a major audit on the management system in 2003-2004 reviewing resource management, Ministerial management and enforcement by subsidiary bodies like the IMR and Fisheries Directorate, etc. The report was presented to the Parliament. Research is published in scientific journals and subject to regular peer review therein. IMR has also had two major scientific reviews over the last decade by independent committees.		
	b	Y	The fishery-specific management system is subject to regular internal and occasional external review. The Faroe Islands shrimp fishery is part of the larger fishery which is managed by Norway, Russia and NEAFC. Evaluations of management within these management systems could be considered occasional external review of the Faroe Islands distant water fishery.		
100	a	N	The fishery has in place mechanisms to evaluate all parts of the management system. Faroe Islands has no control over all parts of the management of the shrimp		
Report N.	2013-002		Revision	01 -2013-11-05	Page 146 of 205

MSC FISHERY ASSESSMENT REPORT



			fishery in the Barents Sea.	
	b	N	The fishery-specific management system is subject to regular internal and external review .	
			There is no regular external review of the Faroe Islands shrimp fishery.	
References			Faroese fisheries law of 1994, report for discussion in the Parliament for a revision of the fisheries policy: http://fisk.fo/Files/Billeder/Fisk/01_stjornarskrivstovan/FR%C3%81GREI%C3%90ING%20TIL%20A%C3%90ALOR%C3%90ASKIFTIS%20-%20des.%202012.pdf	
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				

Report N.	2013-002	Revision	01 -2013-11-05	Page 147 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Appendix 1.2 Conditions

Table A1.2: Condition 1-3

Condition 1

Performance Indicator	PI 1.2.1 There is a robust and precautionary harvest strategy in place
Score	70
Rationale	<p>SG 80 (a) Requirement: The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</p> <p>Rationale: A significant component of the Faroe Islands shrimp fishery takes place in International waters, where only technical measures apply, and there is currently therefore no scope for limiting fishing effort within this sub-area of the fishery. Although the proportion of the stock which is in international waters is relatively small and there is a limit on the number of the Faroese vessels, this is a significant weakness in the harvest strategy and the assessment team does not believe that the fishery achieves SG80 for this issue.</p>
Condition	By the fourth annual surveillance, regulations limiting fishing effort in international waters (ICES Ia and Ib), that are responsive to the state of the stock, should be implemented to demonstrate that the elements of the harvest strategy work together towards achieving management objectives for the Barents Sea shrimp stock as a whole.
Milestones	<p>Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options limiting fishing effort in international waters</p> <p>Annual surveillance 2: Provide an evaluation of options considered for potential mechanisms for limiting fishing effort</p> <p>Annual surveillance 3: Propose regulations for limiting fishing effort to relevant authorities</p> <p>Annual surveillance 4: Implementation of regulations for limiting fishing effort through consultation with relevant authorities.</p>
Consultation on condition	Ministry of Fisheries, Faroe Islands

Condition 2

Performance Indicator		PI 1.2.2 There are well defined and effective harvest control rules in place			
Score		75			
Rationale		SG 80 (a) Requirement: Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached. Rationale: There are no well-defined harvest control rules in place which stipulate what management action will be invoked if the stock biomass declines to levels close to Btrigger or Blim, or if fishing mortality increases to levels close to Flim.			
Condition		By the fourth annual surveillance, well defined harvest control rules shall be implemented for the shrimp stock as a whole to ensure that the exploitation rates are reduced as limit reference points are approached.			
Milestones		Annual surveillance 1: Show written evidence of consultation with relevant authorities and stakeholder groups in relation to options for HCRs.			
Report N.	2013-002	Revision	01 -2013-11-05	Page 148 of 205	

MSC FISHERY ASSESSMENT REPORT

	Annual surveillance 2: Provide an evaluation of options considered for potential HCRs Annual surveillance 3: Propose HCR to relevant authorities Annual surveillance 4: Implementation of HCR through consultation with relevant authorities.
Consultation on condition	Ministry of Fisheries, Faroe Islands

Condition 3

Performance Indicator	PI 2.4.3 Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types
Score	75
Rationale	<p>SG 80 (c) Requirement: Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures)</p> <p>Rationale: Based on the (VMS) information provided the team has concluded that the fishery is patchy and focused in limited areas. It is expected that the fishery will continue this fishing pattern and also that the same fishing grounds will be fished time after time. Additionally the move on rule concerning interactions with sponge or coral habitats requires vessels to move on when bycatch exceeds thresholds for VMEs in the NEAFC regulatory area of 30 kg of live coral and 400 kg of sponges. Therefore the conclusion is that large areas are not impacted by the fishery and the move on rule further reduces risk to bottom habitat. In order to detect any increase in risk for vulnerable bottom habitats information is needed to show that the fishery continues to be conducted in the same patchy and concentrated manner. More information is also needed to show that the move on rule is consequently applied and risks for habitat continue to be low.</p>
Condition	The fishery is required to collect sufficient information on bycatches and spatial distribution of the fishery in order to detect any increase in risk for vulnerable bottom habitats (e.g. due to changes in fishing pattern or effectiveness of the move on rule).
Milestones	<p>Annual surveillance 1: Develop and implement procedures for monitoring and recording all by-catches of coral and sponges in every fishing haul. Provide the team with the collected data preferably with a map showing all recorded bycatches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Together with the team analyse the collected data to determine whether significant impacts are likely and where necessary develop appropriate management responses.</p> <p>Annual surveillance 2-4: Provide the team with the collected data preferably with a map showing all recorded bycatches of sponges and corals. Provide the team with a map with all the VMS data on all UoC fishing vessels. Show proof that appropriate management responses are taken where necessary.</p>
Consultation on condition	None. Client is advised to establish cooperation with the Marine Research Institute (Havstovan) in order to develop appropriate recording procedures and data analysis.

Report N.	2013-002	Revision	01 -2013-11-05	Page 149 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

APPENDIX 2. PEER REVIEW REPORTS

The report includes the unattributed reports of the peer reviewers in full using the 'MSC peer review template' available on the MSC website forms and templates page (<http://www.msc.org/documents/scheme-documents/forms-and-templates>) and responses of the assessment team.

PEER REVIEW A REPORT

Overall Opinion

<i>Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> The assessment team concluded with a recommendation that the fishery be certified. This is an appropriate conclusion given that the average score for each of the three principles was well above 80 and no single score below 65. The assessment builds on relevant information about the fishery in question. The scoring is also compatible with previous assessments of fisheries involving the catch of Barents Sea.		NA
<i>Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> The two conditions are well connected to the identified gaps in the management of the fishery. The milestones reflect measurable improvements and outcomes. However, it might seem as if the milestones require the involvement of other entities (cf. CR 27.11.3), here: Faroe authorities and/or NEAFC. Under condition 1, the client is required by the 3 rd surveillance audit to 'draft regulations for limiting fishing effort' and under condition 2 to 'agree on HCR with relevant authorities'. While the condition 1 milestone might be interpreted to the fact that the client alone drafts a proposal for new regulations (not depending on the approval of these proposals by management authorities) the condition 2 milestone does not make sense unless authorities are involved ('agree on', not just 'discuss', 'consult with' or the like). The wording might have to be amended so that the milestones cover only actions that the client can meet by its own actions. Alternatively, a statement by the relevant authorities must be included in the action plan, saying that they will indeed take upon themselves the requirements of the client action plan that require government action. But it does not seem realistic, for instance, that authorities will at present state that they will 'agree on' an HCR within three years from now. Perhaps the milestones should be adjusted to something like 'consult with authorities', 'propose to authorities' or the like.		The letter of support from the Ministry of Fisheries included in the client action plan. Ref. Appendix 5. The milestones for conditions 1 and 2 have been modified to acknowledge that the client cannot by its own actions implement regulations.

Report N.	2013-002	Revision	01 -2013-11-05	Page 150 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

If included:

<i>Do you think the client action plan is sufficient to close the conditions raised?</i>	Yes	Conformity Assessment Body Response
<u>Justification:</u> The client action plan does seem to cover the substance of the conditions. See, however, my comment regarding the involvement of other entities above. A confirmation from relevant authorities might have to follow the client action plan.		The letter of support from the Ministry of Fisheries included in the client action plan. Ref. Appendix 5.

General Comments on the Assessment Report (optional)

In general, I think this is a good report, which takes relevant information into account and draws the right conclusions. The conclusions are generally compatible with previous assessments of fisheries involving the catch of Barents Sea prawn and differences are well accounted for.

I have a few minor comments:

- p. 12: The same paragraph ('The assessment team recommends...') is repeated under both 'rationale' and 'recommendation' here. Perhaps leave out under 'rationale'?

Conformity Assessment Body Response:

Amended accordingly.

- p. 29, 6.-7. lines from bottom of page: 'However under a bilateral agreement, vessels from Faroe Islands have recently been allowed access to fish in Russian waters. Vessels from Faroe Islands are therefore permitted to fish within the Svalbard FPZ.' I cannot see how the access to Russian waters has anything to do with rights to fish in the Svalbard zone.

Conformity Assessment Body Response:

What is meant that are now also permitted to fish in Russian waters. The text has been amended to make this more clear.

- p. 38, 2nd paragraph: 'most catches are landed in Tromsø' – on pa. 16, middle of page, it is said that Faroese shrimp vessels deliver their catches to Maresco in Hirtshals. Please explain to avoid confusion.

Conformity Assessment Body Response:

Landings are transported from Tromsø to Hirtshals by road. The text at page 16 has been amended accordingly.

- p. 46 on the delimitation line dispute between Norway and Russia is not quite up to date. It seems strange to say that the Grey Zone arrangement 'applies for a year at a time and is renewed annually', as long as it ceased to exist more than two years ago. Please update with the following information: The delimitation agreement was signed in Murmansk in September 2010 and entered into force in July 2011, following ratification by the Norwegian and Russian parliaments.

Conformity Assessment Body Response:

The information provided by the peer reviewer is included in the text.

- p. 47, 1st paragraph under the heading 'Management objectives': It seems a bit odd to mention the 1920 Svalbard Treaty here. I know there is disagreement among states on how to interpret the status of the Treaty in the ocean areas around the archipelago, but nevertheless it seems strange to me to simultaneously i) state that fisheries in the Svalbard zone are regulated by Norway; and ii) that management objectives are laid down in the Svalbard Treaty. The reason is that Norway explicitly disregards the Svalbard Treaty in everything that has to do with fisheries management in the Svalbard zone. The Norwegian argument is that the Treaty applies only to the Svalbard mainland and territorial waters (12nm). The 200nm Svalbard zone has its legal foundation in the 1976 Act on the Norwegian Economic Zone. It would be better to refer to the 2008 Marine Resources Act, which

Report N.	2013-002	Revision	01 -2013-11-05	Page 151 of 205
-----------	----------	----------	----------------	-----------------



MSC FISHERY ASSESSMENT REPORT

explicitly covers all ocean areas established with legal foundation in the Act on the Norwegian Economic Zone. The Marine Resources Act's main objectives are to implement precautionary and ecosystem-based management of living marine resources.

Conformity Assessment Body Response:

The comment is acknowledged. The text has been amended.

- p. 62, 2nd line from bottom of page: Torshavn instead of Tallin?

Conformity Assessment Body Response:

Amended accordingly.

- p. 130, under SG80: JNRF: Commission instead of Committee

Conformity Assessment Body Response:

Amended accordingly.

Performance Indicator Review

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.1	Yes	Yes	NA	A score of 100 was given as there is a high degree of certainty that the stock is above the point where recruitment would be impaired. Further, although specific target points have not been defined explicitly for this fishery, annual assessments of stock status conclude that stock biomass has been well above the implicit target reference point of M_{msy} .	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 152 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



1.1.2	Yes	Yes	NA	A score of 80 was given. A 100 score was not reached as the ecological role of the shrimp stock of the Barents Sea is not well understood and has hence not been taken into consideration in the setting of limit reference points.	NA
1.1.3	NA	NA	NA	The stock is not depleted.	NA
1.2.1	Yes	Yes	Yes	A score of 70 was given. SG80a was not reached since a significant part of the Faroe shrimp fishery takes place in international waters, where there are no measures to limit fishing effort. I concur with the assessors that this is a significant weakness in the harvest strategy.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 153 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



1.2.2	Yes	Yes	Yes	A score of 75 was given. The team argues that a series of regulations, which can be changed according to circumstances, qualifies for a non-formalized harvest control rule, which is generally understood by fishers. This meets the SG60. However, the lack of a formal harvest control rule defining management action in unfavourable stock conditions, does not meet the requirement of a 'well defined' harvest control rule. Hence, SG60 is not met. Although I am not a P1 expert, this sounds reasonable to me.	NA
1.2.3	Yes	Yes	NA	A score of 80 was given. None of the SG100s are met. There is a gap in knowledge of the by-catch as there are currently no observer programmes for this fishery. There is also a lack of understanding of the uncertainties of data.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 154 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



1.2.4	Yes	Yes	NA	A score of 90 was given. SG100a and SG100b are not met since the assessment model does not explicitly incorporate predation. Hence all major features relevant to the biology of the species and the nature of the fishery are not taken into account, and the assessment has not been tested and shown to be sufficiently robust.	NA
2.1.1	Yes	Yes	NA	A score of 100 was given. There are no retained species in the Faroe shrimp fishery.	NA
2.1.2	Yes	Yes	NA		NA
2.1.3	Yes	Yes	NA	A score of 100 was given. Landings data show that there are no retained species other than shrimp in this fishery, which is confirmed by at-sea inspections by the enforcement bodies.	NA
2.2.1	Yes	Yes	NA	A score of 80 was given. It is highly likely that all retained species are within biologically safe limits, but there is no certainty that this is the case for redfish, haddock, Greenland halibut, polar cod and capelin.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 155 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

2.2.2	Yes	Yes	NA	A score of 85 was given. There is insufficient clear evidence to conclude with high confidence that the strategy is being implemented successfully, that it is achieving its objective, and that it will work. However, there is some evidence that this is the case.	NA
2.2.3	Yes	Yes	NA	A score of 80 was given. Only rough estimates of bycatch are available.	NA
2.3.1	Yes	Yes	NA	A score of 85 was given. There is insufficient information to conclude with a high degree of certainty that effects on all species are within limits for protection of ETP species, and that there are no significant detrimental direct effects of the fishery on ETP species.	NA
2.3.2	Yes	Yes	NA	A score of 90 was given. There is no quantitative analysis for all species.	NA
2.3.3	Yes	Yes	NA	A score of 80 was given. Information is not always available at species level to estimate outcome status of ETP species. A comprehensive strategy is not in place.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 156 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



2.4.1	Yes	Yes	NA	A score of 80 was met. There have been no studies specifically investigating or modeling the impact of shrimp trawling on habitats in the Barents Sea.	NA
2.4.2	Yes	Yes	NA	A score of 80 was given. The team concluded that the measures in place together form only a partial strategy.	NA
2.4.3	Yes	Yes	NA	A score of 80 was met. Not all areas of the Barents Sea have been studied for occurrence of vulnerable habitats, nor have the impacts of shrimp trawling in the Barents Sea been specifically studied, or changes in habitat distributions measured over time.	NA
2.5.1	Yes	Yes	NA	A score of 90 was given, as the team concluded that the only SG under this PI was partially met. This conclusion seems reasonable to me. The annual Barents Sea ecosystem reports provide comprehensive information about key ecosystem components. However, not all habitat impacts of the fishery have been specifically studied. NB: The Y in the third column should be changed to a P.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 157 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



2.5.2	Yes	Yes	NA	A score of 90 was given. The Integrid Management Plan does cover all impacts of the fishery on the ecosystem. Measures are not implemented in international waters (the Loophole). There is insufficient information about the effect of all measures to conclude that there is evidence all measures are implemented successfully.	NA
2.5.3	Yes	Yes	NA	A score of 90 was given. Not all main interactions between the fishery and the key ecosystem elements have been investigated in detail. Research on the impact of the fishery on benthic habitats in the area have not yet been carried out.	NA
3.1.1	Yes	Yes	NA	A score of 100 was given. Most importantly, legal disputes are dealt with in the Faroe legal system and there have been cases that show the system is transparent and effective.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 158 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



3.1.2	Yes	Yes	NA	A score of 90 was given. The assessment team was not able to identify clear evidence on how the management system demonstrates consideration of information from stakeholders or explains how it is used or not used.	NA
3.1.3	No	Yes	NA	A score of 100 was given. Clear long-term objectives, including the precautionary approach, are explicit within and required by management authorities. The Russian Fisheries Act is mentioned, but there is no information on its objectives. Nor is the Act listed under references. Further, it seems odd to mention the 1920 Svalbard Treaty here. There is disagreement among states on how to interpret the status of the Treaty in the ocean areas around the archipelago, but nevertheless it seems strange to simultaneously state that i) fisheries in the Svalbard zone are regulated by Norway; and ii) that management objectives are laid down in the Svalbard Treaty. Norway explicitly disregards the Svalbard Treaty in everything that has to do with fisheries management in the Svalbard zone. The Norwegian argument is that the Treaty applies only to the Svalbard mainland and territorial waters (12nm). The 200nm Svalbard zone has its legal foundation in the 1976 Act on the Norwegian Economic Zone. It would be better to refer to the 2008 Marine Resources Act, which explicitly covers all ocean areas established with legal foundation in the NEZ Act. The objectives of the MR Act are precautionary and ecosystem-based management.	The comment is acknowledged. The text in PI 3.1.3 table has been amended accordingly. Main objectives of the Russian Federal Fisheries act are stated under section 3.5.3.

Report N.	2013-002	Revision	01 -2013-11-05	Page 159 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



3.1.4	Yes	Yes	NA	A score of 100 was given. The management system explicitly considers incentives in a regular review.	NA
3.2.1	Yes	Yes	NA	A score of 80 was given. Although short- and long-term objectives are in place, they are not measureable against well-defined targets. Please elaborate on why this is the case.	The text under PI 3.2.1 SG 100 is amended accordingly. Example provided.
3.2.2	Yes	Yes	NA	A score of 80 was given. Formal reporting to stakeholders does not take place and existing decision-making processes have not yet responded to all issues identified, e.g. the absence of effort limitations in international waters.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 160 of 205
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MSC FISHERY ASSESSMENT REPORT



3.2.3	No	No	NA	<p>A score of 100 was given. I agree that a comprehensive MCS system is in place. The enforcement system in the Svalbard zone is complex due to jurisdictional disagreement about the status of the zone. Nevertheless, I do not see any problems with the Faroe vessels in this zone (as also the team concludes). However, part of the fishery takes place in the Russian EEZ, where it cannot be demonstrated that penalties are severe and sanctions provide effective deterrence (evidence is to the opposite). Please provide documentation on Russian sanctions, or on (the possible lack of) infringements by the Faroe vessels in Russian waters. The latter should be followed by a sound argument to the effect that deterrence is sufficient even in the absence of potent Russian sanctions.</p>	<p>The Russian system makes wide use of administrative fines. All cases of non-compliance in Russian EEZ would be reported to Faroese authorities by Russian authorities and registered accordingly.</p>
3.2.4	Yes	Yes	NA	<p>A score of 80 was given. A comprehensive research plan on all aspects of the shrimp fishery in the Barents Sea is not yet in place.</p>	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 161 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



3.2.5	Yes	Yes	NA	A score of 80 was given. SG80b: I am a bit uncertain whether Norway, Russia and NEAFC can be said to carry out reviews of the Faroe system for fisheries management, although I think I understand what the team means. Maybe expand a bit on what might seem like a not too well-founded argument? 100a: I do not know if I quite understand the logic here. The requirement could arguable be met if both the Faroe and the Norwegian (and possibly NEAFC) had in place systems for review in their respective management systems?	The PI 3.2.5 has been reviewed and the score of 80 is confirmed to be appropriate. The assessment team has not been provided with evidence that there are mechanisms to evaluate <u>all</u> parts of the management system.
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Comments	Conformity Assessment Body Response
See 'General comments' at the beginning of the report.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 162 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

PEER REVIEW B REPORT

Overall Opinion

Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?	Yes	Conformity Assessment Body Response
Justification: I have examined the report and the scoring table in detail and made appropriate comments below. I concur with all but a very small number of the scores which, if amended as suggested, will not significantly affect the overall scores and the recommendation to certify this fishery.		NA

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?	Yes	Conformity Assessment Body Response
Justification: The conditions and the recommendation are appropriate. However, as expressed below, with respect to the Client Action Plan, I have reservations about the possibility of achieving the conditions in the timeframe set. Nevertheless, accomplishing these conditions is necessary for continued certification. I have raised a number of issues that would be solved by the recommended observer programme. There is no reference in the report to possible data from the Russian observer programme. Consideration should be given to raising the status of the recommended observer programme to a condition, with clearly defined objectives covering the issues raised. However, this would require a score in PI 1.2.3. of <80. This is the problem of assessing a small fishery with inadequate data in the context of the overall much larger fishery where the data are considered satisfactory.		The assessment team agrees that the introduction of an observer programme in the Faroese fleet to collect biological information on the catches is very important and accordingly have made a recommendation. The assessment team understands that Russian observers on Faroese vessels do not collect biological information. Such data are available already from Norwegian vessels fishing the same grounds as the Faroese fleet and are used in the stock assessment model, and the fishery meets SG80. It would not be appropriate therefore to reduce the score for this PI in order to upgrade the recommendation to a condition.

If included:

Do you think the client action plan is sufficient to close the conditions raised?	No	Conformity Assessment Body Response
Justification: Appendix 5. Client Action Plan is understandably somewhat vague about how it will address Conditions 1 and 2. There is no mention of Recommendation 1. Implementation of Conditions. With regard to Condition 1 – effort control in International waters, and Condition 2 – Harvest Control Rules, it is clear from the client action plan that there are considerable problems for the clients in trying to achieve implementation. Consideration will have to be given during the annual surveillance reports to the possibility that compliance with these conditions will not be within the capability of the clients.		The letter of support from the Ministry of Fisheries included in the client action plan. Ref. Appendix 5. When it comes to recommendation, the client action plan is not required to state how any recommendations will be addressed.

Report N.	2013-002	Revision	01 -2013-11-05	Page 163 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Is it possible that the pending assessment of the Estonian North East Arctic cold water prawn fishery will add weight to the need for the implementation of harvest control rules? What conditions, if any, were applied to the Norway North East Arctic cold water prawn certification? Were similar criticisms of the lack of harvest control rules made in these assessments? If they were, then they should be referred to in this report.

I consider it to be just as important to achieve the recommended observer programme as the two conditions, yet there is no mention of it in the client's action plan.

General Comments on the Assessment Report (optional)

General Comments. My review is based on a reading of the Peer Review Report. I have made no attempt to access or peruse the extensive list of publications cited by the assessment team.

This is a competent and comprehensive assessment of the Faroe Islands North East Arctic Cold Water Prawn Fishery against the MSC Principles and Criteria for Sustainable Fisheries. The Report is well presented and provides an authoritative overview of the fishery and the issues that relate to the three MSC Principles. I concur with the majority of comments and scoring in the Report. Any modifications to the scoring as a result of my review will not affect the overall conclusion to certify this fishery, which I fully support.

Report issues and concerns and text edits requiring attention. [These are high-lighted and numbered in a copy of the report sent to Det Norske Veritas AS, together with some minor edits not listed here.]

1. The definition of the geographical area of the unit of certification is not clearly shown in a figure. Figures 2, 3, and 7 show some of the boundaries, but not in a clear definitive way.

Conformity Assessment Body Response:

The vessels and the inspection use electronic maps and plotters. It will be difficult to find mores specified maps than Figures 2, 3 and 7.

2. Table 2 needs to be updated with the latest ICES data and could be expanded to give the Norwegian landings and others (see Table 6).

Conformity Assessment Body Response:

Table 2 has been updated with the most recently available data and expanded to include recent Faroe Islands catches. More detailed information on Faroe Islands landings in the context of landings from all other nations is presented in Table 6 and Figure 13 in section 3.3.3.

3. There is some confusion about the actual net mesh size and sorting grid bar spacing used by the Faroese vessels when operating in the Svalbard FPZ and NEAFC Regulatory Area. Do they have different gear for the two areas, or do they use the larger 40/44 mm net meshes and 22 mm grid bar spacing in both areas. Clarification is required at various locations in the report.

Report N.	2013-002	Revision	01 -2013-11-05	Page 164 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



Conformity Assessment Body Response:

The Faroese vessels use the same fishing equipment in the Svalbard FPZ and NEAFC Regulatory Area, they use the larger 40/44 mm net meshes and 22 mm grid bar spacing in both areas.

4. It would be relevant to explain the rationale for the different mesh and bar dimensions (Table 3) in the Svalbard and NEAFC areas.

Conformity Assessment Body Response:

There is no difference, see response above.

5. There is a general lack of reference to possible information from Russian authorities, particularly bearing in mind that there are Russian observers aboard the Faroese vessels. It may be that such information is not available, but then this should be noted. The recommendation for an observer programme to be introduced for the Faroese fleet in the Barents Sea and Svalbard area, to collect data on the catch and discards of shrimps and other species, and obtain representative samples of the size and sex distribution of shrimps, emphasises the value and requirement for such data.

Conformity Assessment Body Response:

All Faroese vessels fishing for shrimp in Russian waters must carry a Russian observer on board at all times. The assessment team understands that the observer's role is to ensure compliance with regulations, and ensure that the Faroese catch quota is not exceeded, and that no biological information is collected.

6. Just above Figure 6 the text says undersized shrimp are landed. There appears to be no monitoring of Faroese landings for size or sampling of catches at sea by observers, except maybe by Russian observers, though no details are given in the report. Is there any evidence that Faroese vessels comply with the need to monitor size composition in their catches and to move on when the proportion of undersized exceeds 10% in the Svalbard FPZ? The recommendation 1 for observer trips would address this issue.

Conformity Assessment Body Response:

If small shrimps occur in the trawl, the vessel has to move to another fishing area. In Norway the fisheries inspection visits the vessels regularly and in Russia there is an inspector on-board (though Russian observers on Faroese vessels do not collect biological information).

The Faroese authorities cooperate with the Norwegian authorities in controlling the landings in Norway. On top of the control the vessels are avoiding small shrimps due to economic reasons, there are little or no price for undersized shrimps. The mesh sizes are normally 140-144 mm, therefore there are almost no small shrimps in the trawl anyway.

If recommendation 1 is implemented, then size composition data would be available from Faroese vessels fishing in Svalbard FPZ, in international waters and in the Russian zone.

7. Quote: "The Client however has stated that no birds are caught and that seals and whales do not enter the net when it is hauled."

I would have liked to see some independent observations that concur with this statement. Is there any independent evidence from other fisheries, e.g. the Norwegian one, to justify the score of 85 in PI 2.3.1? This is yet again a prime target for the recommended observer programme.

Conformity Assessment Body Response:

The comment is acknowledged. The text on page 39 and 40 has been amended. It is made clear that there are no signs in the scientific literature that the bycatch of birds or marine mammals is an issue in this fishery.

Report N.	2013-002	Revision	01 -2013-11-05	Page 165 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



8. Compliance information for the use of sorting grids and closed and changing areas when bycatch limits are reached seems to have been presented in an anecdotal manner. Are there any hard data from the enforcement agencies to support the contention that compliance is good?

In PI 2.5.2 SG 80d it is stated "Information provided by the client and the Faroese Authorities shows that fishermen and the Faroese Authorities are well informed and regularly updated concerning all regulations that exist. The information also showed that the measures are implemented and that there is no sign of noncompliance." Can we please have this information presented in some detail in the report?

PI 3.2.3 SG 80c states "Vessels have been inspected at sea by Norwegian, Faroe Islands, Russian authorities and NEAFC members and demonstrate that the fishery **generally** complies with fisheries regulations." [My bold text.] SG 100c states "Both among fishing skippers and officials there is a high degree of confidence that regulations are complied with by **virtually all vessels, virtually all of the time.**" [My bold text.] Is there any information on whether Faroese vessels have been boarded at sea and what the results were? The use of the term "generally" implies that there are some infringements of technical gear regulations. Is there any quantitative information for compliance in the Norwegian or Estonian fisheries?

Conformity Assessment Body Response:

The comment is acknowledged. The rationale of PI 2.5.2 SG 80d is amended. It is explained that the authorities have shown VMS and catch data to the team. The authorities have also shown examples of daily email communication about fishing area and catches.

9. With the Faroese allocation of 922 days at Svalbard there is plenty of latent effort available, and an opportunity for the Faroese authorities to issue additional licences to fully utilise the un-used part of their days fishing allocation. Two Faroese vessels fishing $922/2 = 496$ days per annum is clearly impossible. They, in any case, have to cope with ice conditions which limit the number of days when fishing can take place? An increase in the number of vessels permitted at Svalbard would allow them to match fishing capacity to fishing opportunities (one of their stated objectives), if the authorities are prepared to issue the licences, and the economics are viable? There should be some concern expressed in the report and scoring about this possibility for relatively un-restricted effort increases?

Conformity Assessment Body Response:

Norway limits fishing effort in the Svalbard FPZ through an allocation of total number of fishing days for each national fleet. The Faroese fleet does not currently take up its full allocation as only two vessels are licenced currently to fish in the Svalbard FPZ. Whilst the issue of additional licences would generate an increase in fishing effort, this would be considered unsustainable only if the total number of fishing days exceeded the allocation for the Faroese fleet.

If a new vessel is added to the fishery it will receive a "B-licence", valid only for one fishing year and limited to Svalbard and Lofoten. This means the vessel has to be busy with other fisheries from January to July, because of the ice in the fishing area. The B-licences might only be given to vessels active in other fisheries. So if there are problems with the stock, the B-licences will not be given for a fishing year, and the number of "A-licences" is limited. There should be little or no concern for relatively un-restricted effort increases.

Report N.	2013-002	Revision	01 -2013-11-05	Page 166 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



10. In section 3.3.3 of the report it states “There are currently three Faroe Islands vessels licensed to fish in the Barents Sea: Havborg (OW2163), Sermilik II (OW2202) and Arctic Viking (OW2399), with one further vessel due to start fishing for shrimps in 2013.” If it intended that the fourth vessel does start fishing in 2013, the probable year of certification, it will be outwith the UoC. Could this prove a problem for traceability (section 5.2 of the report)? Is the fourth vessel expected to apply to join the existing clients? This is mentioned in general terms 3.1.4 of the report.

Conformity Assessment Body Response:

The client responsible for coordination of full-assessment for this fishery is Maresco AS (www.maresco.dk).

The client group is represented (per 31.07.2013) by the following shipowners:

- P/F Thor with shrimp trawler Sermilik II
- P/F Havborg with shrimp trawler Havborg.
- P/F Líðin with shrimp trawler Arctic Viking.

The 3 vessels in the client fishery are the only vessels licensed to fish for shrimp under Faroe Islands Fisheries management. Thus, the client fleet represents the entire Faroe Islands fishery for shrimp in the Barents Sea. If at a later date more vessels are added to the Faroe Islands shrimp fishery in the Barents Sea, their eligibility to share the certificate will be considered upon the application.

Vessels owned by the client group will automatically be eligible to share the MSC certificate. List of eligible vessels will be kept updated and also listed in an Appendix in the annual surveillance reports.

Report N.	2013-002	Revision	01 -2013-11-05	Page 167 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Performance Indicator Review

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.1	Yes	Marginally No	NA	As specific values of reference points are not provided in the assessment reports it is difficult to define this as a "perfect" fishery with a score of 100. A slight reduction of the score to 95 would be more appropriate.	This performance indicator assesses the status of the stock relative to reference points, and on that basis, the fishery meets both SG100a and 100b. A score of 100 is appropriate therefore. The assessment team acknowledges however that there are some imperfections in the stock assessment of this fishery which are reflected in the scores for Pls 1.1.2 Reference Points (score 80) and 1.2.4 Stock assessment (score 90).
1.1.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
1.1.3	NA	NA	NA		NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 168 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.1	Yes	Yes	Yes, subject to getting International agreement, which obviously involves several countries, in addition to Faroe Islands.	The Justification/Rationale comments support this score.	NA
1.2.2	Yes	Yes	Yes, subject to getting International agreement, which obviously involves several countries, in addition to Faroe Islands.	The Justification/Rationale comments support this score.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 169 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.3	Yes	Yes		<p>There is a recommendation (no. 1) for an observer programme in the Faroese fleet. While this is not to achieve an improvement in the fishery's performance to the SG80 level (its already there), it is a justifiable aim to improve data collection specifically for the Faroese vessels participating in the larger Barents Sea fishery. I consider this recommendation to be just as important to be achieved as the two conditions.</p> <p>Consideration should be given to upgrading the recommendation to a condition but this would require a score <80 here. This is the problem of assessing a small fishery with inadequate data in the context of the overall much larger fishery where the data are considered satisfactory.</p>	<p>The assessment team agrees that the introduction of an observer programme in the Faroese fleet to collect biological information on the catches is very important and accordingly have made a recommendation. Such data are available already from Norwegian vessels fishing the same grounds as the Faroese fleet and are used in the stock assessment model, and the fishery meets SG80. It would not be appropriate therefore to reduce the score for this PI in order to upgrade the recommendation to a condition.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 170 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.2.4	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.1.1	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.1.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.1.3	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.2.1	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.2.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.2.3	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 171 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.3.1	Yes	Yes for the overall fishery, but not sure for the Faroese vessels.	NA	<p>Quote: "The Client however has stated that no birds are caught and that seals and whales do not enter the net when it is hauled."</p> <p>I would have liked to see some independent observations that concur with this statement. Is there any independent evidence from other fisheries, e.g. the Norwegian one, or from Russian observers, to justify the score of 85?</p>	<p>The comment is acknowledged. The rationale of PI 2.3.1 SG 80a has been amended. It is made clear that there are no signs in the scientific literature that the bycatch of birds or marine mammals is an issue in this fishery.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 172 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.3.2	Yes	Probably	NA	<p>Compliance information for the use of sorting grids and closed and changing areas when bycatch limits are reached seems to be presented in an anecdotal manner. Are there any hard data from the enforcement agencies to support the contention that compliance is good?</p> <p>Subsequently in PI 2.5.2 SG 80d it is stated "Information provided by the client and the Faroese Authorities shows that fishermen and the Faroese Authorities are well informed and regularly updated concerning all regulations that exist. The information also showed that the measures are implemented and that there is no sign of noncompliance." Can we please have this information presented in some detail in the report?</p> <p>See also my comments at 3.2.3.</p>	<p>According to the Faroe Islands Ministry of Fisheries and Fisheries Inspection, there have been NO cases of non-compliance related to Faroese shrimp fisheries in the Barents Sea for the last 6 years.</p> <p>More information is provided in the Scoring table of this report under PI 3.2.3.</p> <p>See also the assessment team's response to the Peer Reviewer B comment for PIs 2.3.3 and 3.2.3 below.</p>
Report N.	2013-002	Revision	01 -2013-11-05	Page 173 of 205	

MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.3.3	Yes	Probably	NA	<p>Compliance information for the use of sorting grids and closed and changing areas when bycatch limits are reached seems to be presented in an anecdotal manner. Are there any hard data from the enforcement agencies to support the contention that compliance is good?</p> <p>Subsequently in PI 2.5.2 SG 80d it is stated "Information provided by the client and the Faroese Authorities shows that fishermen and the Faroese Authorities are well informed and regularly updated concerning all regulations that exist. The information also showed that the measures are implemented and that there is no sign of noncompliance." Can we please have this information presented in some detail in the report?</p> <p>See also my comments at 3.2.3.</p>	<p><i>The comment is acknowledged. The rationale of PI 2.5.2 SG 80d is amended. It is explained that the authorities have shown VMS and catch data to the team. The authorities have also shown examples of daily email communication about fishing area and catches.</i></p>
Report N.	2013-002	Revision	01 -2013-11-05	Page 174 of 205	

MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.4.1	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.4.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.4.3	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.5.1	Yes	No	NA	The key to a score of Y for SG 100a is "There is evidence that the fishery is highly unlikely to disrupt...." I see no indication of significant direct evidence relevant to the shrimp fishery in the SG 100a comments to justify a score of P, and hence an overall score of 90. There is no mention of the lack of predator-prey cod-shrimp interactions for which there is little or no understanding in the Barents Sea. A score of 80 seems more appropriate.	The rationale of PI 2.5.1 SG 100 is amended. Information is added about the low levels of bycatch and discards. It is also added that the fishery is unlikely to impact food supply of predators since catches form only a fraction of the total stock. The score and 90 is maintained.

Report N.	2013-002	Revision	01 -2013-11-05	Page 175 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.5.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
2.5.3	Yes	Yes	NA	Although there is no mention of the lack of understanding of the predator-prey cod-shrimp interactions in the Barents Sea, the PI comments support this score.	NA
3.1.1	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
3.1.2	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
3.1.3	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
3.1.4	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
3.2.1	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA

Report N.	2013-002	Revision	01 -2013-11-05	Page 176 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
3.2.2	Yes	No	NA	Most of the Justification/Rationale comments support this score, but the SG 100d needs to be re-assessed. This may raise the score slightly.	The SG 100d has been re-assessed and the score of 80 is confirmed to be appropriate. There is no formal reporting to all interested stakeholders which describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity, within the Faroese Management system.

Report N.	2013-002	Revision	01 -2013-11-05	Page 177 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
3.2.3	Not sure	Maybe	NA	<p>PI 3.2.3 SG 80c states "Vessels have been inspected at sea by Norwegian, Faroe Islands, Russian authorities and NEAFC members and demonstrate that the fishery generally complies with fisheries regulations." [My bold text.] SG 100c states "Both among fishing skippers and officials there is a high degree of confidence that regulations are complied with by virtually all vessels, virtually all of the time." [My bold text.] Is there any information on whether Faroese vessels have been boarded at sea and what the results were? The use of the term "generally" implies that there are some infringements of technical gear regulations.</p> <p>Is there any quantitative information for compliance in the Norwegian or Estonian fisheries?</p> <p>See also my comments at 2.3.2 and 2.3.3.</p>	<p>According to the Faroe Islands Ministry of Fisheries and Fisheries Inspection, there have been no cases of non-compliance related to shrimp fisheries.</p> <p>At the site visit the authorities have shown VMS and catch data to the team. The authorities have also shown examples of daily email communication about fishing area and catches. The Faroese authorities cooperate with the Norwegian authorities in controlling the landings in Norway. The Authorities has shown how they cooperate with the authorities in the harbours where the shrimps are offloaded. Above that, the FVE (The inspection Authority) is following the vessels on satellite tracking system. In Norwegian zone the inspection visits the vessels regularly and in Russia fishing zone there is an inspector onboard.</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 178 of 205
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MSC FISHERY ASSESSMENT REPORT

Performance Indicator	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
3.2.4	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA
3.2.5	Yes	Yes	NA	The Justification/Rationale comments support this score.	NA

Any Other Comments

Comments	Conformity Assessment Body Response

Report N.	2013-002	Revision	01 -2013-11-05	Page 179 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



APPENDIX 3. STAKEHOLDER SUBMISSIONS

Appendix 3.1 Submissions during consultation opportunities

No written submissions were made by stakeholders during consultation opportunities on:

- The announcement of full assessment
- Proposed team membership
- Proposed peer reviewers
- Proposed assessment tree

Appendix 3.1.2 Submissions made by stakeholders about the public comment draft report

WWF Germany

24.09.2013 assessment team received a submission from WWF in Germany which consisted of a cover letter and a comment letter. Both letters are presented in full below. Assessment team has carefully considered the information provided, revised the final report accordingly and allocated the additional condition to PI 2.4.3. The responses of the assessment team to the WWF's comment letter are presented below.

Report N.	2013-002	Revision	01 -2013-11-05	Page 180 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



WWF Deutschland • Mönckebergstraße 27 • 20095 Hamburg

Anna Kiseleva
DNV Business Assurance
VERITASVEIEN 1
1322 Høvik
Norway

WWF Global Fisheries Programme
Smart Fishing Initiative (SFI)

Mönckebergstraße 27
20095 Hamburg
Telefon: +49 (0) 40 530200-0
Direkt: +49 (0) 40 530200-325
Fax: +49 (0) 40 530200-313
Philipp.Kanstinger@wwf.de
www.wwf.de

24.09.2013

Dear Anna Kiseleva,

WWF actively engages as a stakeholder in a number of Marine Stewardship Council (MSC) fishery assessments and audits to improve fisheries sustainability. With this letter, we would like to express our interest in helping to mitigate impacts of the practiced demersal fishing method on vulnerable marine habitats and our concern regarding the lack of conditions in the certification process of the Faroe Islands North East Arctic cold water prawn Fishery and the Estonia North East Arctic cold water prawn fishery.

In Comparison to other similar Pandalus Fisheries in the same area FAO 27 (Norway North East Arctic cold water prawn) and other areas (FAO 21 e.g. Canada northern prawn, Canada offshore northern and striped shrimp, Gulf of St. Lawrence northern shrimp, Gulf of St Lawrence northern shrimp trawl fishery Esquiman Channel, Scotian shelf shrimp) the Faroe Islands and Estonian Fisheries are the only ones (to our knowledge) without any conditions regarding habitat performance indicators 2.4.1, 2.4.2 and 2.4.3. Although they use similar demersal fishing gear and operate within the same habitat types.

We know that the gear in Pandalus fisheries is designed to glide over the seabed with minimal penetration and that the impacts of a single pass are likely minor for most habitats. However in areas where large structure forming organisms like sponges and deep-water corals or fragile species like sea-pens are present, the fishery has significant and irreversible impacts.

Observations of significant adverse impacts on deep-water coral and sponge communities due to bottom trawling have been reported from the northeastern Atlantic including the Barents Sea (Rogers et al. 2008). At present, there is no evidence of recovery of vulnerable marine ecosystems (VMEs) in impacted localities that have been studied. It is likely that such ecosystems will only recover very slowly as the component species are very slow growing and the VMEs themselves may have taken thousands of years to develop. Recovery from the impacts of fishing may not be possible at all for many VMEs. These VMEs are categorized as under immediate threat and/or decline by OSPAR. The majority of identified sensitive areas are not closed for fishing in Svalbard area or elsewhere in the Barents Sea. There are no closed areas for deep-water sponges, hard and soft coral gardens and sea pen communities. There is no

01

Report N.	2013-002	Revision	01 -2013-11-05	Page 181 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



protection of coral reef areas north of 70° N. Neither strategies nor measures through precautionary action from the fisheries involved in the MSC process are in place to prevent serious or irreversible harm to these deepwater habitats. OSPAR Recommendations for these vulnerable habitats (OSPAR Commission, 2010) call to address any significant adverse impacts on these sensitive habitats arising from human activities. Marine protected areas (MPAs) and no fishing zones are seen among the mechanisms suitable to protect structural deepwater habitats from the impacts of human activities. However, to date none MPA was established by the Norwegian Government (nor of any other contracting party) to protect coral gardens, deepwater sponge or sea pens hotspots. OSPAR also recommends implementing conservation measures as given in the United Nations General Assembly resolutions 61/105 and 64/72 on Sustainable fisheries, and UN Food and Agriculture Organisation International Guidelines for the management of deep sea fisheries in the high seas. Both guidelines are not even mentioned in the present PCDR, although the Faroer fishery takes also place in international waters.

The UNGA 61/105 and the FAO (2007) guidelines request a much more comprehensive and precautionary approach requesting to close areas of the high seas where VMEs are known or likely to occur to bottom fishing, unless bottom fisheries can be managed in these areas to prevent significant adverse impacts on VMEs.

According to these international guidelines WWF suggests following requirements/ strategies for the Fishery:

1. Fishery closures for demersal trawls where vulnerable marine ecosystems are known to occur (e.g. Mareano map, OSPAR & ICES database, PINRO studies)
2. good/full observer coverage and bycatch recording and analysis
3. Implementation of the NEAFC and NAFO encounter protocol/move on rule (30 kg coral / 400 kg of live sponges / 7kg sea pens)
4. Better coordination of all MSC Fisheries in the Barents Sea and national authorities, scientific institutes to:
 - a. Improve methods for the fishing fleet to report observations of deep water corals, sponges and/or sea pens. The data must be stored centrally and easily accessible
 - b. compile and map data from all national authorities and scientific institutes where VMEs occur and implement „no go zones“
 - c. start predictive modelling outside the MAREANO mapping area to help implement precautionary management demanded by the FAO 2009 guideline
5. development of a long term strategy: Further reduce trawl footprint, start a transition to semi-pelagic or off-bottom gear

Report N.	2013-002	Revision	01 -2013-11-05	Page 182 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



WWF Comment letter



Comments on Public comment draft

WWF wish to comment on the evaluation (PCDR) of the Faroe Islands North East Arctic cold water prawn fishery against specific Performance Indicators 2.4.1 / 2.4.2 / 2.4.3.

We do not believe all the relevant information available has been used to score this performance indicator and we do not think the information and/or rationale used to score this performance indicator is adequate to support the given score. We provide details and rationale in the chapters below. Italicized chapters are citations from the PCDR, normal chapters are our details and rationale.

P.2.4.1

General comment: The current knowledge on the impacts of shrimp trawling on sensitive habitats is incomplete. Thus, it is not possible to say with a high degree of certainty that the fishery under assessment is highly unlikely to reduce structure and function of sensitive habitats in the Barents Sea to a point where there would be serious or irreversible harm. It is a fact that Shrimp fisheries in the Barents Sea caused serious and irreversible harm on a regional basis (e.g. Hopen Deep, Jørgensen 2012) in the past. But for the present draft assessment and fishery in certification there is no map of VMEs in the fishing area, no EIA assessment (recommended by UNGA 61/105), no management strategies (MPAs for specific VMEs), no condition that the fishery should fish only in already trawled areas.

Conformity Assessment Body Response:

The conclusion that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm is based on the information presented in the rationale of PI 2.4.1. In response to the comments of WWF the rationale has been amended as is further described below in the responses to the specific comments. Basically the comment of WWF is correct that current knowledge about the effects of shrimp trawling on habitats in the Barents Sea is incomplete. To express this, the team has now attached a condition to the Habitat Information PI 2.4.3. However the team came to its score for PI 2.4.1 not only on the basis of the available information resulting from impact studies but also on the basis of general knowledge of impacts of fishing gear on bottom habitats, the information provided by the client on the fishing practice and the spatial distribution of the fishery. Only on the basis of all information combined the team came to the conclusion that this fishery is highly unlikely to reduce structure and function of sensitive habitats in the Barents Sea to a point where there would be serious or irreversible harm.

“Such habitat-generating species are represented by a wide range of taxonomic groups, e.g. Porifera, Polychaeta, Cnidaria, Mollusca and Bryozoa.” Please specify in the Final report what habitats occur in the area the client is operating and please list the vulnerable habitats existing there. The draft report does not provide any detailed information about the spatial extent, timing, location and overlap with VMEs of the client’s fleet. VMEs data from one vessel in one year is not enough to estimate the fisheries impact.

Report N.	2013-002	Revision	01 -2013-11-05	Page 183 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Conformity Assessment Body Response:

The team has now included maps with the VMS data for client vessels showing the distribution of the UoC fleet in the report. Although the map does not show the overlay with bottom habitats it clearly shows that the client fishery is patchy and that the overlap with bottom habitats is very limited.

“Benthic recovery rates following trawling events are typically in the range of 2.5 to 6 years with the fastest recovery being observed in mud habitats.” The range of 2.5 to 6 years is mentioned by Hiddink 2006 who investigated and modelled shallow, dynamic soft sediment areas in the North Sea. These results cannot be compared to the deep water situation in the Barents Sea. “Structurally complex habitats (e.g. biogenic reefs) and those that are relatively undisturbed by natural perturbations (e.g. deep-water mud substrata) are more adversely affected by fishing than unconsolidated sediment habitats that occur in shallow coastal waters. These habitats also have the longest recovery trajectories in terms of the recolonization of the habitat by the associated fauna (Kaiser 2002). Additionally, Hiddink's study focused on an already degraded state of an ecosystem. The large Oysterbeds and Sabellaria reefs which commonly occurred in the North Sea never recovered after being destroyed by benthic trawlers. (OSPAR 2010): Trawling on muddy sediments is a significant physical intervention in an otherwise stable, low-energy environment (Greathead et al., 2007) that reduces sediment complexity and habitat homogenization which, by definition, leads to a decrease in biodiversity. The breakage of slow-growing benthic species such as the once-characteristic sea-pens is the main disturbance.

Conformity Assessment Body Response:

Based on the comment of WWF the rationale has been amended and additional information is provided on an impact study in the Barents Sea (Kuti, 2005). However the comment of WWF ignores that the team (just after the sentence mentioned by WWF) stated that: “In the Barents Sea although the majority of the habitats may fall within the more dynamic and sedimentary range (hence quicker recovery), it is notable that some of the species composition and the substrate types on the shelf edge may show slower recovery characteristics.” Thus the team is aware and has taken into account that recovery of bottom habitats may take longer than 6 years.

“In the Barents Sea although the majority of the habitats may fall within the more dynamic and sedimentary range (hence quicker recovery), it is notable that some of the species composition and the substrate types on the shelf edge may show slower recovery characteristics.” Damage to or death of deep-water sponge communities, coral reefs, coral gardens will take, at a minimum, several human generations to regenerate to their current standing, making damage irreversible over several human generations and where the habitat is altered regeneration may never happen. (Corals: Davies et al., 2007; Hall-Spencer et al., 2002; Hall-Spencer and Brennan, 2004). Sponges: http://www.unepwcmc.org/medialibrary/2010/09/07/7f03c5ef/Sponges_BS32-RS189.pdf). Additionally, several VMEs occur on sand bottoms e.g. Sponge communities, Sea pen bottoms, Soft-bottom coral forests (Mareano Project: http://www.imr.no/nyhetsarkiv/2010/april/sarbare_naturtyper_pa_dypt_vann/en)

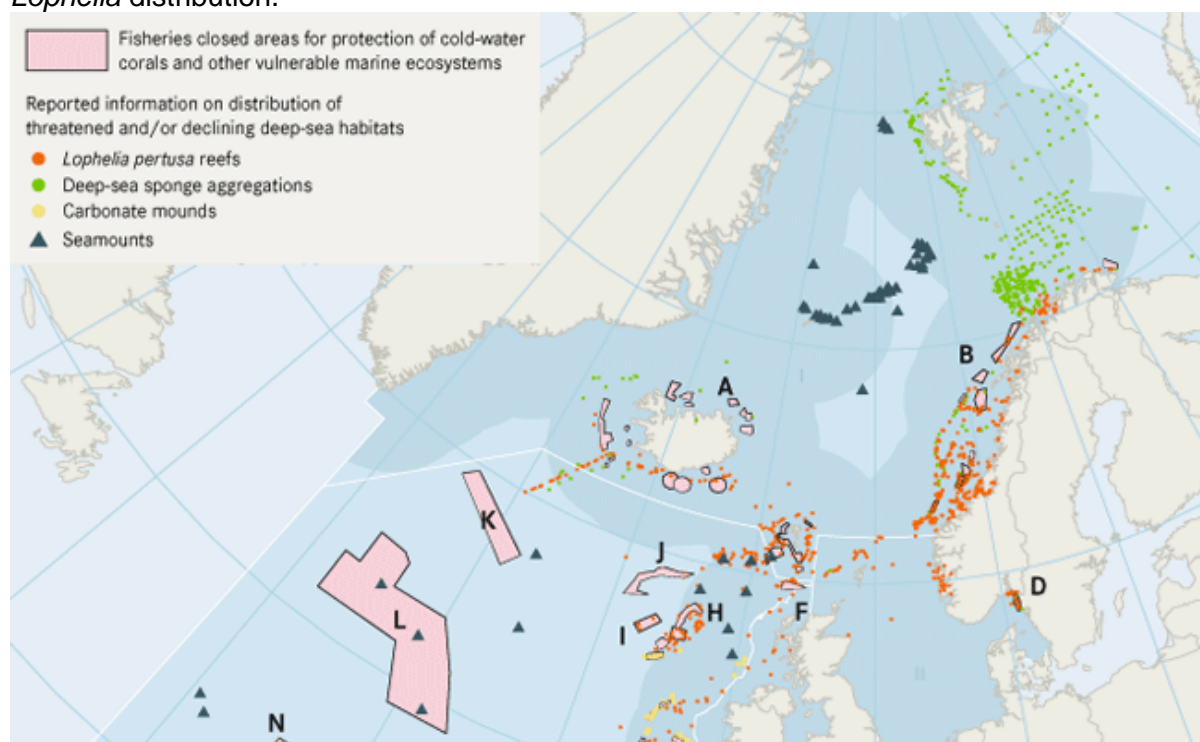
Conformity Assessment Body Response:

See response above.

Report N.	2013-002	Revision	01 -2013-11-05	Page 184 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

“The main species of coral (eg. *Lophelia* sp) which would be particularly vulnerable to trawl impact (potentially qualifying as a serious / irreversible impact) are located in Norwegian coastal waters – largely within 12nm and therefore beyond the area fished by the certified vessels.” *Lophelia* distribution largely within 12nm does not fit. Due the fact that no VMS data for the client fleet is given, we cannot assess the spatial overlap fishing activity / *Lophelia* distribution.



Source: Ospar

Additionally several other species of corals and other VMEs occur in the region (coral gardens, sea pens, sponge aggregations) which would be also particularly vulnerable to trawl impact (potentially qualifying as a serious / irreversible impact) and which are not mentioned in the present PCDR.

Conformity Assessment Body Response:

The comment is correct in the sense that the rationale is not clear in its meaning. What is meant is that *Lophelia* mainly occurs in areas near the Norwegian coast as is confirmed by the map provided by WWF with its comments. Some *Lophelia* is found further from the coast but still in the Norwegian EEZ. Since the fishery is not taking place in these areas (See Figure 15, Figure 16 and Figure 17 for VMS maps) interaction with *Lophelia* is considered unlikely by the team. The rationale has been amended in order to express this.

As stated above the conclusion of the team is not based on an evaluation of the known impact and overlay of the fishery with all existing bottom habitats. The conclusion is based on a much broader and more general evaluation. Additional text is added to the rationale to further explain how the team arrived at its score.

Report N.	2013-002	Revision	01 -2013-11-05	Page 185 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

“Bycatch of bottom fauna is close to zero.”

Based on what data/ evidence ? Studies of *Pandalus* fisheries in other areas (e.g. Newfoundland and Labrador waters) showed that *Pandalus* fisheries had the second highest coral bycatch rate of all observed fisheries (Wareham et al. 2007). Bottom trawls are designed to catch fish and are poor sampling tools for most sessile benthic organisms and in general the catchability of VME indicator species is unknown (Auster et al., 2011). Additionally, the sampling efficiency is likely to be species-specific and for some species the trawl may only retain a very small proportion of the VME species that was actually impacted (Parker et al., 2009). ICES (2013) concluded that any bycatch of *Lophelia* being cause for concern.

Conformity Assessment Body Response:

The gear used is designed to catch shrimp and not fish. The fishery targets shrimp that dwell above the bottom and the fishermen avoid bottom contact since it will damage their nets and any catch of bottom fauna will deteriorate shrimp quality. Fishermen also avoid areas with corals and target cleaner grounds that have been fished before. The consequence is that there is virtually no catch of bottom fauna.

“The areas that are fished have generally been fished before by other fleets in the past which means that these areas are already disturbed and the fauna comprise of opportunistic, short-lived organisms.” The Barents Sea fisheries nowadays expand their fishing operations northwards due to Global warming and less ice coverage. These northerly areas were not trawled before, are they excluded in the present certification?

The Mareano mapping project in the southern part of the Barents Sea detected several hotspots of existing VMEs although this area was trawled intensively by various fishing fleets in the last decades. The existence of VMEs cannot be excluded for the unmapped areas. But we very much appreciate that the client wants to freeze its footprint.

Conformity Assessment Body Response:

The fact that the Mareano project detected several existing VME's in areas that have been fished intensively supports the view of the team that the fisheries have a patchy distribution and that fishermen tend to visit the same spots time after time.

“Fishing in new areas is regulated now by a new regulation of the Norwegian authorities. For these areas strict requirements apply.”

This regulation is completely irrelevant for the client fleet. Small and medium-sized shrimp (mostly males) predominate in southern and eastern areas in depths of 200 – 350 m while larger individuals (mostly females) occur in northern and western regions in depths of 350 - 500 m (Aschan, 2000). New areas are defined as areas below 1000m, *Pandalus* does not occur there. Secondly, benthic habitat types differ greatly between 200-600m and > 1000m

Conformity Assessment Body Response:

This regulation is not irrelevant since it requires vessels to move on in the current fishing areas when sponges or corals are encountered.

PI 2.4.2

“The measures that are in place (closed areas, move on rules, introducing less damaging fishing gears) constitute a partial strategy. The partial strategy is considered likely to work.”

“Closed areas: Both Norway and Russia have established areas closed for fishing. Norway did this in the Svalbard zone and Russia in its EEZ.”

Report N.	2013-002	Revision	01 -2013-11-05	Page 186 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



There is no protection in the form of closed areas for deep sea sponge aggregations, coral gardens and other VMEs defined by OSPAR except Lophelia reefs. Overall the north of the Lofoten islands, measures to protect corals are limited to the waters within 12 nm of the baseline of Norway, Svalbard and Bear Island. However, even there, a lot of the mapped coral reefs are unprotected. Also in the whole Russian zone there are no measures as yet designed to protect vulnerable habitats or species. Because of a lack of specific habitat protection in all areas that may potentially be fished (especially within the Svalbard fisheries zone), and the obvious capacity of the demersal gear used in this fishery to have a negative impact, it cannot be concluded that these measures, which are not expressly designed to manage the impact of the fishery on seabed habitats, ensure that the fishery does not pose a risk of serious or irreversible harm to habitat types. There are no specific measures within the certified fleet that are designed to manage habitat impacts.

Conformity Assessment Body Response:

In the rationale the team has concluded that there are several measures in place that together form a partial strategy to ensure that the fishery does not pose a risk of serious or irreversible harm to habitat types. The fishing technique, the move on rule and the VMS registration are mentioned besides area closures. Together these measures do not form a comprehensive strategy but a partial strategy.

“The regulation establishes a distinction in existing fishing areas (where the water depth is less than 1000 m) and new fishing areas (where the water depth is more than 1000 meters).” See comment in 2.4.1. Irrelevant for this certification *“In existing fishing areas a “move on” rule is established in case a vessel encounters sponges or corals in its catch. (An encounter is defined as catching more than 60 kg of live corals or 800 kg of live sponges in a single haul.)”*

Current quantitative bycatch thresholds for VMEs in the NEAFC regulatory area are 30 kg of live coral and 400 kg of sponges. The NAFO encounter provisions reads as follows: an encounter with primary VME indicator species is defined as a catch per set (e.g. trawl tow, longline set, or gillnet set) of more than 7 kg of seapens, 60 kg of other live coral and 300 kg of sponges. However, there is now enough scientific evidence that these thresholds are way too high to mitigate adverse impacts. For example there was not a single reported encounter in the ICES area since the introduction of the encounter rule. Auster 2010 concluded that virtually no catches composed entirely of small gorgonians or other soft corals, and no catches of sea pens and cup corals would ever exceed the threshold value, although there are areas where such taxa dominate (Cho, 2008; LW, S. France, and PJA, unpublished data). ICES concluded in the WGDEC REPORT 2013 for the NEAFC report: Interpretation of the cumulative catch curve constructed for Lophelia is more difficult as catch efficiency of this fragile organism is considered to be low due to its tendency to break and shatter upon impact and pass through the net (Parker et al., 2009). From the cumulative catch curve constructed for Lophelia it was not possible to select a threshold that would indicate a significant concentration. Therefore, any catch of Lophelia (live or dead) in research surveys may be regarded as an indicator of a near-by aggregation of this species, i.e. a VME. The level of bycatch that is biologically significant is unknown and in such cases a precautionary approach is to take the 50% quantile (median) as a bycatch weight threshold. For the cumulative catch curve pre-sented here the 50% quantile has a catch weight of 0.230 kg (Figure 8.3.); a figure so small that it essentially equates to any bycatch of Lophelia being cause for concern. Therefore it is not surprising that *“Vessel captains have expressed that they never “encounter” sponges and corals in the quantities that are described in the move on rule.”*

Report N.	2013-002	Revision	01 -2013-11-05	Page 187 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT

Conformity Assessment Body Response:

The comment is correct and the quantities have been corrected accordingly in the rationale and the body of the report. A condition has been formulated that all catches of sponges and corals should be recorded under PI 2.4.3.

“This strategy implies that in existing fishing areas, where fishing has taken place for decades, the perceived impact on the ecosystem is considered tolerable and thus the fishing activity can continue, but with stricter monitoring and reporting requirements.”

The trawlmark counts by the MAREANO mapping project and analysis of AIS/VMS data provide a very strong evidence for the southern Barents Sea that nowadays a substantial conflict between trawl fisheries and VMEs (sponge grounds, coral reefs and several types of coral garden) still exists. These VMEs are categorized as under immediate threat and/or decline by OSPAR. There are no indications that this is not also the reality for the other parts of the Barents Sea.

Conformity Assessment Body Response:

The team has attached a condition to PI 2.4.3. The condition implies that if encounters with VME occur these will be recorded. During the first surveillance audit the team will together with client evaluate whether management responses are necessary. In that case a condition could be attached to PI 2.4.2.

“The measures that are in place: introducing less damaging fishing gears”

WWF appreciates very much the effort of the client to introduce less damaging fishing gears e.g. semi pelagic doors. However, as long as this measure is not introduced and mandatory this measure cannot be counted as “in place”.

Conformity Assessment Body Response:

The rationale here not only describes the tests with semi-pelagic doors but also describes that the gear is relatively light weight and that bottom contact is reduced by applying less fishing line.

The sea-bed mapping and the collection of VMS data is an on-going process that will result in the accumulation of data needed to carry out the strategies as laid down in the Barents Sea Management plan.

Neither collection of VMEs (which is a recommendation and not a mandatory rule by NEAFC) nor maps of VMEs in the areas fished by the clients are available yet. Therefore it can not be counted as a mitigation measure in place. Especially due to the fact that VMS and habitat data alone are no mitigation measures, instead they are documentation measures. In the case of the Norwegian EEZ where VMS is mandatory and detailed habitat maps are available, no strategy was carried out to protect existing VMEs like coral gardens, sea pens or deep sea sponge aggregations. For appropriate strategies please refer to the United Nations General Assembly resolutions 61/105 and 64/72 on Sustainable fisheries, and UN Food and Agriculture Organisation International Guidelines for the management of deep sea fisheries in the high seas. Especially since the client also fishes in the high seas. The main mitigation strategy regarding this international guidelines is to close areas where VMEs are known or likely to occur to bottom fishing, unless bottom fisheries can be managed in these areas to prevent significant adverse impacts on VMEs;

Report N.	2013-002	Revision	01 -2013-11-05	Page 188 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



Conformity Assessment Body Response:

The scoring issue refers to information directly from the fishery and there is some basis for confidence. The rationale provided addressed those issues.

PI 2.4.3

Score 80 The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.

The distribution of VMEs in the area fished by the client is largely unknown. There is no existing map which can be used by the client to avoid VMEs. There is no impact assessment of shrimp fisheries in the Barents Sea. Recovery times of most habitats and species are unknown.

The areas of habitat that the MAREANO project has already mapped in detail give an indication of the level of information that is achievable, as this ambitious project continues and expands. The project has already identified main vulnerable areas. The MAREANO project did not map any area where the client fishes.

Conformity Assessment Body Response:

The team has acknowledged this comment and has reduced the score on 2.4.3 to 75. Client is now required to record all interaction with VME habitats (sponge and coral catches). These data will be mapped and provide more insight in the distribution of VME in the fishing areas. The conditions also requires client for an appropriate management response in case of regular encounters in certain areas.

References:

Auster, P.J., Gjerde, K., Heupel, E., Watling, L., Grehan, a. and Rogers, A. D. 2010. Definition and detection of vulnerable marine ecosystems on the high seas: problems with the "move-on" rule. ICES

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OSPAR 2010: Background Document for Seapen and Burrowing megafauna communities, OSPAR Commission 2010.
http://www.ospar.org/documents%5Cdbase%5Cpublications%5CP00481_Seapen%20and%20burrowing%20megafauna.pdf

Report N.	2013-002	Revision	01 -2013-11-05	Page 189 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



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Wareham, Vonda E., and Evan N. Edinger. "Distribution of deep-sea corals in the Newfoundland and Labrador region, Northwest Atlantic Ocean." Bulletin of Marine Science 81.Supplement 1 (2007): 289-313.

Kind regards

A handwritten signature in blue ink, appearing to read 'P. Kanstinger', is shown on a light-colored background.

Philipp Kanstinger
Program Officer Seafood Certifications
WWF Germany

MSC

25.09.2013 assessment team received a submission from the MSC, MSC Review and Report on Compliance with the scheme requirements. The report was provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements. Results of the MSC's review in full and responses of the assessment team are presented in the table below.

Report N.	2013-002	Revision	01 -2013-11-05	Page 190 of 205
-----------	----------	----------	----------------	-----------------



MSC FISHERY ASSESSMENT REPORT

Ref	Type	Page	Requirement	Reference	Oversight Description	PI	CAB Comment
3843	Major	130	CR-27.10.6.1 v1.3	Rationale shall be presented to support the team's conclusion	The rationale only refers to the Faroe Islands Fishing Strategy – nothing is included on whether incentives or perverse incentives exist under Norwegian Fisheries Management (Svalbard FPZ) or NEAFC.	3.1.4	<p>The rational for PI 3.1.4 SG 100 (a) is amended accordingly to read:</p> <p>In common with most other fisheries in the north east Atlantic the principal social and economic incentive is to avoid the penalties associated with non-compliance with the fishery management regime. Thus, in this fishery there are penalties for failing to comply with technical regulations applied to the gear, failure to recognize and comply with seasonal and area closures, failure to retain and record non target species. Any one failure in compliance can result in suspension of fishing licences, imposition of fines or both. These penalties are sufficiently severe to incentivise compliance with the regulations which in turn are consistent with MSC principles 1 & 2.</p> <p>The national policy and regulation are reviewed every year and the current fishing regulation of 1994 is in the</p>

Report N.	2013-002	Revision	01 -2013-11-05	Page 191 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



						process of being updated.
						<p>The fishery is also subject to the Norwegian law (in the Svalbard area), Russian law in Russian EEZ and NEAFC convention in the NEAFC area. Neither the Norwegian and Russian regulations nor NEAFC convention provide for incentives for unsustainable fishing practices. There are no subsidies under the Faroese Management System that could lead to increase of fishing capacity. Neither the Norwegian nor Russian management systems support Faroese companies to increase their fishing capacity. The objective of NEAFC convention is to ensure the long-term conservation and optimum utilisation of the fishery resources in the Convention Area, providing sustainable economic, environmental and social benefits (Article 2).</p>
3864	Guidance	66	CR-27.12.1.6 v.1.3	The CAB shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and	The assessment report does not confirm the number and/ or location of the points of landing. Only the countries are confirmed.	Table 14: Main points of landing is added to section 5.3.

Report N.	2013-002	Revision	01 -2013-11-05	Page 192 of 205
-----------	----------	----------	----------------	-----------------



MSC FISHERY ASSESSMENT REPORT

				sold as certified by the fishery originate from the certified fishery. The CAB shall consider the following points and their associated risk for the integrity of certified products: The number and/or location of points of landing.			
3865	Guidance	65	CR-27.12.1.3 v1.3	The CAB shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and sold as certified by the fishery originate from the certified fishery. The CAB shall consider the following points and their associated risk for the integrity of certified products. The opportunity of substitution of certified with non-certified fish prior or at landing.	The assessment report does not clarify how tracking and tracing are sufficient to make sure prawns sold as MSC at points of landing come from the certified fishery. It is explained that catch areas are recorded on box labels, but could be clarified if there is any risk of mixing at point of sale, or in miscommunicating which are MSC certified.		Section 5.2 is amended accordingly. All shrimp catches in the UoC are sorted, processed, packed and labeled after every haul and within 24 hours. If not, shrimp will be spoiled and lose its market value. How the catches could be identified at the point of sale is described under section 5.2.1 "At sea processing" (Ref. Labelling). Pictures and description of labels are provided to illustrate how the shrimp originating from the UoC could be identified. Labeling system, existing control and reporting requirements all ensure that shrimp products originating from the UoC and sold as MSC

Report N.	2013-002	Revision	01 -2013-11-05	Page 193 of 205
-----------	----------	----------	----------------	-----------------



MSC FISHERY ASSESSMENT REPORT

							at points of landing come from the certified fishery.
3866	Major	11,142, 143	CR-27.11.1.4 v1.1	The CAB shall draft conditions to specify milestones that spell out: a. The measurable improvements and outcomes (using quantitative metrics) expected each year. b. The specific timeframes over which the milestones and the whole condition must be met. c. The outcome and score that shall be achieved at any interim milestones.	Drafting of Condition 1 (PI 1.2.1) requests that regulations limiting fishing effort in international waters (ICES Ia,b) are implemented by the 4th surveillance audit. In the same way, Condition 2 (PI 1.2.2) requests that harvest control rules are implemented by the 4th surveillance audit. However, the milestones define that by year 4 only consultation with relevant authorities on implementation of fishing effort and HCR are required. Suggest re-wording to indicate that implementation, not only consultation, is required to meet SG 80 in both Pis.	1.2.1, 1.2.2	Conditions for PI 1.2.1 and 1.2.2 are amended accordingly.
3867	Major	81	CR-27.10.6.2 v1.3	The rationale shall make direct reference to every scoring issue and whether or not it is fully met.	The team consider met PI 1.2.2 SG80b, which requires that HCRs takes into account the main uncertainties. However, rationale given in SG 80 and SG100b says that no clearly defined HCR exist. Therefore the tools used in this fishery cannot be equivalent to a HCR, even implicitly as claimed for SG 80 b. Therefore, we suggest considering that this	1.2.2	MSC considers that as no clearly defined HCR exists, that the fishery cannot be considered to be taking uncertainties into account. PI 1.2.2 SG80b requires that selection of the HCRs should take major uncertainties into account, not that HCRs should take major uncertainties into account. High degree of certainty in regards to

Report N.	2013-002	Revision	01 -2013-11-05	Page 194 of 205
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MSC FISHERY ASSESSMENT REPORT



					scoring issue is not met and P1 1.2.2, re-scored to a 70.		<p>shrimp fishery in the Barents Sea is indeed the reason why the explicit HCR is not yet implemented.</p> <p>The rational is amended accordingly to read: “The management tools currently in place (effort limitation, technical conservation measures, partial TACs) can be considered to be implicit harvest control rules as they have been developed and modified on the basis of observed changes in the fishery between 1970 and 2012 underpinned by the outputs from stock assessments. The current stock assessment model explicitly accounts for inherent uncertainties in input parameters in a quantitative manner and so it can be concluded that the selection of the implicit harvest control rules takes the main uncertainties into account”.</p>
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Report N.	2013-002	Revision	01 -2013-11-05	Page 195 of 205
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MSC FISHERY ASSESSMENT REPORT

3868	Guidance	64	CR-27.12.4 v1.3	Where there are IPI stocks within the scope of certification teams shall follow Annex CH.	No reference provided whether an IPI stock(s) is involved in the certification.		Reference is not provided, because no IPI stocks are involved in the certification.
3869	Major	11, 142	CR-27.11.1.2 v1.2	The CAB should draft conditions to follow the narrative or metric form of the PISGs used in the final tree.	The wording used to draft the condition for PI 1.2.1 does not follow narrative of the requirement at SG80 for 1.2.1. Suggest that the condition text is re-worded to closer match PISG at SG 80 a as the desired outcome to meet by the 4th surveillance audit.		The condition for PI 1.2.1 is rewarded accordingly to follow narrative of the requirement at SG80 for 1.2.1.

This report is provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all work products submitted by Conformity Assessment Bodies and this review should not be considered a checking service. If any clarification is required, please contact Robert Lefébure on +44(0)207 2468935 for more information."

Best regards,
Fisheries Oversight Director
Dan Hoggarth
Marine Stewardship Council

cc: Accreditation Services International

Report N.	2013-002	Revision	01 -2013-11-05	Page 196 of 205
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MSC FISHERY ASSESSMENT REPORT



Appendix 3.2 Submissions during site visits

General summary of verbal submissions received during site visits regarding PI scores that fall between 60 and 80 are presented in Table A3 below. More information is provided in the Scoring Comment Table of this report under respective Performance Indicators.

Principle	Component	PI N.	PI	Information provided
1	Harvest Strategy	1.2.1	Harvest strategy	<p>Ministry of Fisheries and Fisheries Inspection (FVE):</p> <p>The overarching principle of the Faroese Fishery Strategy is that fishing capacity should match fishing resources and this principle governs the harvest strategy of the Faroese fishery. The Faroese shrimp fishery in the Barents Sea is a component of a much larger fishery exploited by vessels from a range of national fleets. In 2012 it was only 2 Faroese vessels fishing for shrimp. In 2013 it would be 3 vessels.</p> <p>The stock management objective for the whole Barents Sea fishery is to maintain the fishery within agreed limits based on annual stock assessments. ICES stock assessment shows that shrimp stock in the Barents Sea is at its carrying capacity.</p> <p>The Barents Sea shrimp fishery is managed through a series of regulations including effort limitation, technical conservation measures and partial TACs in some areas, and it is generally understood that these regulations can be changed in order to reduce the exploitation rate if limit reference points are approached.</p> <p>Svalbard (IIb): There is a special Svalbard agreement in place. According to this agreement, Faroe Islands gets 922 fishing days. Licenses to fish are handled/issued by Faroe Islands Ministry of Fisheries. Control in Svalbard area is enforced by Norway and inspections at sea are quite regular.</p> <p>Loop hole (I a, b)/NEAFC: Loop hole is regulated by NEAFC, but there is no quota for shrimp, mainly due to the fact that the shrimp stock has been in a good condition for a long-period of time. However, vessels need a license in order to fish in NEAFC. Faroese fishermen obtain licenses for shrimp in NEAFC through the Faroe Islands Ministry of Fisheries. Vessels are obliged to comply with license requirements, e.g. use of sorting grids, compliance with NEAFC regulations. There is a book of regulations for NEAFC: "NEAFC Scheme of Control and Enforcement and NEAFC management measures". Fishing activities are controlled by NEAFC/ EU vessels (Spanish/Portuguese)/Norwegian control vessels.</p>
		1.2.2	Harvest control rules and tools	
Report N.	2013-002	Revision	01 -2013-11-05	Page 197 of 205

MSC FISHERY ASSESSMENT REPORT



				<p>NEAFC inspectors have a right to board vessels and inspect but not to penalize. Flag state is responsible to penalize the vessel and there is an annual meeting where flag states shall report what they have done with penalties/non-compliances.</p> <p><u>Russian EFZ:</u> In Russian EEZ there is a quota system in place. Faroese fleet was allocated 1000 tons of shrimp in 2012 and 4000 tonnes in 2012.</p> <p>When vessels enter into the Russian EEZ they have to go through the check point and take the observer on board. Russian inspectors can board a Faroese vessel at any time.</p> <p>When the vessels sail from the Faroe Islands they don't know if they go to the Russian area, Svalbard or International area. Global warming created some new fishing grounds, especially around Svalbard and in Russian EFZ. The main goal for the years to come would be the Russian EFZ. Ref. Goose bank in NEAFC regulatory area.</p> <p>Total catches in all water amounted to 5250 tonnes in 2012.</p> <p><u>Management plan for shrimp:</u> There is no management plan for the whole Barents Sea shrimp stock in place. Development and implementation of such a plan should be up to coastal states, which are Norway and Russia. EU has no right to manage shrimp stock, only in International waters of NEAFC.</p> <p>Maresco, P/F Thor, P/F Havborg, P/F Líðin: There is a license system in place for Svalbard FPZ, Russian EEZ and NEAFC open zone. Fishery is regulated by licenses issued by Faroe Islands Ministry of Fisheries. Fleet composition is known and all catches are accounted for and reported to authorities. VMS is used all the time while at sea. If off, master of the vessel shall immediately send vessels coordinates to the relevant fisheries authority.</p> <p>Geography of fishing operations depends on ice condition in NEA, availability of quota and varies from year to year. Due to current disagreement on an allocation key for mackerel, Faroese vessels are not allowed to fish in Norwegian EEZ, thus they started to fish around the Svalbard. If there is a lot of ice, vessels move to south west of Svalbard.</p> <p>Last year (2012), during summer months, Faroese vessels started to target shrimp in the Russian waters.</p>
Report N.	2013-002	Revision	01 -2013-11-05	Page 198 of 205

MSC FISHERY ASSESSMENT REPORT



				2012 was the first year Faroese fleet was active in the Russian EEZ. Though, vessel Havborg has been fishing in the Russian zones before.
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Appendix 3.3 Other submissions

Submissions made by stakeholders, outside consultation opportunities and prior to publication of Public Comment Draft Report, could be found below.

Report N.	2013-002	Revision	01 -2013-11-05	Page 199 of 205
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MSC FISHERY ASSESSMENT REPORT



FISKIMÁLARÁÐIÐ

Felagið Rækjuskip
Postrúm 79
410 Kollafjørður

Fiskivinnustovan
22. august 2013
Mál: 12/01050-18
(at tilskila í svari)

Viðgjørt: USW

Tygara skriv:

MSC certification of Faroese cold water prawn fishery in the North East Atlantic

The Ministry of Fisheries has received the "Client action plan for the Faroese MSC assessment of cold water prawn fishery in the North East Atlantic" dated 18 June 2013 from Felagið Rækjuskip - Faroese Prawn Trawlers Association.

The Ministry of Fisheries agrees with the action plan and fully supports the MSC certification of Faroese cold water prawn fishery in the North East Atlantic.

Yours sincerely

Ulla S. Wang

Special Adviser

Report N.	2013-002	Revision	01 -2013-11-05	Page 200 of 205
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MSC FISHERY ASSESSMENT REPORT

APPENDIX 4. SURVEILLANCE FREQUENCY

(REQUIRED FOR THE PCR ONLY)

1. The report shall include a rationale for determining the surveillance score.
2. The report shall include a completed fishery surveillance plan table using the results from assessments described in CR 27.22.1

Table A4: Fishery Surveillance Plan

Score from CR Table C3	Surveillance Category	Year 1	Year 2	Year 3	Year 4
[e.g. 2 or more]	[e.g. Normal Surveillance]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit]	[e.g. On-site surveillance audit & recertification site visit]

Report N.	2013-002	Revision	01 -2013-11-05	Page 201 of 205
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MSC FISHERY ASSESSMENT REPORT



APPENDIX 5. CLIENT ACTION PLAN

FELAGIÐ RÆKJUSKIP
P.O. Box 79
FO-410 Kollafjørður
Faroe Island

Telephone: +298-42 14 48
Telefax: +298-42 15 84
Mobile: +298-21 34 48
e-maile lidin@olivant.fo

Client action plan for the Faroese MSC assessment of cold water prawn fishery in the North East Atlantic.

To Whom It May Concern:

In the process of the assessment towards the MSC standard for sustainable and well-managed fisheries of the Faroese prawn fishery in the North East Arctic cold water prawn fishery, the faroese prawn trawlers F/V Havborg, F/V Arctic Viking and F/V Sermilik II are all represented by MARESCO A/S.

Additionally all three members are also represented by their owners P/F Havborg, P/F Liðin and P/F Thor in the Faroese Prawn Trawlers Association "Felagið Rækjuskip", FR.

In the areas 1a and 1b in the Barents Sea faroese vessels from FR has been active for many years and are presently still active in deploying the areas.

The areas 1a and 1b are managed by the North East Atlantic Fisheries Commission (NEAFC). NEAFC is an organisation comprised of Contracting Parties which have signed up the Convention on Multilateral Cooperation in North East Atlantic Fisheries, which entered into force in November 1982. Denmark represents, in respect, the Faroe Islands within NEAFC. NEAFC has three permanent committees; PECCOE (Permanent Committee on Control and Enforcement), PECMAS (Permanent Committee on Management and Science) and FAC (Finance and Administration Committee).

Furthermore, five on-going working groups are operating under NEAFC, which of one is WG Stats (Working Group on Statistics). FR has always been very well informed about all NEAFC work related to the prawn fisheries in their areas and especially the progress and work as well as discussions within PECMAS and WG Stats.

The Main functions of PECMAS are:

- To draft requests for with the International Council for the Exploration of the Sea,
- Review proposals for management measures, to take due account of the impact of fisheries on other species and marine ecosystems and of the need to conserve marine

Report N.	2013-002	Revision	01 -2013-11-05	Page 202 of 205
-----------	----------	----------	----------------	-----------------

MSC FISHERY ASSESSMENT REPORT



biological diversity, adopting conservation and management measures that address the need to minimise harmful impacts on living marine resources and marine ecosystems.

- To ensure that management measures are based on the best scientific evidence available, and
- To review the support of conduct of scientific research to be used in the advisory process.

So far the prawns in zones 1a and 1b has never been regulated and the Member States of NEAFC show the issue of defining a firm harvest rule limited interest. The biomass is tthough measured on a regular basis and a comprehensive catch statistic reports are made.

The The reason why this stock is kept non-regulated is mainly connected with two things. Firstly, the prawn stock has been massively underutilized for years and therefor the conversation arguments are not as relevant asfor many other species. Secondly , Norway has been reluctant to the idea of establishing TAC system for the stock acceptable for other stake holders. Norway is currently working out own harvest control rule. Their position is that it is enough because majority of the prawn stock is inside their territorial waters. The Norwegian view about the distribution of the prawn is not supported by other NEAFC contracting parties.

Norway, as a coastal state of the NEAFC and one of the main prwan fishing stakeholders, has informally expressed general views saying there is no need to regulate prawns. According to the views expressed, the prawn is highly distributed in an enourmously larger area. According to same, the nature of prawn fishing, which is highly fuel demanding, will make the fishing operation economically unsustainable before the stock is at risk. FR does not support these viewa and has expressed its interests to regulate the prawn fishing in zones 1a and 1b for several years. In several regular meetings with The Fishery Ministry of the Faroes Islands, FR has stressed its views about TAC system. As the utilization rate of the prawn, compared to its biomass and generally accepted total catch quantity, has been relatively low, FR views have not gained much support among the stakeholders.

FR, can and has expressed its views and recommendations on the harvest control to the Ministry of Fisheries of Faroe Islands, who is the negotiating part on behalf of Faroe Islands in NEAFC organs. We do agree on a more restrict harvest control and The Ministry of Fisheries will use all their effort to get this issue on the agenda at NEAFC's annual meetings in order to have this settled with all memberstates of NEAFC.

FR is also ready to work with Estonian and Norwegian stakeholders involved in the MSC program in order to press further for a change within NEAFC towards an adoption of a harvest control rule for the above mentioned stock. FR will also continue to express its views and press for a harvest control rules.

Report N.	2013-002	Revision	01 -2013-11-05	Page 203 of 205
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MSC FISHERY ASSESSMENT REPORT



ACTION PLAN: INFLUENCE:

- Ministry of Fisheries in the Faroe Islands: FR will continue to monitor the fishing effort in the zones and notify the national administration as soon as the utilization rate will increase.
- Norwegian and Russian Administration: FR will during yearly, bilateral negotiations, advise all parties about its views and push them to take action in this particular area in NEAFC.
- NGO,s: FR will approach NGO's and open a dialog with the relevant NGO's and draw their attention to the matter.

ACTION PLAN FOR SCIENTIFIC APPROACH:

- Engage the ICES process: FR will follow the ICES studies on the prawn in NEAFC and offer assistance if needed, for example by providing any additional catching data identified by the scientific community
- FR will also work closely with Havstovan as well as other scientific institutions engaged in protecting the prawn stock and fauna in the area.
- "Felagið Rækjuskip" FR and their three members, Thor P/F, Havborg P/F and Líðin P/F, are willing to adjust current level of data collection program for especially corals and sponges in the NEAFC regulatory area, the Svalbard zone, Norwegian zone and Russian zone. A program will be implemented by using "Max Sea" Marine Navigation Software as well as other useful trackingsystems which is in onboard each vessel. The MSCV Logbook will also be used as a record for this program in order to avoid such habitats.. All collected data will be provided to The Faroese Marine Institute "Havstovan" for further analyzing.
- All necessary effort will be used in order to avoid any damages on corals and sponges and the recording will be a useful tool in this work.
- The management on each trawler will also be aware of the importance of this issue.

24. october 2013, Tórshavn, Faroe Islands

Johan Joensen

Chairman of The Board

FELAGIÐ RÆKJUSKIP

(Faroese shrimpstrawlers association)

Tel. +298 421448

Report N.	2013-002	Revision	01 -2013-11-05	Page 204 of 205
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MSC FISHERY ASSESSMENT REPORT



APPENDIX 6. CLIENT AGREEMENT

(REQUIRED FOR PCR)

The report shall include confirmation from the CAB that the Client has accepted the PCR. This may be a statement from the CAB, or a signature or statement from the client.
(Reference: CR: 27.19.2)

Report N.	2013-002	Revision	01 -2013-11-05	Page 205 of 205
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