

Vottunarstofan Tún ehf. Sustainable Fisheries Scheme

Marine Stewardship Council Fisheries Assessment

Faroe Islands Queen Scallop Fishery

Public Certification Report

Client: O.C. Joensen



5 September 2013

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This is a Public Certification Report on the MSC assessment of the Faroe Islands Queen Scallop fishery.

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Glossary of Terms Used in the Report

B _{lim}	Limit biomass reference point below which recruitment of stock is expected to be impaired
B _{MSY}	Biomass corresponding to the maximum sustainable yield (biological reference point); the peak value on a domed yield-per-recruit curve
CITES	The Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPUE	Catch per unit of effort
CR	MSC Certification Requirements version 1.2
BIOFAR	A large scale inter-Nordic benthic macrofauna/flora project
EEZ	Exclusive Economic Zone
ЕТР	Endangered, Threatened and Protected species
F	Fishing Mortality
FAO	Food and Agriculture Organization of the United Nations
FFL	Faroese Fisheries Laboratory
FFZ	Faroese Fisheries Zone
FAMRI	Faroe Marine Research Institute (Havstovan)
GCR	Guidance to the MSC Certification Requirements v1.1
GT	Gross Tonnage
HCR	Harvest Control Rule
ICES	International Council for the Exploration of the Seas
IPI stock	Inseparable or practically inseparable stocks
IWC	International Whaling Commission
LRP	Limit Reference Point
MSC	Marine Stewardship Council
NEAFC	North East Atlantic Fisheries Commission
NAFO	Northwest Atlantic Fisheries Organization
NAMMO	North Atlantic Marine Mammal Organization

NASCO	North Atlantic Salmon Conservation Organization
nm	Nautical miles
PI	Performance Indicator
PSA	Productivity-Susceptibility Analysis
RBF	Risk Based Framework
RFMO	Regional fisheries management organization
rusk	Non-commercial catch consisting mostly of a mixture of shell and stones and some invertebrate species are referred to as "rusk"
SG	Scoring Guidepost
SICA	Scale Intensity Consequence Analysis
ТАС	Total Allowable Catch
TRP	Target Reference Point
VMS	Vessel monitoring system
UNCLOS	United Nations Convention on the Law of the Sea of 10 December 1982
UNFSA	1995 United Nations Fish Stocks Agreement

1. Executive summary

1.1 Scope of the Assessment

This report outlines the results of an assessment of the Faroe Islands Queen Scallop Fishery against Marine Stewardship Council's (MSC) Principles and Criteria for Sustainable Fishing. The assessment was requested by the Faroese fishing and fish processing company P/F O.C. Joensen. The scope of the assessment is the fishing of queen scallop (*Aequipecten opercularis*) by means of dredge within the Faroe Islands Exclusive Economic Zone, which in turn belongs to the FAO fishing area 27 and ICES area Vb1b. In its work the assessment team used version 1.2. of the MSC Certification Requirements and the associated guidelines and reporting template.

The report provides an account of the processes followed by the assessment team during the stages of information gathering and the scoring of the fishery against the MSC Principles and Criteria. The report provides a qualitative description of the fishery. The report is not intended to follow standard editing norms of scientific journals, but intends to address the needs of both fisheries specialists and other interested parties e.g. consumers and/or other stakeholders.

1.2 Assessment Team

The assessment was conducted by the following four assessors:

- Louise le Roux M.Sc.:
- Gudrun G. Thorarinsdottir Ph.D.:
- Kjartan Hoydal Cand.Scient.:
- Gunnar Á. Gunnarsson Ph.D.:

Assessment Co-coordinator, Team Leader Principle 1 and Principle 2 expert Principle 2 and Principle 3 expert Chain of Custody input

1.3 Outline of the Assessment

In 2010 Moody Marine completed a full assessment of this fishery and concluded that it should not be certified to the MSC Principles and Criteria. This was justified by the absence of stock assessment, reference points, formal fishery objectives, a research plan and external review of the fishery's performance (Hoydal et al. 2011).

In April 2012, Tún completed a pre-assessment of the fishery on behalf of O.C. Joensen, using the MSC Default Assessment Tree except for evaluation of Performance Indicator 1.1.1 (stock assessment) where the risk based framework (RBF) was used. A full assessment for the scallop fishery was subsequently launched, using the same methodology. Data used in the assessment was gathered by the reviewing of publicly available reports and scientific journals, as well as by site visits to the client's facilities and fishing vessel and interviews with stakeholders. Site visits and stakeholder meetings included a section on RBF. The client and the stakeholders were consulted on the various elements of a SICA (Scale Intensity Consequence Analysis) as set out in the MSC Certification Requirements. The assessment team subsequently met to score of the fishery against MSC principles.

A Preliminary Draft Report of the assessment was submitted to the client for consideration. The assessment team reviewed client's comments and revised the report where deemed appropriate. A Peer Review Draft Report was then issued for comments by two peer reviewers.

The assessment team discussed peer reviewer's comments, which, together with the team's responses, are published in this report. In the light of comments from peer reviewers, the CPUE data was re-examined and some discrepancies in the data became apparent, that resulted in too low CPUE for some fishing trips. CPUE data were corrected as appropriate and all figures and numbers were updated and the report changed as appropriate. All discussions on CPUE were subsequently moved to section 3.3.4.2 Landings and CPUE, for ease of reading. The entire chapter on Principle 2 was rewritten in response to issues addressed by peer reviewers. Furthermore, minor text changes

were made for clarification purposes in response to comments. Rationales for many scoring issues were addressed, and these are indicated in responses to each scoring issue in Appendix 2. Conditions were generated for PIs 1.2.2; 1.2.3; 3.2.4, and 3.2.5 in response to peer reviews.

Comments were received on the Public Comment Draft Report from the MSC. Following the review of those comments the assessment team lowered scores for PI's 1.2.2, 2.1.3, 2.4.1, 2.4.3 and 2.5.3. Condition 1 (PI 1.2.2) was extended to include a requirement to set a limit reference point (LRP) or a proxy thereof, as well as actions to be taken as the LRP is being approached.

No objections were raised to Determination and Final Report.

1.4 The Main Strengths and Weaknesses of the Assessed Fishery

The Faroe Islands Queen Scallop fishery is a small scale fishery. Retained species and/or bycatch are very limited and discards are banned. Only one vessel has a license for fishing scallops in the Faroe Islands in three areas, the eastern main fishing area and two exploratory areas in the north.

The Faroese queen scallop fishery is a small scale fishery with only one license holder. Limitations imposed on the fishery are by limiting effort, i.e. only one license in the main fishing area and restrictions in fishing areas and seasons. Exploratory licenses in the north have either limited fishing days or a TAC. The fishery has further self-imposed limits, such as minimum size processed, mesh size that allows juveniles to escape, returning of small scallops to sea alive and a move on rule when CPUE decreases. Retained species and bycatch are very limited and there are no significant interactions with ETP species. The fishery is estimated to cover less than 9% of the main fishing area annually and about 0.02% of the distribution area of scallops around the Faroe Islands.

The fishery has been conducted in a sustainable manner for over 30 years and although CPUE has been low in recent years, it has been relatively stable for the past decade.

There is a lack of research planning for the queen scallop fishery. No formal review of the management plan is conducted by authorities. Although all stakeholders have every incentive to keep the fishery small and sustainable, the strategy should be occasionally reviewed. Landings and CPUE in the main fishing area and in the northern exploratory areas should be regularly reviewed by the authorities to ensure that the effort limitation strategy is effective. Although the move-on rule allows scallop beds to be rested and recovered, there are no studies on how effective this strategy is and uncertainties associated with it. In addition there are no limit reference point or proxy thereof set for the fishery nor actions as an LRP is approached.

1.5 Overall Conclusion

The Faroe Islands Queen Scallop fishery reaches the minimum aggregate score of 80 for each of the three Principles and the minimum of 60 for each Performance Indicator. However it fails to reach the minimum score of 80 on four Performance Indicators, prompting the setting of conditions.

The average weighted scores for each of the three Principles were:

-	Principle 1 – Target Species:	82.5
-	Principle 2 – Ecosystem:	90.3
-	Principle 3 – Management System:	92.5

The following Performance Indicators failed to reach the minimum score of 80:

-	PI 1.2.2 – Harvest Control Rules and Tools:	60
-	PI 1.2.3 – Information and Monitoring:	75
-	PI 2.4.3 – Habitat Information	75
-	PI 3.2.4 – Research Plan:	75
-	PI 3.2.5 – Management performance evaluation:	75

1.6 Determination, Conditions and Recommendations

The assessment team recommends that the fishery is granted certification against the MSC Principles and Criteria for responsible fishing. This determination is made in the context of four conditions, one recommendation and milestones set, together with a plan of action agreed by the client to address those during the period of certification.

- **Condition 1: PI 1.2.2** Evidence must be provided that the move-on rule is set at an appropriate level to allow for recovery of local scallop beds. Uncertainties regarding the set level of the move-on rule must be addressed as well. A limit reference point or proxy thereof and actions as the LRP is approached shall be implemented for the fishery. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives.
- **Condition 2: PI 1.2.3** CPUE in the eastern area must be monitored by authorities in addition to CPUE for the exploratory areas.
- **Condition 3: PI 2.4.3** Sufficient data must be provided to assess the impact of the heavier dredge on the habitat for the main eastern fishing area.
- **Condition 4: PI 3.2.4** Some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
- **Condition 5: PI 3.2.5** Formal mechanisms to review the fishery must be implemented. These mechanisms should provide for internal reviews on a regular basis and occasionally external review.
- **Recommendation:** It is recommended that the annual review should include review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy. Results of this annual review should be recorded and be available to interested parties. An annual review of all aspects of the fishery would emphasize the commitment of both the company and the authorities to stability and sustainability of the fishery.

For details on associated milestones and client action plan please see section 6 and Appendix 1.3.

The Actual Eligibility Date for the fishery is 15 November 2012.

2. Authorship and Peer Reviewers

2.1 Assessment Team Members

Louise le Roux M.Sc., Assessment Coordinator and Team Leader

Louise le Roux graduated in 1997 in Marine Biology from the University of Iceland with an M.Sc. In 1993-1998 she was in charge of the deep-sea crab section at the Namibian Ministry of Fisheries and Marine Resources, which included numerous administrative duties, management advice and stock assessment work. During this time she attended several courses in stock assessment and statistics hosted by FAO and DANIDA. In 1998-2000 she lectured and was involved in the development and teaching of various courses for the Natural Resources B.Sc. program on fisheries biology, management and population dynamics at the University of Namibia. She also briefly taught for the Fisheries Training program at the United Nations University in Iceland. From 2001 Ms. le Roux has worked for deCODE Genetics Inc., currently as R&D manager. Louise le Roux has attended MSC CAB

training seminars, including training on the use of Risk Based Framework (RBF). She has served on Tún's fisheries certification committee and is currently deputy coordinator for Tún's sustainable fisheries scheme.

Kjartan Hoydal, Cand. Scient., Principle 2 and Principle 3 Expert

Kjartan Hoydal's expertise ranges from fish biology to fish stock assessment, management of fisheries and the impact of fishing on the marine ecology. Mr. Hoydal's professional background includes work as fisheries biologist at the Faroe Marine Research Institute. He has served ICES as the head of the Advisory Committee and as a Statistician and Fisheries officer. Mr. Hoydal was the Director of the Faroese Fisheries Administration for 10 years, worked with the Nordic Council of Ministers as Secretary for Nordic Atlantic Cooperation and has served on the board of various organisations including the Danish Institute of Marine Research and the Faroese Aquaculture Research Station. He chaired the North Atlantic Marine Mammals Commission (NAMMCO) and served as President of the Northwest Atlantic Fisheries Organization (NAFO). Since becoming the Secretary of the North East Atlantic Fisheries Commission (NEAFC) in 2001, the main theme in Mr. Hoydal's work has been the impact of fisheries on marine ecosystems. Mr. Hoydal was a member of an expert team assessing the Faroe Islands queen scallop fishery against the MSC Principles and Criteria. He left NEAFC in 2011 and has since worked as a consultant and lecturer amongst other things evaluating the performance of the North Atlantic Salmon Conservation Organization, NASCO, the international Council for the Exploration of the Sea, ICES and the Structure and Functioning of Public Institutions in the Fishing Sector of Pakistan.

Gudrun G. Thorarinsdottir, Ph.D., Principle 1 and Principle 2 Expert

Gudrun G. Thorarinsdottir completed her doctorate from University of Aarhus with the biology of *Chlamys islandica* as a research subject. Dr. Thorarinsdottir has lectured and supervised research students for post-graduate programs in marine biology at the University of Iceland and for the Fisheries Training program at the United Nations University. She is a member of the ICES working group on Aquaculture Culture (WGAQUA) and has written extensively on her core specialties, i.e. the biology and environmental impact of harvesting of bivalves and sea cucumber, especially scallops in Icelandic waters. Currently Dr. Thorarinsdottir is serving as marine biologist at the Marine Research Institute in Reykjavík.

Gunnar Á. Gunnarsson, Ph.D., Input on Chain of Custody

Gunnar Á. Gunnarsson completed his Ph.D. degree in 1989 from the London School of Economics & Political Science, with public policy on industrial and environmental issues as his research subject. Dr. Gunnarsson has written numerous articles on public policy, environmental issues, standards and certification. In 1993 he was involved in the founding Vottunarstofan Tún, Iceland's first organic and sustainable certification body, and has since been its managing director. He has extensive auditing experience as an organic inspector, and more recently as a chain of custody auditor. He completed a SWEDAK seminar on internal auditing, and has attended several of MSC's CAB training seminars and is the coordinator for Tún's sustainable fisheries scheme.

2.2 Peer Reviewers

James W. Andrews, Ph.D.

James W. Andrews is educated in environmental law, marine biology and marine ecology. Jim is a marine biologist with over 20 years' experience working in marine fisheries and environmental management. He currently works as an independent fisheries and marine environmental consultant. His previous experience includes running the North Western and North Wales Sea Fisheries Committee as its Chief Executive from 2001 to 2005, and previously working as the SFC's Marine

Environment Liaison Officer. During this time he was responsible for the regulation, management and assessment of inshore finfish and shellfish stocks along a 1,500 km coastline. He has an extensive practical knowledge of both fisheries and environmental management and enforcement under UK and EC legislation. Dr. Andrews has formal legal training & qualifications, with a special interest in the policy, governance and management of fisheries impacts on marine ecosystems. He has worked as an assessor and lead assessor on more than 20 MSC assessments within the UK, in Europe, and in Asia since 2007. In 2008 he worked with the MSC and WWF on one of the pilot assessments using the new MSC Risk Based Assessment Framework, which he has used on several subsequent assessments including the Isle of Man Queen Scallop Fishery. Dr. Andrews has carried out numerous MSC Chain of Custody assessments within the UK.

Bryce Beukers-Stewart, Ph.D.

Bryce Beukers-Stewart is a fisheries biologist and marine ecologist whose work has ranged from temperate estuaries to tropical coral reefs and the deep-sea. The central thread in his research has been to gain an increased understanding of the factors regulating marine populations and communities so as to ensure their sustainable exploitation, primarily by fisheries. He has been a lecturer in the Environment department at the University of York since 2007. For the past 12 years much of Dr Beukers-Stewart research has focussed on the biology and management of scallop fisheries. He has published widely on this subject in the international peer-reviewed literature. In 2009 he was commissioned to lead an influential report aimed at improving the management of the UK's scallop fisheries. This included an analysis of successfully managed scallop fisheries around the world, with the lessons learned applied to the situation in the UK. From 1999 to 2007 Dr Beukers-Stewart co-ordinated research into the biology and impacts of the Irish Sea fisheries for the great scallop, Pecten maximus and queen scallop, Aequipecten opercularis. This work involved an intensive stock assessment programme to provide management advice to the Isle of Man government and other projects aimed at quantifying and reducing the environmental impact of scallop dredging. In particular, his research which showed that protected areas and stock enhancement could provide benefits to both fisheries and conservation has been highly influential in developing new marine management legislation in the Isle of Man and the United Kingdom. He is currently supervising research into the effects of a protected area on scallop populations off the west coast of Scotland, and another project examining the factors effecting shell strength in scallops. He also gained experience of undertaking sustainability assessments on a wide range of fish and shellfish species while co-ordinating the UK Marine Conservation Society's programme to promote ecologically sustainable fisheries and mariculture from 2005 to 2007. A large part of this work was to maintain the seafood consumer awareness website www.fishonline.org and to provide tailored advice for seafood suppliers, processors and retailers. Dr Beukers-Stewart has subsequently continued this work as a private consultant to various prestigious clients such as Marks and Spencer, Young's Bluecrest and celebrity chefs. Dr Beukers-Stewart strives to disseminate the results of his work to as broad an audience as possible. He has published widely in the peer-reviewed scientific literature and technical reports, and has also written various popular articles and done considerable media work. He regularly gives presentations at national and international conferences and workshops.

3. Description of the Fishery

3.1 Unit of Certification and Scope of Certification Sought

The following table outlines the unit of certification that was the subject of the assessment. The fishery is conducted in Faroese waters, in particular the North East Atlantic, ICES division area Vb1b within the Faroese EEZ. The fishery is made up of only one fishery practice, the O.C. Joensen Company, which operates one fishing vessel, the FV Nordheim FD 795. O.C. Joensen holds the only license for fishing queen scallops in the Faroe Islands. There are no other eligible fishers.

Table 3.1: Unit of Certification for the Faroe Islands Queen Scallop		
Fish stock Queen Scallop (Aequipecten opercularis)		
FAO Statistical Area 27 / ICES Area Vb1b:Location of FisheryFaroe Islands Exclusive Economic Zone		
Faroe Islands Ministry of Fisheries:ManagementLicences and temporal and spatial effort controls		
Fishing Method	Dredge	
Fishery Practices	P/F O.C. Joensen Vessel: Nordheim FD 795	

The Faroese queen scallop fishery is a wild capture fishery, limited to the EEZ of the Faroe Islands. The fishery conforms to Principle 3, Criteria A1 and B14, i.e. it is not "conducted under a controversial unilateral exemption to an international agreement" and does not use destructive fishing practices.

The queen scallop fishery failed an assessment against MSC principles that was completed in May 2010. Fisheries entering re-assessment within two years may not have to repeat all steps of the certification process (CR 27.4.7). However, this fishery is considered as a new applicant for this assessment, since the CAB and assessment team is not the same as for the original assessment, and the team of the current assessment used the Risk Based Framework for one of the scoring guideposts of Principle 1.

3.2 Overview of the Fishery

The Faroese scallop fishery is unique as it is operated by a single vessel with a single license holder and owner, O.C. Joensen. The license holder also owns the factory buying the catch as well as conducting the marketing and export of the scallop products. Thus, throughout the operation of the fishery there are no competing interests to the resource. The owner has every incentive to fish precautionary to maintain stocks at sustainable levels and to ensure that there is a stable and profitable turnover in the operation.

O.C. Joensen is an old family firm with interests in prawn fishery and production, aquaculture and scallop fishery and production. The scallop operations were bought by Thor Ltd. in 2007. Thor's main operation is the running of fleets of fishery vessels and of supply vessels supporting the oil industry worldwide. It also operates fishing vessels, including FV Nordheim. In the past O.C. Joensen was

involved in the fishing and peeling of shrimp and some whelk fishing. However, these operations were abandoned for economic reasons and lack of markets.

O.C. Joensen entered the queen scallop fishery in 1970 and is currently the only company catching queen scallop off the Faroe Islands. The company has one fishing vessel which holds the only license to fish scallops within the Faroe Islands 200nm limit. Scallops are harvested using dredges and all scallops are landed and processed at the O.C. Joensen factory in Oyri.

Queen scallops are the only bivalve species of commercial interest off the Faroe Islands and the fishery started in 1970. Initially there were several boats pursuing scallops, however, local depletion of scallop beds in the small area initially exploited, led to several boats leaving the fishery (Nicolajsen 1997).

Since 1988 O.C. Joensen's FV Nordheim has been the only vessel catching scallop in the Faroe Islands, with the exception of 1989-1991 when a factory vessel was allowed to fish in the northern area, but not in the main traditional eastern scallop beds (Nicolajsen 1997). Commercial fishing for scallops in the northern area ceased when the vessel was sold. A few other fishery practices have applied for queen scallop fishing all of which have been rejected on economic and sustainability grounds i.e. lack of space for additional vessels (Hoydal et al. 2011). The commercial fisheries act also prohibits an increase on the number of license holders.

The two main fishing areas are located east and north of the islands, and a third one, in Djúpini sound just outside Funningsfjord, was recently opened to experimental fishing as well. A full assessment of the fishery was undertaken in the 1980s (Nicolajsen 1997) and impact studies of the dredge on the seabed have been conducted by the Faroe Marine Research Institute (FAMRI) since the beginning of the decade.

Licenses for the fishing of queen scallop are issued for one year at a time and are area specific. Licenses are issued for the traditional eastern area (Eystanfyri and Sunnanfyri) and an exploratory license in the northern area (Norðanfyri). Most recently (2011) an exploratory license was issued for the area just outside Funningsfjord, in the Djúpini sound. Scallops are fished using twin dredges, each of which is 12 foot wide.

There is a permanent ban on fishing gears dragged over the bottom within the 12nm limit in the Faroe Islands. The queen scallop fishery and a summer trawl fishery for flatfish in selected areas are the only two fisheries that operate under derogation to this ban.

O.C. Joensen's processing factory does not accept scallops below 55 mm in size. This means that all scallops landed have had a chance to spawn at least once, as the effective selection is substantially above the 40mm at first spawning. All scallops are landed at the factory in Oyri for processing, retail and wholesale. They are produced primarily for the export markets in mainland Europe. In the beginning USA was an important market but now more is exported to Europe, especially to France. Crushed shell is presently exported to Netherlands for use in chicken feed.

3.3 Principle One: Target Species Background

3.3.1 Queen Scallop Biology

The queen scallop (*Aequipecten opercularis*) is a bivalve mollusk of the family Pectinidae which includes about 400 known living species commonly named scallops. Scallops have a highly aggregated spatial distribution within their geographical range and are found in beds. For species like scallops which have very limited mobility of adults the geographical distribution of the

population is mainly governed by barriers to the dispersal of the larvae (Macleod et al. 1985). Some beds are permanent and depend on regular larval supply while others vary in location between years because of sporadic settlement and survival. Scallops are common in all seas of the world but the species that have large body size and occur in sufficiently dense aggregations to be commercially exploited are mainly found in high latitudes (30°and 55°) in the inshore waters of the continental shelves, both in northern and southern hemispheres. For each species there is a geographical and bathymetric range where environmental conditions are generally suitable for survival and the species occur in dense local populations able to support commercial fisheries (Brand 2006a). In European waters 28 scallop species have been identified but only six species are large enough and occur in sufficiently dense concentrations to be viable for commercial fishing. Three species; *Pecten maximus, Aequipecten opercularis*, and *Chlamys islandica* have accounted for most of the scallop catches in Europe (Brand 2006a).

The queen scallop (*A. opercularis*) has its northern distribution limit in the Lofoten Islands, Norway and is found along the Norwegian coast, the Skagerrak, Faroe Islands, North Sea, Irish Sea, Atlantic European coast and the Mediterranean. There are reports about distribution from the Azores, Canary Islands, Cape Verde Islands and the Atlantic African coast to roughly 30°N but they are considered based on juvenile sub-fossils or misidentified specimens (Peres and Picard 1964; Brand 1991; Waller 1991). Queen scallops are found on sandy and gravel bottoms, frequently coincident with *Pecten maximus*, but can also, unlike *P. maximus*, live on harder gravel and shelly bottoms (Brand 2006a). Distribution of queen scallop is considered highly related to sea temperature with a temperature range of 2-17°C which is a characteristic of a boreal species (Ursin 1956). However, it has been stated that this species is found in the Mediterranean (see above) where it is in shallow water and must experience temperatures of 13-26°C; here it is considered morphologically and physiologically distinct from the boreal (Brand 2006a). *A. opercularis* has a wide depth range as it is observed from the subtidal to 180 m depth but is most commonly found at 20-45 m depth (Mason 1983).



Queen scallop is widely distributed all over the Faroese shelf, at depths from about 20 to 450 m (Sneli et al. 2005 as cited by Tendal & Dinesen 2005), and they are reported to be common at depths of 50 to 200m (Bruntse & Tendal 2001). Large concentrations of queen scallop occur on the Faroese plateau, one area north of the northern islands and the other east of the central islands. These two areas of large concentration make up a total of about 400 km² (Figure 3.1). The beds are found at 60-110 m on sandy, rocky or soft bottom (Nicolajsen 1997). Ursin's 1956 study found highest concentration of scallops between 57-128m off the northern island.

The queen scallop can reach a maximum shell height of 90 mm. The growth rate is fast and in the north Irish Sea the commercial size (50-55 mm) is reached in 14-18 months, the fishery depending mainly on 2-4 years old individuals (Allison and Brand 1995). In the Faroe Islands, queen scallop reaches 40 mm height within 2 years, 60 mm after 4 years and a maximum size of 70 mm after 6 years (Brand 2006a, Oivind & Parsons 2006). Maximum age of queen scallop is about 8-10 years but beyond 5 years mortality is high and older individuals are rare in all fishing grounds (Brand 2006a). When the fishery is depending on so few age classes as in this case, the success depends on the strength of the recruitment which can vary greatly between years. Caddy and Gulland (1983) classified harvested stocks in groups according to their pattern of fluctuation. When stocks have periods of high and low abundance they were classified as cyclical, but when the stock is remaining at about the same level for years with variations that do not exceed 20-30% of the long-term average, they were classified as steady stocks. Scallop stocks can be both cyclical and steady. From the small variations in CPUE observed in the Faroese scallop fishery in the last decade, reflecting the status of the stock, it can be inferred as a steady one. However, some variability in recruitment is probably to be expected as for other scallop populations.

The main queen scallop fishing grounds in the Faroe Islands have remained spatially persistent since the fishery began. A known area west of the research fishing area in the north is believed to give recruitment into the northern stock. This area has always been closed for fishing (Reinert, pers. comm.). Areas of good recruitment within each scallop ground may vary from year to year (Brand 2006a). The scallop is a simultaneous hermaphrodite species and the onset of sexual maturity occurs about the age of one year. The fecundity of the young is low but increases with age. The annual reproductive cycle has been studied at various locations but the general trend is a single annual spawning in the northern part of the distribution but multiple spawning in the southern part (Brand 2006a). There are also observed differences in inshore and offshore populations. Ursin (1956) found that Faroese specimens below 25 mm shell height were all immature, individuals 25-39 mm were immature or approaching maturity and specimens more than 40mm were ripe. The main spawning period in Faroese water is from July to September. The settlement of the larvae occurs about 3-6 weeks after fertilization. The first settled stages, the spat, are byssally attached to stones, shell or epibenthic organisms.

The spat has the ability to attach to a relatively large size which probability decreases with age, and when reaching 50 mm in shell height they all are free-living (Paul 1980). Investigations carried out by Carter (2008) showed that they had lost their byssus threads once they reached 15-20 mm shell height, although they may remain attached to larger size. Scallops have the ability to swim, in contrast with the majority of other bivalves which are more or less permanently attached to a substrate or buried (Wilkens 2006). After the byssus the juvenile queens are rather active compared to other scallop species, resting on the bottom but swimming up from the seabed throughout life. The swimming ability varies seasonally; being most active in warmer time of the year, thus escaping trawls and predators. However, swimming is only a short effective distance escape response and the queens can be taken by dredges all the year around (Chapman 1981). Although queen scallops are not capable of swimming large distances, repeated swimming in areas with strong currents can result in downstream dispersal, which may explain fishermen's accounts of scallops suddenly disappearing from a fishing ground (Brand 2006a).

Scallops are filter feeders preferring areas with relatively high current velocities and low suspended sediment concentration as they are filtering phytoplankton and detritus from the water. The queen scallop mainly feed on phytoplankton and detritus but is also able to capture meso-zooplankton (Lehane and Davenport 2002).

The main predators on adult queens are crabs and starfish but more predators such as bottom dwelling fish species, prey on the juveniles. Diseases are not important cause of mortality in queens. Few pathogens have been observed in queen populations in the UK. Rickettsiales-like micro-organisms and microsporidian spores have been reported (Lohrmann 2000). Mortality rates have seldom been determined in queen scallop. On fishing grounds in the Irish Sea instantaneous mortality rates of total (Z), fishing (F) and natural mortality (M) were calculated to be 0.41, 0.21, and 0.2, respectively, per month (Allison and Brand 1995). M is very high but it should be kept in mind that it includes incidental fishing mortality F_i caused by gear damage on the shells. M has been assessed for an unfished scallop bed and was much lower or 0.036 per month (McLoughlin et al. 1991). The big difference is probably because of high incidental fishing mortality (F_i).

3.3.2 Status of the Stock and Stock Assessment

For fishery management it is important to know the geographical boundaries of the stock in concern. The queen scallop stock off the Faroe Islands is well defined within depths and substrata (Nicolajsen 1997). No formal stock assessment has been carried out since the 1980s but there is a considerable amount of information available about the biology, ecology, stock abundance and distribution.

Ursin (1956) mapped the distribution of the virgin scallop stock around the Faroe Islands which he related to substrata and strong tidal currents. He also determined age and growth. Hoydal (1980, 1981) assessed the stock at the outer banks of the eastern area to be 7,700 tons and at the inner banks 4,000 tons using the swept area method. Nicolajsen (1984) assessed the stock size, modeled scallop growth and estimated the fishing and natural mortality, based upon data from Ursin (1956). The estimated stock on the traditional scallop grounds based on the swept area gave 7,300 tonnes, but an estimate based upon catch and mortality gave a stock of 10,500 tons. Nicolajsen (1984) concluded that the fishable stock in the main fishing areas of 1970-1982, a total of 170 km², was between 7,000-9,000 tonnes. Nicolajsen estimated the natural mortality to be 0.6 and fishing mortality 0.3. This mortality is almost the same as assessed for the queen scallop stock in the Irish waters, the Clyde fjord and the Shetlands islands (Mason et al. 1979).

The abundance of queen scallops was measured both by the swept area method $(46.5g/m^2)$ and from CPUE (landings) $(42,8g/m^2)$ the same year (Nicolajsen 1984). Mean wet-weight of a scallops (60 mm high) is considered to be 20g (Nicolajsen 1984) giving a mean of 2 individuals/m² or 200 ind/100 m². This abundance assessed in 1984 is very high compared to what has been observed for the Isle of Man fishery in 2010 (25 scallops/100m²) (Andrews et al. 2011).

Scientific advice regarding the exploratory fishing of the queen scallop stock in the Faroe Islands is provided by the Faroe Marine Research Institute (FAMRI or Havstovan). However, no stock assessment is being conducted, but CPUE in experimental areas in the north and Funningsfjord is monitored.

The licensed fishing vessel is now fitted with a VMS transponder. The VMS data is used to map the distribution of the fishing activity.

In the northern area and outside Funningsfjord (Djúpini sound) exploratory fishing licenses have been issued and monitoring of the stock through CPUE is carried out by the Marine Research Institute (Reinert pers. comm.). A precautionary TAC for the fishery in the northern area has been set for 2011 and 2012. Research on the impacts of dredging on the bottom community has been carried out in the northern area (Matras 2001).

Currently, it is estimated that the fishery covers about 34 km² of fishing area annually, thus only covering about 8.5% of the main eastern and northern fishing areas¹. The stock is of high-fecundity, fast growing, of low tropic-level and maintains high productivity resulting in low probability of recruitment overfishing.

Stock abundance indices based on catch and effort data remain central to many fisheries assessments. Statistically significant relationship between relative abundance measured in surveys in the Isle of Man queen scallop fishery and CPUE derived from fishing logbook data has been observed (Andrews et al. 2011). Standardized CPUE is often used as information to influence the results of stock assessment model such as biomass dynamic models and statistical catch-at-age models. Catch rates are often considered as unreliable information because of many other influencing factors, rather than changes in the abundance e.g. different boats, different fishing gears, seasons, areas, aggregation in the stock (none spatially refined CPUE data),or discards. However, standardization models are used to remove the impact of these factors (Large 1992; Campbell 2004; Bishop et al. 2004; Maunder & Punt 2004; Bishop et al. 2008) leaving an annual effect that serves as a proxy of relative abundance that can be used directly to assess the stock (Maunder & Punt 2004).

In April 2011 ICES workshop (WKCPUEEFORT) on the utility of commercial CPUE and VMS data in assessment was carried out. They concluded that integration of VMS and commercial catch data provides the opportunity to provide fine scale spatial distribution maps of fishing effort and catch distribution maps. However, the research beyond the mapping is only now beginning to come from the scientific community but in many respects the use of catch data for management purpose is still in its infancy. Common data collection format is now essential to ensure data from different sources are compatible (Anon 2011). WKCPUEEFORT recommends the formation of a dedicated project to develop further the scientific and management use of spatially refined catch and effort data and other sources of new technologies (Anon 2011). An EU funded project, *Development of tools for logbook and VMS data analysis*, is ongoing.

In the scallop fishery in the Faroe Islands the catchability of the fishing vessel should remain constant over time. The nominal effort is stable and reflective of actual or effective effort. These are the assumptions that the linearity of proportionality between CPUE and stock status is based on. Similarly, the biases that have been pointed out weakening CPUE data as proxy for swept area data, are not afflicting the scallop fishery in the Faroe Islands, as there is (i) only one boat fishing, (ii) the same gear is used year after year, (iii) season closures have remained constant, (iv) there is one main fishing area, (v) the stock is sedentary and (vi) there is no discarding.

With rapid advantages in electronic and satellite monitoring and data acquisitions systems being used, it has been possible to accurately monitor the spatial distribution of fisheries and to help refine effort estimators.

3.3.3 Harvest Control Strategy

Fishery management of demersal fisheries in the EEZ uses limitations on effort and limitations on fishing in specific areas and seasons to control fishing mortality. This applies to the scallop fishery. The number of licensed vessels (only one) and restrictions on areas and seasons for fishing effectively limit the fishing capacity and hence the level of fishing mortality.

¹ The dredge is hoisted 40-45 times per fishing trip. Each tow is 1 mile (1852m), and the dredge is 7.4m wide (twin dredges of 12 foot each). The area covered per fishing trip is estimated as [1.852km (*lenght of tow*) x 0.0074 (*width of dredge*) x 42.5 (*#of tows*) = 0.58km² per trip]. In 2011, 117 fishing trips were made, thus covering 68km² in total. However, all tows are not side by side and it is estimated that each area is covered at least twice during a year, reducing the actual area fished to 34km².

The harvest control strategy for the queen scallop fishery are based on effort limitation and comprises various measures to that effect, as well as including monitoring and surveillance controls. These measures include:

- **Number of vessels:** only one vessel is licensed and an increase in the number of licensees is prohibited by the commercial fisheries act.
- Seasonal restrictions as specified in the fishing license.
- **Spatial restrictions** as specified in the fishing license.
- **Catching capacity** of the <u>vessel must be unchanged</u> as specified by the commercial fisheries act. This puts restrictions on the size/number of dredges and the size of the vessel used.
- All landings shall be logged and landed at the single processing factory. The landings are frequently verified by Ministry of Fishery officials.
- Logbooks are filled in daily and include records of catch (scallops, commercial fish species), total amount of "rusk" (non-commercial catch consisting mostly of a mixture of shell and stones and some invertebrate species are referred to as "rusk") and fishing positions.
- The vessel is equipped with a transponder (VMS) and positions are sent every second hour to the Inspection services.
- The vessel is part of the general scheme of inspection in the Faroe Islands.

Undersized scallops (<55mm) are returned to the sea having conservation benefit as they are considered to survive with little mortality (Currie and Parry 1996; Nall 2011). There is observer evidence (Kjartan Hoydal, pers. comm.) from studies in the 80s that scallops are alive when returned to sea.

3.3.4 History of Fishing and Management

3.3.4.1 The fishery and the area fished

In the Faroe Islands, queen scallop is common all over, at 50–200 m depth, and occasionally in the fjords (Bruntse 2001) (Fig. 3.1). This is the only commercially exploited mollusk species in the Faroe Islands, though different bivalves and gastropods have been fished for bait and limited local consumption. A fishery directed specifically at queen scallops within the Faroese waters started in 1970 originally inspired by the Scottish queen scallop fishery (Nicolajsen 1997). Landings from the Faroese fishery have been increasing steadily since 1975 and have contributed to more than 30% of the whole European queen scallop fishery in recent years (Brand 2006b).

Initially about 6 boats pursued the fishery (Nicolajsen 1984) concentrating on beds close to shore, leading to locally overfished beds and several boats leaving the fishery (Nicolajsen 1997). Since 1987 the main fishing area has been east of the islands. Exploratory fishing areas are found in the north and outside Funningsfjord in the Djúpini sound (Figure 3.2). Full assessment of the stock in the eastern area was undertaken during the 1980s (Hoydal 1980 and 1981; Nicolajsen 1984) and impact studies of the dredge on the seabed have been undertaken by the Faroese Marine Research Institute (FAMRI) since the beginning of the century (Matras 2001). Research based monitoring is carried out in the northern fishing area and recently also in the Djúpini sound by the FAMRI (Reinert, pers. comm.).

The eastern beds have been fished since the beginning of the fishery in 1970. Since 1988 the main fishing area (Eystanfyri and Sunnanfyri) has been fished by only one boat (FV Nordheim) and has been the main fishing ground. The mean yield of queen scallops from this area 2001-2011 was 4,300 tons annually. In 2011 the landings from the eastern area were 4,600 tons accounting for 98% of the total landings.

Figure 3.2:

Licensed fishing areas for queen scallop *A. opercularis* in the Faroe Islands. No = "Nordanfyri"; Fu = "Funningsfjord"; Ey and Su = "Eystanfyri og Sunnanfyri"





3.3.4.1 Landings and CPUE

Catch per unit of effort (CPUE), expressed as kg of queen scallops caught per foot/hour fishing, from fishermen logbooks is available since initiation of the fishery in 1970 until 1991. Catches and CPUE increased almost steadily in this period (Fig. 3.3; Nicolajsen 1997). CPUE data and landings from 1992 until 2012 are available as well from the log books, but it is reported as kg/hour fished (Fig.

3.4). Information on CPUE and landings is available separately from the three fishing areas (eastern, northern and Funningsfjørður) since the beginning of fishing in each one.

From the initiation of the fishery in 1970 until 1991 the main trend in landings and catch per unit of effort (CPUE) increased due to slow but constant improvement in ships, gears, and fishing skills, as well as a gradual extension of the fishing area from time to time (Nicolajsen 1997). From 1970-1977 the annual catches were stable, about 500 tonnes, and CPUE was only 27kg/foot/hour. In 1978-87 the annual landings stabilized at about 1,900 tonnes and CPUE increased to 69kg/foot/hour (Fig. 3.3). During this period 95% of catches were from two vessels and mainly attributed to an increase in gear capacity to 12 foot dredges. From 1988-1991 the landings were from 2,000-4,000 tons annually and CPUE were around 80-100 kg/foot/hour (Figure 3.3). Two boats participated in the fishery in this period, one in the eastern area (FV Nordheim) and the other, a factory vessel in the northern area.



From 1992-2012 the annual landings fluctuated between 3,100-6,000 tonnes and only one boat was fishing in the eastern area. During this period there were relatively large fluctuations in CPUE during the first decade of the period, after with CPUE stabilized for the latter decade, although it is lower than at the start of the series (Fig. 3.4). From 1991 to 2001, CPUE shows some fluctuations, with the highest CPUE of around 3,300 kg/hour being reached in 1993 and 1999, and the lowest CPUE of 2100 kg/hr being reached in 1995. From 2002-2012, CPUE ranged from around 1,700 kg/hr in 2008 and 2011 to the highest CPUE of around 2,500 kg/hr in 2012. The CPUE in 2012 is similar to that of 2001 and in January 2013 CPUE levels were around 2,200kg/hr.

CPUE for each fishing trip, trend line and standard deviation from the last decade, 2002-2012 from the eastern area (main fishing area), is shown in figure 3.5. In this decade the CPUE has been fluctuating around a mean of 2,000 kg/hour with a slight negative trend which is not statistically significant (p= 0.179; Fig. 3.4). The overall stability of the CPUE demonstrates the effectiveness of the fishermen's implicit strategy of leaving an area when CPUE falls below a certain level. Fluctuations are more pronounced in the exploratory areas.

Figure 3.5:



Figure 3.6

CPUE series (all catches) per fishing trip and a trend line (p=0.006) for queen scallop in 2001-2006 for the main eastern fishing area in the Faroe Islands.



Figures 3.6 and 3.7 show CPUE data from the time periods 2001-2006 and 2007-2012, respectively. The CPUE in these two 6 years intervals show a just significant downwards trend for the former period (p= 0.006), and a just significant upward trend (p= 0.008) for the latter period. CPUE in the 2001-2006 period appears to be more stable with only two large spikes in CPUE, whereas the latter period (2007-2012) show larger fluctuations of the CPUE.



Scallop stocks are known to be spatially and temporally variable due to recruitment variability, catastrophic mortality and longevity (i.e. a short-lived species) (Vause et al. 2007). Recruitment in scallop stocks are likely to be influenced by a variety of factors such as spawning stock biomass, environmental conditions, and the availability of suitable habitat for e.g. spat settlement. In general shorter-lived species such as queen scallop productivity is more variable (Vause et al. 2007; Beukers-Stewart et al. 2009). In the Faroe Islands there is limited knowledge on recruitment patterns into the scallop stock; however, it is likely that recruitment variability is reflected in fluctuations of the CPUE and landings to some extent, as fishing capacity has remained stable for the past two decades. However, the CPUE increase in 2012 should be interpreted with care, since additional weight was added to the dredge, which is said to increase CPUE only during bad weather, but not during normal conditions. However, data has not been provided to support this claim.

As mentioned before, the northern area was fished from 1989-1991 by a factory vessel but was subsequently closed until 2003. Since 2003 the landings have been very small, e.g. only 300 and 509 tons in 2006 and 2011 respectively. CPUE in these years was 1900 and 1800 kg/hour, respectively (Figure 3.8A). In 2012 CPUE in the northern area increased to about 2900kg/hr and landings to 1600 tonnes, which exceeded the TAC of 1,000 tonnes for the northern area. However, the FAMRI conducted a survey in cooperation with the vessel in the north, and additional TAC was given for this purpose, explaining the higher landings.

Funningsfjord (Djúpini sound) has only been fished experimentally since 2010 (only one trip in 2009). Landings for each fishing day and CPUE are shown in fig. 3.8B. Annual landings are small, only 554

tons in 2010, and 918 tons in 2012. In 2011 no fishing took place in the area. CPUE in this area fluctuated in 2010 but was stabilized in 2012 with an average of 3 300 kg/hour (Figure 3.8B).



Figure 3.9:





Mean CPUE from all fishing areas in the Faroese waters from 2002-2012 is shown in figure 3.9. CPUE in the main fishing area (east) higher and more stable compared to fluctuations visible in the exploratory area in the north. There was sharp increase in CPUE in 2012 in the north coinciding with an increase in number of fishing trips from 10 in 2011 to 29 in 2012. Fishermen reported that fishing in the northern area was exceptionally good in 2012. The area in Funningsfjord (Djúpini sound) is a

new exploratory area and CPUE there has increased considerably between years (Figure 3.9). Only 14 fishing trips were made in Funningsfjord in 2012, and none in 2011.

3.3.4.2 The fleet and the gear

Since 1988 the fishery has been carried out by one vessel, (FV Nordheim) that holds the only queen scallop license. However, a factory vessel was allowed to fish the northern area in 1989-1991, but not the main traditional (i.e. eastern) beds.

The overall size of the client's scallop fishing boat is 150 GT (Figure 3.10). Fishing trips in the eastern area are up to 5 per week depending on the weather, with each trip lasting around 25-30 hours port to port. Catches are landed after each fishing trip. Typically around 120 fishing trips per year are made as the fishing season lasts about 8 months. The fishing season in the eastern fishing area is from August until March coinciding with highest meat content and avoiding the main spawning period during summer. Fishing seasons are specified in fishing licenses.

In the northern area, where a small quota has been allocated, the fishing period is from February until December. Fishing locations are recorded by the skipper using Geographic Information Systems (GIS) and VMS.



Throughout the history of the Faroese queen scallop fishery various types of dredges have been used. However during the period 1978-2012 the same gear type has been used. Scallops are fished using twin dredges, with each individual dredge being 12 foot wide. The dredge has a beam with D-shaped sections on either side and in the middle. The dredge uses tickler chains instead of spring loaded teeth often used elsewhere. The belly of the dredge is made up of 55mm diameter rings or chain matrix, and the mesh bag contains 75mm mesh (Fig. 3.10). In 2012; additional weight of 300kg was added to the twin dredges to enable fishing in bad weather. The current total weight of each dredge is 1700kg. Twin dredges are towed for up to 40 minutes; resulting in about 20 minutes of active fishing time on the bottom, and the catch is then hauled on board. The catch goes to a receiving tank where it is sorted through a series of mechanical grids on deck into three parts; (a) undersized scallops, sand, and "rusk", which is returned to the ocean by a shoot; (b) items larger

than scallops such as rocks and fish; and (c) scallops, which are transferred to landing boxes on deck via a conveyor belt and shoot.

The following changes have been made to the fishery:

- 1988: The FV Nordheim becomes the only vessel fishing for queen scallops
- 1992: New winches are installed on the fishing vessel
- 1998: A new skipper is employed
- 2007: O.C. Joensen bought by Thor Ltd.
- 2010: A new skipper is employed
- 2012: Additional weight added to dredge to enable fishing during bad weather.

3.3.4.3 Management of the fishery

The area inside 12 miles off the Faroe Islands has a permanent ban on fishing gears dragged over the bottom. It is an area set aside for traditional longline and handline fisheries by smaller vessels in the category under 15 GRT. However, there are two derogations from the overall ban; the summer trawl fishery for flatfish (lemon sole and plaice and monkfish) and the dredge fishery for scallops (*Aequipecten opercularis*).

Fishing licenses for scallops are awarded by The Ministry of Fisheries and Natural Resources, who also carry out all monitoring, control and surveillance. The license is valid for one year and after that it has to be renewed. The licenses granted are area specific and since 1988 only one license has been available to target this species with an exception of a factory vessel dredging in the northern area 1989-1991. There is no consideration for further licenses to be made available for more vessels to enter the fishery. All new applicants for the queen scallop fishery have been rejected on economic and sustainability grounds, and the commercial fisheries act prohibits increase in number of licenses in any fishery. In this context the management advice is based on one vessel targeting scallop stocks in the three license areas; eastern, northern and Djúpini sound. CPUE information from the eastern area is available from the beginning of the fishery in 1970.

The license holder is required to keep a daily logbook. The logbook includes fishing position each day (GIS and VMS transponder), depth, fishing time, and total catch. The duration of the tow, dredging speed and number of hauls for each fishing day is also known. The area swept by the dredge is thus known and the catch from the area as well, making it possible to assess the biomass of the dredged area, provided that the efficiency of the dredge is known.

Landings of scallops are all made at the single processing factory and are logged on each occasion and frequently verified by Ministry of Fishery officials. All commercial fish bycatch must be logged and landed at an authorized scale.

Bycatch of demersal fish species is allowed in the fishery with a limit. Bycatch of demersal fish species must be less than 1% of the total scallop landings for the entire season. These limits are specified in the fishing license issued to the company from the Ministry. Actual bycatch of fish species is very low and these limits are never reached.

3.4 Principle Two: Ecosystem Background

3.4.1 Ecosystem and Habitat

3.4.1.1 Ecosystem and important habitats

In Faroese shallow waters, there are strong tidal currents, mixing shelf water very efficiently. This results in homogeneous water masses in the shallow shelf areas, which is relatively well separated from offshore water by a persistent tidal front, which surrounds the shelf at about the 100–130 m

bottom depth. In addition, residual currents have a persistent clockwise circulation around the islands. The seabed in shallow (on-shelf) regions, except sheltered fjords, consists mainly of sand and stones due to strong tidal currents. Silt and organic material are found in deeper areas (ICES 2008).

In the Faroe Islands the main areas for fishing queen scallops are in the on-shelf area predominantly on sandy bottoms with considerable amounts of course material, especially shell but also stones and gravel, interspersed with areas of rock.

Observations on biogenic sediments, substrates and habitats and involved species have been made in waters around the Faroe Islands during the BIOFAR 1 and BIOFAR 2 programs, covering depths from 100-1000m, and the tidal zone to 100m, respectively (Tendal & Dinesen 2005). Information on the program can be found at <u>http://www.biofar.fo</u> and a map of stations can also be found (see here).

Bruntse & Tendal (2001) described assemblages of invertebrates and bottom types around the islands (Fig. 3.11). The main scallop fishing grounds are found at 60-110m depth and occur on sandy, rocky or soft bottom (Nicolajsen 1997; Bruntse & Tendal 2001). However, most fishing takes place between 30 to 80m depth. According to the skipper of the F/V Nordheim the main eastern fishing area is rocky close to shore, with deeper areas becoming sandier. The northern area is sandy with some rocks and fishing is possible over the whole area (Hoydal et al. 2011, pers. comm. R. Heinesen, skipper of Nordheim). In Funningsfjord (Djúpini sound) there is only sandy bottom with no rocks. However, in this area a lot of garbage is found on the bottom.

The F/V Nordheim has used sonar for the last 15 years to build up detailed records of the seabed over time. These records help them to avoid hard structures on the bottom that can potentially damage the gear.

In the Faroese ecosystem, there are two ecologically important prey species; sandeel and Norway pout. Both species are important food items for birds and demersal fish species, and the sandeel is most important in the shallower shelf area (ICES 2008). Detailed records of food consumption for saithe, cod and haddock are available. Cod and haddock show variety in prey items and feed on benthic species as well as fish. However, fish is the more abundant prey item; sandeel being preferred when abundant (ICES 2008). Monitoring of environmental parameters started in 1990 and there is a clear relationship between primary production and higher trophic levels (ICES 2008), and fish production is clearly food limited.

Benthic fauna on the shelf, where scallops mainly occur, is diverse with e.g. polychaetes, decapods, echinoderms, and bivalves as important groups (ICES 2008). Corals and sponges occur mainly on the slope and are found outside the area of the main scallop distribution (Fig. 3.11; Bruntse & Tendal 2001; ICES 2008).

Tendal & Dinesen (2005) identified the following biogenic habitats in the Faroe Islands: Shell-sand and -gravel, coralline algae, *Laminaria* holdfasts and stipes, sponges, sponge spicule-mud and -mats, octocorals, *Lophelia* banks, horse mussels, scallop, pagurids and their gastropod shells, and brachiopods. In most of the shelf samples of the BIOFAR program, the number and abundance of macrofauna was low, and comprised mostly of species that are common and have a wide northern boreal shelf distribution (Tendal & Dinesen 2005).

Tendal and Dinesen (2005) report sediment of the outer shelf (100-200m) to be shell-gravel mixed with sand and stone, with the main shell component being large fragments from *Modiolus* and other molluscs. Coralline algae and *Laminaria* are found from littoral areas down to depths of 20m. Sponge dominated habitats are widely distributed around the islands on coarse gravel bottoms at 200-500m depth and sponge spicules are found in sediments of various sponge habitats and they are only found locally. Sensitive octocorals, which are most vulnerable to disturbance, are found scattered along the shelf edge. *Lophelia* beds are thought to be an important biogenic habitat and are widely distributed around the Faroe Islands, and found at depths of 200 to 1000m (Frederiksen et al. 1992;

Tendal & Dinesen 2005). None of these biogenic habitats overlap with the main distribution of queen scallop (Fig. 3.11).



Horse mussel (*Modiolus modiolus*) is considered to be an important living substrate for other species. *M. modiolus* is distributed all around the Faroe Islands and occurs from 0-200m depth and forms dense aggregations in some areas at depths of 65-95m covering 100% of the seafloor. These aggregations house a variety of animal species representing most higher taxa of marine macrofauna. However, so far no species are known to be obligate associates with horse mussels. The *M. modiolus* aggregations may be important nursing grounds for juvenile fish providing both food and shelter (Tendal & Dinesen 2005). Rees (1999) suggests that bushy hydroids and bryozoans associated with horse mussel beds can possibly serve as nursery areas for adjacent bivalve communities such as *Aequipecten*. Horse mussels are not protected in the Faroe Islands and are subject to a small fishery for local consumption and bait (Hoydal et al. 2011).

Some of these dense aggregations of horse mussel overlap with the queen scallop fishing grounds. The skipper of the scallop vessel Nordheim has reasonably good knowledge of these areas and avoids fishing in dense horse mussel beds (pers. comm., Jógvan Martin F. Joensen, O.C. Joensen). Distribution of dense horse mussel beds is less well known in the exploratory areas. However, if horse mussel is found in a tow, the vessel immediately moves to another area (pers. comm., Jógvan Martin F. Joensen, O.C. Joensen). In the established fishing area, bycatch of horse mussel is restricted to few specimens and are estimated to be far less than 0.1% of the catch.

3.4.1.2 Fishery impacts on habitats

The queen scallop fishery impacts the queen scallop habitat to an unknown extent in the main eastern fishing area and the two smaller exploratory fishing areas in the north and in Funningsfjord (Djúpini sound). The eastern area has been subjected to long-term dredging by a single fishing vessel, which operates in a restricted area and dredging takes place for 8 months of the year. The exploratory areas are subject to less dredging, e.g. only 14 days of fishing were allowed in the Funningsfjord (Djúpini sound) in 2012. The northern area has a TAC limit and only 10 fishing trips were made in 2011. However, the number of fishing trips in the northern area increased to 29 in 2012, due to good catches in the area and a survey that was conducted in cooperation with FAMRI. The queen scallop is widely distributed around the Faroe Islands and only a limited area of its entire habitat is being exploited (see figures 3.1 and 3.2). Nicolajsen (1997) reported the area of queen scallop main fishing beds in the east and north to be about 400 km²; still only 8.5% of it is dredged. There is an area particularly to the west of the northern experimental area where some recruitment into the stock is believed to come from (pers. comm. Reinert, FAMRI; also see fig 3.1). This area has always been closed to fishing.

There are numerous studies that demonstrate the alteration of physical habitat in response to dredging. The main impact is the reduction of topographical complexity by removal or decrease in the biogenic fauna. The most sensitive for dredging are the emergent epifauna as hydroids, bryozoans, sponges, soft corals e.g. dead man's fingers (*Alcyonium*) but organisms such as echinoid, molluscs and crustaceans can also be affected (Watling & Norse 1998; Collie et al. 2000; Veale et al. 2000; Kaiser et al. 2006; Lökkeborg 2005). The impact on the benthic community can both be short-(Thorarinsdottir et al. 2008; Kaiser et al. 1998) and longterm (Hill et al. 1999). The physical impacts and the gravity of lasting implications depend on the specific environment. The damage is strongly affected by the nature of the substrate. Communities on sand are considered to suffer less damage and recover more quickly than communities on coarser substrates (e.g. Kaiser et al. 2006; Hall et al. 2008) and communities in strong currents or at low water, where storm generates turbidity, are lesser affected than communities in calm water (Lökkeborg 2005). In the Faroe Islands, queen scallop occur in areas dominated by strong tidal currents (Bruntse 2001; ICES 2008), and fishing occur on soft bottoms, thus lessening the effects of dredging on communities.

The twin dredges used in the Faroese fishery are 3.7 m wide each. It is not known if they weigh more per unit area of seabed than those used in scallop fisheries elsewhere, as the weight of dredges is not commonly given in published reports and papers. However, these dredges lack the teeth of the Newhaven dredge commonly used elsewhere which are often thought to be particularly damaging (Veale et al. 2000; Bradshaw et al. 2002; Hinz 2011).

An experimental investigation on impacts of commercial scallop dredges on the seabed in the scallop fishing area in the north of the Faroe Islands was carried out in 1997-1998. The area represents a typical queen scallop fishing ground in the Faroese on a sandy bottom. The investigation was carried out on a square mile of seabed that was divided into three; where an unfished control area was compared to an area covered by 100% dredging and an area of 200% coverage by the dredge. The results based on animals >3mm indicated that in 31 out of 51 "species/groups" analyzed statistically, numbers and average size of the animals were reduced in the areas dredged. However, in some cases the effect was seen as a reduced rate of increase compared to the control area rather than an overall reduction in biomass or numbers. Sedentary animals were affected more than mobile fauna as was to be expected. Impacts were greatest 1 year after dredging compared to shorter periods; and it was concluded that recovery of the area subject to 100% coverage was more rapid than that subject to 200% coverage. According to the data presented, however, this conclusion is questionable, as it appears that the last survey, carried out one year after the experimental dredging, was the one showing the greatest effects. Overall 124 "species/groups" were found in the survey and the authors considered that overall diversity was unaffected, with no species disappearing and no new species being found in the area dredged (Matras 2001).

Considerable sampling has been carried out before and after the experimental dredging activities (Matras 2001), all from the client vessel, involving camera, dredge and grab sampling, but only a limited amount of analysis has been carried out.

Using detailed information provided by the company on size of gear, tow speed and the amount of time spent towing, it can be calculated that the swept area in 2011 equates to an estimated 34km². This covers only 8.5% of the main fishing area which is 400km², leaving more than 90% untouched. This is a minimum estimate of coverage since queen scallops are found all around the islands. Undoubtedly within the main fishing areas there will be favored areas that are swept more frequently and less favored areas that are never/rarely fished.

The great majority of suitable queen scallop seabed around the Faroe Islands is and will be unaffected by this fishery. The reasons are closed recruitment areas in the west, areas too deep for commercial densities of queen scallop, areas unsuitable for dredging because of depth or bottom type.

It has been reported that scallop dredging can have severe and long term effects on *Modiolus* beds over quite extensive areas (e.g. Holt et al. 1998; Rees 2009). The Faroese fishery is mainly conducted in the east of the islands in an area overlapping to some degree with *M. modiolus* (Fig. 3.11). However, the scallop fishery avoids fishing in these *Modiolus* beds avoiding conflicts with horse mussel fishermen. If horse mussel is encountered in the catch e.g. in the newer exploratory areas, the vessel immediately moves to other fishing grounds. It is also evident that many of the larger *Modiolus* dominated areas in the Faroese occur in areas that are not fished for queen scallops (Fig. 3.11). *Modiolus* were present in the area used for experimental dredging to the North of the Faroese but numbers were unaffected by the dredging according to Matras (2001).

3.4.2 Retained Species and Bycatch

Discarding is not permitted in any fishery within Faroese waters and all catch must be landed. However, bycatch of invertebrate species are allowed to be returned to sea.

The bycatch species in the fishery are invertebrates such as starfish (*Asterias rubens*), common whelk (*Buccinum undatum*), horse mussel (*Modiolus modiolus*) and urchins (*Echinus esculentus*) which are returned alive to the sea. The survival rate of invertebrates is highly variable depending largely on the robustness of the species. Taxa protected with exoskeletons or shells or that can regenerate missing limbs such as starfish have high survival rate (Kaiser and Spencer 1995; Jenkins et al 2001; Pranovi 2001).

Bycatch mostly consist of starfish and it is estimated that 300-500 starfish are caught per fishing trip. However, they are returned to sea and seem to be unharmed.

Retained species are commercial fish species and are limited to small amounts of mostly cod and monkfish, possibly 10-15kg per fishing trip. The catch of these fish species is far below the 1% bycatch limit specified in the license. In fact it is so low, that it is mainly subsistence fishing for crew members.

Non-commercial catch, referred to as "rusk", consists of a mixture of empty shell and stones, sometimes with small amounts of starfish, urchins, whelks and/or horse mussels, as well as "grass", probably bushy hydroids and /or bryozoans of various species. In most instances the rusk is virtually all dead shell. Crushed shell, both from the rusk and from processing are mainly exported for use as animal feed. Rusk is considered to be neither bycatch nor retained, since it is virtually all dead shell and stones.

3.4.3 Endangered, Threatened or Protected (ETP) Species

The Faroe Islands is party to a number of international conventions, either as the signatory or through Denmark, e.g. NAMMCO (Research and management on all marine mammals in the NE-

Atlantic) and the RFMOs NEAFC, NAFO and NASCO. Faroe Islands participate in OSPAR and the IWC via the Danish delegations.

ETP species found within the area are likely to include seals and a variety of cetaceans and birds (Hoydal et al. 2011). The skipper reports that interaction with marine mammals such as seals and whales are limited to a few sightings in the distance annually. There has never been any catch of marine mammals in the dredge and this is considered to be highly unlikely (pers. comm., Bjarni Mikkelsen, mammal expert, Faroese Natural History Museum). Sensitive corals, such as *Lophelia* beds also occur in the Faroe Islands, but they do not occur in the fishing area for scallops (Bruntse & Tendal 2001; Tendal & Dinesen 2005; see Fig. 3.11).

Habitats on the OSPAR list of interest are Deep sea sponge aggregations, *Lophelia pertusa* reefs, and *Modiolus* beds. These are all discussed in section 3.4.1. In summary, deeps sea sponge aggregations and *Lophelia* beds occur in deeper water and do not overlap with the fishery (see Fig. 3.11). Horse mussel (*Modiolus*) beds partially overlap with the queen scallop habitat. However, the largest distribution of horse mussel is found outside the area of scallop distribution.

3.5 Principle Three: Management System Background

3.5.1 Area of Operation and Jurisdiction

The Faroe Islands are a self-governing nation under sovereignty of the Kingdom of Denmark. Legislation and governance are independent in a wide range of areas, including the conservation and management of living marine resources within the 200-mile fisheries zone, protection of the marine environment, sub-surface resources, trade, fiscal and industrial relations, transport and communications, culture, education and research (<u>http://seasthefuture.com</u>).

The Faroe Islands have their national legislative assembly (Løgting), national government (Landsstýri) as well as a local court; the Føroya Rættur. Higher courts are located in Denmark; Landsret and Højsteret, which retains ultimate responsibility for justice. The Faroe Islands is a part of the Kingdom of Denmark; however it is not part of the European Union, and the common fisheries policy does not apply. The Landsstýri and Løgting adopt all regulations within the Faroese 200 nm EEZ. The Ministry of Fisheries issues fishing licenses and conducts all monitoring, control and surveillance.

As previously noted a permanent ban on trawling and/or other fishing gears dragged over the bottom is in force within the 12 mile fishing zone around the Faroe Islands. This area is set aside for traditional long- and handline fisheries by vessels less than 15 gross tonnage (gt) of size. However, there are two derogations from this ban, i.e. the summer trawl fishery of flatfish (lemon sole and plaice) and monkfish, and the dredge fishery for queen scallop (*Aequipecten opercularis*). The licenses granted subject to those derogations are area specific.

The fishing of scallop in Faroese waters is restricted to the following three areas (see also section 3.3.4.1 and figure 3.4):

- **Area 1** East: This fishing area is located to the East of the island of Nólsoy. This area originally opened in 1969-1970 and typically yields 4,000 tonnes of queen scallop per annum. The fishing license restricts fishing to a specified area and to the period from August to March.
- Area 2 North (exploratory license): The grounds to the north of the Faroe Islands can presently only be accessed with an exploratory license and the area has been used by the FAMRI (Havstovan) to study dredge-benthos interactions. O.C. Joensen's vessel Nordheim has such a license to fish in this area but conditions are attached and fishing is in cooperation with the FAMRI. From 2008 to 2010, the TAC was 1,500 tonnes, but this was reduced to

1,000 tonnes in subsequent years, as the TAC was never caught. A research survey was conducted under the management of FAMRI (Havstovan) in 2012, and additional TAC was given for the survey.

Area 3 Funningsfjørður (Djúpini sound exploratory license): This license is normally restricted to 12 days of fishing per annum. However, the license was extended to 19 days in 2012 in response to good catches in the area under supervision of FAMRI. Spatial distribution of fishing is also restricted. Fishing is allowed out of Funningsfjørður, outside of a line drawn between Funningsmúli and Fjallatangi.

3.5.2 Interest Groups

Since 1988 the O.C. Joensen company vessel, Nordheim B/V, has held the only issued license to fish for queen scallops anywhere in Faroese waters. However a factory vessel was allowed to fish the northern area only in 1989-1991. Commercial scallop fishing in the north ceased when that vessel was sold. In recent years, other vessels have applied for licenses to this fishery. All these applications have been turned down by the Ministry as the commercial fisheries act prohibits increase in the number of licensees in any fishery. Information from the Ministry indicates that no other licenses will be issued in the future.

Most other fishers in the area operate static gear such as pots or line, as there is a ban on gears dragged over the sea bottom within 12nm. Other fisheries include jigging, hand- and longline for finfish, and potting for lobsters and whelks. The whelk fishery overlaps with the scallop fishery in the eastern area. However, static gear always takes priority by law. Some conflicts arise due to poor information and marking of whelk pots. Conflicts arising between gears are mostly resolved skipper to skipper.

The Association of small fishing vessel owners (Meginfelag Útróðrarmanna, MÚ) expressed some concern regarding the effect of scallop dredging on the habitat and scallops being a prey species for cod and haddock. However, no evidence was provided by MÚ to substantiate those concerns. Stomach contents of predators are regularly monitored by the FAMRI, and scallops are not considered as a main or important prey species in Faroese waters (stakeholder consultation, pers. comm. Reinert & Gaard). Studies show that important commercial fish species such as cod, haddock and saithe prey on fish and other benthic animals. However, fish is the main prey item and sandeels are the preferred prey item when abundant (ICES 2008). The scallop fishermen also avoid dense aggregations of horse mussel, which may be important nursery areas (Tendal & Dinesen 2005).

3.5.3 Fisheries Management and Administration

3.5.3.1 Legal framework and international agreements

The Faroe Islands have Home Rule within the Kingdom of Denmark. The Faroese legislative assembly, the Løgting, has full jurisdiction in all matters of the living resources of the Sea. The Faroe Islands have a 200nm EEZ and have reciprocal arrangements with neighboring countries in the North Atlantic region, i.e. the European Union, Iceland, Norway, Russia and Greenland (<u>www.fishin.fo</u>). The Faroe Islands are party to the following international bodies and conventions associated with fisheries management:

- The Faroe Islands is an Associate Member of the Food and Agriculture Organization of the United Nations (FAO).
- The Faroe Islands is a party to the FAO family of agreements through the Denmark, including the FAO Code of Conduct for Responsible Fisheries adopted by the FAO Conference in October

of 1995. Faroe Islands have adopted that the conventions also apply to the Faroe Islands in the legislative assembly (Løgting).

- The Faroe Islands legislative assembly adopted the United Nations Convention on the Law of the Sea (UNCLOS) – "Constitution for the Oceans" – on 10 November 1994 under Denmark as the signatory.
- The Faroe Islands is a signatory to the United Nations Fish Stock Agreement (UNFSA), i.e. the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (adopted in 1995 and in force as of 11 December 2001).

Faroese authorities have full jurisdiction of all living resources in the Faroese Exclusive Economic Zone (EEZ). Most demersal stocks in the EEZ are not shared stocks, but are fully regulated by Faroese authorities. Regulations of all fisheries in the EEZ and Faroese fishing vessels outside the Faroese fisheries zone are based on the Commercial Fishery Act, 1994. Articles 1-3 of the Act read as follows:

- 1. The Act encompasses all commercial exploitation of living resources in the Faroese Fisheries Zone and exploitation by fishing vessels flying the flag of the Faroe Islands in waters outside the FFZ. Excepted are living resources in rivers and lakes and whales, seals, birds and reared fish.
- 2. The living resources in the FFZ and the allocations the Government of the Faroe Islands has acquired outside the FFZ are the property of the Faroese People. In the administration of this act the aim should be to conserve the resources and exploit them in a sustainable and rational way, both in biological and economic terms, and with due concern for the relationship between stocks of plants and animal in the Sea and their abundance, in order to secure the most optimal flow of benefits for the society, constant employment and income and possibilities for commercial activities all over the country.
- 3. Fishing rights allocated in accordance with this act do not transfer property rights to the licensees. The fishing rights can be withdrawn without compensation (paragraph 2).

These three articles clearly state that all commercial fisheries by Faroese fishing vessels are regulated under the Act. Article 2 states the principles and objectives which meet requirements in international law and instruments such as: The UN Convention on the Law of the Sea (1982), UNCLOS (entered into force 1994); The UN Fish Stock Agreement 1995 (entered into force 2001); The FAO Compliance Agreement; The Code of Conduct for Responsible Fisheries (adopted by FAO in October 1995); The Rio declaration and Agenda 21 and 2002 and 2012 commitments. An ecosystem approach is highlighted internationally by fishery bodies like NEAFC and their UN cooperation partner FAO and regional Seas bodies, like OSPAR and the Convention on Biological Diversity, CBD. It is generally considered that the FAO Code of Conduct fulfils the requirements set out by CBD.

The Faroe Islands is an observer in ICCAT and ICES. It is a contracting party to the following Regional Fisheries Management Organisations in the North Atlantic: NEAFC, NAFO, NASCO and NAMMCO. The Faroe Islands is a partner in 4 Coastal State Groups in the North Atlantic involving the following shared stocks: Norwegian Spring Spawning (Atlanto-Scandian) herring; Blue whiting; Mackerel and Oceanic redfish in the Irminger Sea.

When the Bill of Commercial fisheries was developed and enacted in 1993, the Faroese authorities realized that fisheries cannot avoid having an impact on the marine ecosystems in the process of producing seafood from healthy fisheries. However, they also recognized that fishing communities must be allowed to pursue their legitimate business of establishing economic development that meets the needs of the present generations, without compromising the ability of future generations to meet their needs. It was also realized that the Bill had to balance conservation and optimal utilisation of the living resources of the sea and to mandate fisheries managers to plan, develop and

manage fisheries in ways that address the expectations and objectives of the society, and maximize the flow of benefits over time from marine resources. At the same time management should reduce the risks of impacts that lead to irreversible or avoidable changes to ecosystems and biodiversity. The Bill aimed at meeting the commitments coming out of the first World Summit in Rio de Janeiro in 1992 and meeting all other commitments emanating from international law and associations.

Table 3.1:

Vessel groups of demersal fisheries in the Faroese EEZ for the 2012/13 fishing season

Vessel groups	Group	Fishing Licenses
Trawlers	2	37
Longliners	3	20
Coastal vessels:		
Larger than 40 GRT	4A	26
15-40 GRT	4B	17
Less than 15 GRT	5	637

3.5.3.2 Administration

The Ministry of Fisheries (<u>www.fisk.fo</u>) is the government authority responsible for the conservation and exploitation of the Faroe Islands fisheries resources. The Ministry issues fishing licenses which are subject to annual renewal, provided the license requirements continue to be met. Effort is controlled either by the number of fishing days or by quotas. Licenses are transferable and can be merged within sectors.

The Commercial Fisheries Act was first adopted by the parliament in 1994 and fishing mortality was controlled by Total Allowable Catch and individual transferable catch quotas. Two years later this was changed to a management system of individual transferable effort quotas for the demersal fisheries in Faroese waters. The quotas are not given as TACs for individual species but as fishing days for various groups of demersal fishing vessels in the Faroese fisheries zone (Table 3.1). According to standard theory this controls fishing mortality directly (input control) avoiding the problems of discards and misreporting. Special fisheries in the Faroese EEZ like the greater silver smelt fishery, gillnet fishing in deep water and the scallop fishery are not included in this fishing days system, but are reviewed separately by the Ministry. The fishing days for the main groups of demersal fishing vessels were calculated for each vessel group based on the data series from 1985-1994. The decision process for the allocation of fishing days are shown in Fig 3.12.

In each fishing year (September-August), each group of vessels is allotted a number of fishing days and these are again divided between a number of individual licensees in each group.

The Committee on Fishing Days, which is made up of industry representation, makes recommendations to the Minister of Fisheries. The FAMRI also assesses the state of the stocks and makes recommendations on the number of fishing days and other regulatory measures. The Minister then makes a decision and prepares a bill to amend the Commercial Fisheries Act. This bill is reviewed by the Fisheries Advisory Committee and is then introduced to the Faroese legislative assembly (Løgting) shortly before a new fishing year starts on the 1st of September every year (see Fig. 3.12).

The core advice for the management of fisheries in the Faroese EEZ is the advice provided by the ICES Advisory Committee (ACOM). The working group responsible for providing advice on fisheries in

the Faroe Plateau Ecosystem is the North-Western Working Group. The main commercial fish stocks in the Faroese fisheries zone have been assessed annually since the 1970s. The assessments are undertaken by the FAMRI and after that go through the working group system and the advisory process of the International Council for Exploration of the Sea, ICES. The assessments have generally been considered of high standard, benefiting from the fact that there are no incentives neither to discard fish nor underestimate catches.



The main objective of the regulatory system is to provide a framework for sustainable fisheries with respect to both biological and economic considerations. All fisheries organizations in the Faroe Islands support the regulatory system. When the system was changed in 1995 from a system with catch quotas to a system with effort quotas, all fisheries organizations signed up to the system, which provides a unique advantageous situation.

The system minimizes the risk of discards and forged catch statistics. It is also seen as an advantage that it makes it unnecessary to set annual quotas on single stocks as the basis for the fisheries regulation, but allows certain flexibility between main stocks over a number of years, driven by catches and market prices.

The inherent problem in a regulatory system based on effort is to monitor increases in efficiency which could change the fishing capacity of the different vessel groups. Since 1996/1997 the number of fishing days has been reduced by 25-30% for the largest vessel groups, but the level of efficiency has still to be analyzed in detail.

In addition to proposing fishing rights in the form of a bill submitted to the legislative assembly, the minister and the Fisheries Administration have the mandate to allocate fishing rights in the form of fishing licenses stipulating the particular conditions for fishing. The license system applies to all fisheries; including the scallop fishery.

3.5.3.3 Stakeholder communication

Communication between fishing companies, management bodies and other stakeholders of the Faroese fisheries sector appears active and transparent. The small size of the Faroe Islands simplifies matters in this respect.

Industry is involved in the decision making through the Fisheries Advisory Committee (FAC), which scrutinizes all bills and executive orders related to fisheries regulations, and through the Committee on Fishing Days, which makes recommendations to the Minister of Fisheries (Fig. 3.12).

Apart from industry involvement in the decision making process, the Ministry also takes into account scientific advice on fishing days and other regulatory measures provided by the FAMRI.

3.5.3.4 Dispute resolution

Faroese legislation enables ordinary citizens as well as fishing operators to submit matters of dispute, including administrative decisions, for resolution by the Ministry of Fisheries.

The legal framework for the handling of infringements is found in the Commercial Fisheries Act Chapter 10, Articles 40 to 48. The following penalties apply:

- Temporary or permanent loss of fishing license.
- Loss of catch and gear. This is mandatory if the infringement is fishing without fishing license, fishing in closed areas and discarding.
- Fines.

Complaints, including dissatisfaction with the handling of a case put to the Ministry, can be submitted to the Ombudsman of the Løgting (<u>www.lum.fo</u>) or brought before the courts.

3.5.4 Monitoring, Control and Surveillance

All monitoring, control and surveillance is undertaken by the Ministry of Fisheries located in Tórshavn. The following aspects are included in monitoring by authorities:

- **Logbooks:** The Logbooks are filled in daily and include records of catch, including total amounts of "rusk", as well as queen scallop catch and commercial fish species.
- VMS: The vessel is equipped with a transponder and positions are sent every second hour to the Inspection services. In addition to this the vessel logs fishing positions.
- Inspections: The vessel subject to the general scheme of inspection by Faroese authorities as all other vessels.
- Landings and related data: Scallops are landed at a single processing factory owned by the same company as the fishing vessel. Records of landings, "rusk" and bycatch are sent to the FAMRI. These landings can easily be verified by Ministry officials.
- **Infringements:** According to the Ministry of Fisheries there have been no recorded infringements associated with the queen scallop fishery.

3.5.5 Fishery Regulation and Planning

3.5.5.1 General fishery regulation and planning

All of the relevant rules are implemented through Faroese National Law. The Commercial Fisheries Act, passed by the legislative assembly in 1994, requires sustainable exploitation of resources – both economically and biologically, with due regard to biodiversity and social and economic considerations.

The demersal fisheries in the Faroese EEZ are regulated with a system of transferable quotas of fishing days, total allowable effort input control. The specific objective is to limit fishing effort
(fishing mortality) to a level compatible with optimal utilisation of the demersal resources. The system has gear regulations and an extensive system of area closures. There is a general cap on the number of licenses and it is only possible to move a license to another vessel if it has the same or less fishing capacity. The annual stock assessments and reviews by the advisory bodies and the Ministry are supposed to spot technical creep, which then results in a reduction in the number of fishing days. The fishing days have since the introduction of the fishing day system been reduced with approximately 30 %.

Within the 12nm zone there is a permanent ban on all mobile fishing gear dragged along the bottom, from which there are two derogations: (1) The fishery for queen scallops (one fishing vessel with licenses in three areas) and (2) a small scale summer trawl fishery with vessels, 10m or smaller in overall length, in restricted areas for plaice, lemon sole and monkfish. Jigging and longlining for finfish are allowed as well as potting for e.g. lobsters and whelks, an important bait item in the Faroe Islands. The whelk pot fishery overlaps with the scallop grounds in the inshore parts of the eastern area. Legislation gives priority to static gear over mobile gear within this 12nm zone.

Figure 3.13:

Area and seasonal restrictions in the Faroe Islands. Within 12 miles: no trawling; RED: closed to trawlers year round; BLUE: temporal closures e.g. spawning areas.



Between the 12 nm and 200 nm limits there are a number of areas closed to all mobile bottom gear, some permanent e.g. the Faroese bank and some seasonal e.g. a cod spawning zone in the north, where it would also be illegal to fish by any method including scallop dredges (Fig. 3.13).

3.5.5.2 Fishery specific regulation and planning

Faroese fishery management of benthic resources in the Faroese EEZ generally focuses on effort control, together with limitations on fishing in specific areas and seasons more than on quotas. This applies to the scallop fishery. Thus the major limitation for this fishery is the number of licensed vessels (presently only one for this fishery), but there are also spatial (area) and temporal (season) limitations as described above.

There are three fishing licenses in the scallop fishery allocated to one fishing vessel. There is one license for the main eastern area and exploratory licenses for two areas in the north. These licenses contain all regulations that apply to the fishery for each area. In the east the license contains restrictions on area and season whereas the exploratory licenses have additional restrictions on either fishing days or maximum allowable catch.

There are by-catch limits for commercial fish species of 1% of the catch by weight for the entire season. These limits are specified in the fishing license issued to the company by the Ministry.

There is no legal minimum landing size. However, for commercial considerations, the processor does not accept scallops less than 55mm in shell length. Undersized scallops are returned to the sea bed alive, survival rates are unknown but considered high (Nall 2011).

Several years ago, juvenile cod were caught at rates that were considered too high when there was a particularly strong year class of cod. An additional limit for juvenile cod of less than 1% for the entire season was added to other bycatch limits in place for the fishery (Hoydal et al. 2011). Recent company records indicate that fish by-catch never reaches 0.1% representing 5 tonnes per year and this is corroborated by Ministry information (Hoydal et al. 2011).

The fishery in the east operates from August to March and is based upon coinciding with highest muscle mass of scallop and avoiding the main spawning period during July to August. The season in the north is from February until December; but here a TAC is set. The license for Funningsfjord (Djúpini sound) is restricted to December to March, and only 12 fishing days were allowed in the 2011/12 season, but later extended to 19 days by FAMRI. For further details of those area-specific fishing licenses see section 3.5.1 above.

Data from the fishery is recorded and there was some research in the northern area with reference to impacts of dredging on the sea bed. However, the processing of such data is not given priority by the FAMRI in Tórshavn due to the small scale and nature of the fishery. The FAMRI monitors CPUE data and landings from the northern experimental areas and gives advice to the Ministry of Fisheries based on the data.

There are also additional measures implemented by O.C. Joensen, but not required by authorities, that contribute to a sustainable fishery. The dredge contains a bag of 75mm mesh and a belly chain matrix of 55mm that allow juvenile scallops to escape. There is also a sorting grid on board that separates scallops smaller than 55mm. These undersized scallops are returned to the ocean alive by a shoot. In addition, the skipper employs a 'move-on' rule. Once the CPUE in a particular area drops below 1,500 kg/hr, the vessel moves to another area for fishing. This effectively rests scallop beds and allows for local recovery of scallops and habitat. The vessel might not return to the same area for 2-3 years in some cases.

4. Evaluation Procedure

4.1 Harmonised Fishery Assessment

Harmonisation of two or more fishery assessments must be considered only if the respective fisheries overlap to the extent that they require assessment of some or all of the same aspects of the MSC Principles within their respective units of certification. Several Faroese fisheries have undergone MSC assessment or are currently being assessed. The assessment team has explored the information available on those assessments. While some of those fisheries are subjects to management by the same institutions, they do not overlap with the queen scallop fishery in terms of units of certification.

Currently four scallop fisheries have acquired MSC certification and six are undergoing full assessment. Of those, the Isle of Man queen scallop trawl fishery is the only MSC certified queen scallop (*Aequipecten opercularis*) fishery. The Faroe Island and Isle of Man scallop populations do not overlap and they are subjects to separate jurisdictions.

The Faroe Islands queen scallop fishery does not overlap with any other MSC certified fisheries and therefore no harmonisation is needed.

4.2 **Previous Assessments**

The Faroe Islands queen scallop fishery underwent full assessment in 2008-2010.² The standard default assessment tree developed by the MSC was used for the assessment of the fishery against all the Performance Indicators. The final report and the determination not to certify the fishery was published on the MSC website on 20 January 2011.

The main weakness of the fishery was found to be the absence of stock assessment and accompanying reference points, the absence of formal fishery objectives and a formal research plan and the external review of the performance of the fishery.

The assessment report concluded that the fishery should not be granted certification, since it failed to reach the required average minimum score of 80 for Performance Indicators of Principle 1. In light of this determination no conditions were set and plan of action was therefore considered inappropriate.

When comparing the results of the previous assessment to results of the current assessment, the fishery generally scored lower in the previous assessment. In particular, the fishery scored 70 against Performance Indicator 1.1.1 in the previous assessment using the Default Assessment Tree, while in the current assessment it scored 100 against the same PI using the RBF. But scores for some of the Principle 2 components were higher (Retained Species) or similar (ETP species) in the previous assessment.

However, the scores of the two assessments are not fully comparable and any differences should be interpreted with care. First, the fishery re-entered MSC assessment in June 2012, or more than two years after the publication of the previous assessment's Public Comment Draft Report (published 12 February 2010). The assessment is now conducted by a different Conformity Assessment Body. Only one member of the current assessment team was involved in the previous assessment. Furthermore, the current assessment team departed from the methods used in the previous assessment by supplementing the Default Assessment Tree with the use of the Risk Based Framework. During the current assessment, the fishery is therefore treated as a new applicant. See Table 4.1 for comparison of scores between the previous assessment and the current assessment.

² Hoydal, K., Holt, T.J., Hough, A. and Davies, S. 2011. MSC Assessment Report for Faroe Islands Scallop Fishery, Public Certification Report (Moody Marine). See <u>http://www.msc.org/track-a-fishery/in-assessment/north-east-atlantic/faroe-islands-queen-scallop/assessment-downloads-1/05.04.2011 Faroe Island Queen_Scallop_PCR_v5.pdf.</u>

Table 4.1:

Comparison of scores for the previous and current assessment of the Faroe Islands Queen Scallop Fishery.

Principle	Component	PI No.	Performance Indicator	Previous assess- ment	Current assess- ment	Comments
1	Outcome	1.1.1	Stock status	70	100	RBF score
-		1.1.2	Reference points	60	80	Default RBF score
		1.1.3	Stock rebuilding		N/A	N/A
	Manage- ment	1.2.1	Harvest strategy	60	85	Informal measures assessed due to use of RBF (<i>GCB2.5.7.1</i>)
		1.2.2	Harvest control rules & tools	60	60	Informal measures assessed due to use of RBF (<i>GCB 2.6.6</i>).
		1.2.3	Information & monitoring	80	75	SG80b is not met. Regular monitoring of CPUE in main fishing area not in place.
		1.2.4	Assessment of stock status	60	80	Default RBF score
2	Retained species	2.1.1	Outcome	90	80	Information for all retained species is not available, therefore score cannot be more than 80
		2.1.2	Management	95	90	SG100b and SG100d not met
		2.1.3	Information	100	90	Stock status of all retained species is not known.
	Bycatch species	2.2.1	Outcome	90	80	Information for all bycatch species is not available, therefore score cannot be more than 80
		2.2.2	Management	80	95	SG100d not met.
		2.2.3	Information	80	95	Information is considered to be adequate, but testing has not been done. SG100d not met.
	ETP species	2.3.1	Outcome	100	100	
		2.3.2	Management	100	100	
		2.3.3	Information	100	100	
	Habitats	2.4.1	Outcome	80	80	Initially, partial score for SG100 met, since increased dredge weight has not been studied. Score was lowered to 80 in response to the TO.
		2.4.2	Management	80	95	SG100d not met
		2.4.3	Information	80	75	Revised scoring after TO, additional condition set
	Ecosystem	2.5.1	Outcome	90	100	Small scale and spatial distribution of fishery highly unlikely to cause gross cahnges in ecosystem
		2.5.2	Management	85	90	SG100b and SG100c not met
		2.5.3	Information	85	85	Score was lowered to 85 in response to the TO.
						Continued Overleaf >>

Table 4.1 – Continued Comparison of scores for the previous and current assessment of the Faroe Islands Queen Scallop Fishery.						
Principle	Component	PI No.	Performance Indicator	Previous assess- ment	Current assess- ment	Comments
3	Governance and policy	3.1.1	Legal & customary framework	90	100	All posts for SG100 are met.
		3.1.2	Consultation, roles & responsibilities	100	100	
		3.1.3	Long term objectives	80	100	Objectives explicitely set out in Commercial Fisheries Act.
		3.1.4	Incentives for sustainable fishing	80	100	SG100 met
	Fishery specific management	3.2.1	Fishery specific objectives	70	95	SG100 partially met. Objectives set out in Commercial Fisheries Act are expressed in annual fishing licenses.
	system	3.2.2	Decision making processes	85	80	SGs at 100 are not met
		3.2.3	Compliance & enforcement	95	100	SG100a, b, and c are met.
		3.2.4	Research plan	60	75	SG80a not met.
		3.2.5	Management performance evaluation	75	75	SG80b, SG100a & b not met.

4.3 Assessment Methodologies

The assessment was made against the MSC Principles and Criteria for Sustainable Fishing v. 1.1. The methodology applied is specified in the MSC Certification Requirements, Version 1.2 (10 January 2012). The setup of the report follows the "MSC Full Assessment Reporting Template v1.2".

The assessment team proposed the use of the Default Assessment Tree as the main assessment framework. The team also proposed that this would be supplemented by the use of the Risk Based Framework for the evaluation of Performance Indicator 1.1.1 Stock status. This was justified by insufficient information pertaining to stock assessment, sampling of catch and surveys of the stock, as well as insufficient quantitative information for the estimation of the biologically based limits and biological reference points for the sustainability of the assessed stock.

No comments or objections were received in response to the proposed methodology. The Default Assessment Tree was used, supplemented by the use of the Risk Based Framework for PI 1.1.1. During the evaluation of PI 1.1.1 the assessment team relied among other things on qualitative information received during the site visits and stakeholder consultation meetings.

4.4 Evaluation Processes and Techniques

4.4.1 Site Visits

The assessment team made visits to the main operating sites of the fishery in the Faroe Islands. These included the client's headquarters in Hósvík on Streymoy Isle, the fishing vessel Nordheim upon its arrival from one of its fishing trips, as well as the landing harbour and the processing facility in Oyri on Eysturoy Isle. (See table 4.2.)

Table 4.2: Itinerary of	Table 4.2: Itinerary of field activities during site visits of the Faroe Islands queen scallop fishery				
Date	Activity	Location	Attendees		
21.08.2012	Site visit Senior management of O.C. Joensen	O.C. Joensen Hósvík	Assessment Team Representatives of the Client: Hans A Joensen MD, Viggo Dam Marketing & Sales manager		
21.08.2012	Site visit Inspection of the processing and landing site and meeting with the managers.	O.C. Joensen Oyri	Assessment Team Client representatives: Viggo Dam Marketing & Sales manager, Høgni Sóloy Processing manager		
21.08.2012	Site visit Inspection of the fishing vessel and meeting with the captain	Nordheim F/V Oyri	Assessment Team Ragnar Captain of Nordheim, Viggo Dam Marketing & Sales manager, Høgni Sóloy Processing manager		
21.08.12	Stakeholder consultation Consultation requested by Association of small fishing vessel owners & seamen	Hotel Streym	Assessment Team Auðunn Konráðsson from Meginfelag útróðrarmanna (Association of small fishing vessel owners & seamen)		
22.08.12	Stakeholder consultation Fisheries management and inspection	Ministry of Fisheries	Assessment Team Ulla S Wang, Special Adviser at the Ministry of Fisheries, Martin Kruse from the Fisheries Inspection Authority		
22.08.12	Stakeholder consultation Fisheries Research	FAMRI	Assessment Team Eilif Gaard and Jákup Reinert from FAMRI ; Ásmundur Nólsøe from Kaldbak Marine Laboratory (BIOFAR)		

Three meetings were held during the site visits. The first one, with the client's senior management, focused on the management and objectives of the fishery, annual reviews and planning for the fishery, its relations with management and research bodies, dispute resolutions, as well as information pertaining to the evaluation of the status of the queen scallop stock by means of the Risk Based Framework.

The second meeting, with the managers at the landing site and the processing facility, focused on the issues of landing procedures and logging, processing, record-keeping, inspections by and communications with management and enforcement bodies.

The third meeting, with the captain of the fishing vessel Nordheim F/V, focused on the fishing gear and its potential impact on the habitats, the choice of fishing areas, the logging of hauls and fishing trips, and relations with authorities. (See also Table 4.3.)

4.4.2 Consultations

The assessment team invited a range of organizations and individuals for consultation during the assessment process by means of public announcements, letters and meetings.

All the required public announcements were published on the website of the MSC. These were also separately submitted electronically to the client. Furthermore, announcements of site visits and stakeholder consultation meetings were sent electronically to a list of stakeholders and were also published in the two major Faroese national newspapers (Dimmalætting and Sosialurin). No stakeholder comments were received regarding announcements of entry into assessment, proposed team membership and peer reviewers, and proposed use of the default assessment tree and the Risk Based Framework.

The team organized meetings with the representatives of the client (see above), with representatives of the main research and management bodies and with the chairman of a trade association. A summary outline of those consultations is provided in Table 4.3.

Table 4.3:

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Turner any				queen seunop	

Meetings with Client and other Stakeholders	Subjects of Consultation
21.8.2012 O.C. Joensen Senior management	Management, main objectives, annual reviews and planning of the
Hans Andrias Joensen, MD	fishery. Communication and relations with the management &
Viggo Dam, Director of Marketing & Sales	research bodies. Disputes and dispute resolutions.
Assessment Team	Information related to the use of RBF for PI 1.1.1.
21.8.2012 O.C. Joensen Processing plant	Procedures for landing. Processing and handling of by-products.
Högni Sóloy, Processing Manager	Processing of other products. Record keeping. Inspections by and
Viggo Dam, DMS	communications with the authorities.
Assessment Team	Information related to the use of RBF for PI 1.1.1.
21.8.2012 O.C. Joensen Vessel Norðheim B/V	Inspection of the fishing gear; discussion of its impact on the
Ragnar Heinesen, Captain	habitat. Choice of fishing areas (e.g. frequency of local depletion
Viggo Dam, DMS	and move on rule). Record keeping. Inspections by authorities.
Assessment Team	Post-capture survival rate if scallops/bycatch are returned to sea.
	Information related to the use of RBF for PI 1.1.1.
21.8.2012 Association of small fishing vessel	Concerns raised by Meginfelag Útróðrarmanna regarding
owners & seamen (Meginfelag Útróðrarmanna)	exploratory fishing in the northern region.
Auðunn Konráðsson, Chairman	Introduction of the RBF.
Assessment Team	
22.8.2012 Joint meeting with the Ministry of	General fisheries management and governance in Faroe Islands.
Fisheries (Fiskimálaráðið) and the Faroe Islands	Laws and regulations. Dispute resolution. Stakeholder consultation
Fisheries Inspection (Fiskveiðieftirlitið)	in fisheries management. Management plan and review for scallop
Ulla Svarrer Wang, Ministry Expert	fishery in particular. Monitoring/inspection system in place.
Martin Kruse, Fiskveiðieftirlitið	Availability and collection of information – e.g. on landings,
Assessment Team	bycatch/discards.
	Information related to the use of RBF for PI 1.1.1.
22.8.2012 Joint meeting with the Faroe Marine	Research planning in general. Research plans/projects for scallops.
Research Institute (Havstofan) and Kaldbak	Research information collected on fisheries. Ongoing or planned
Marine Biological Laboratory (Havlívfrøðiliga	general habitat/ecosystems studies. Habitat/Ecosystem studies
Royndarstøðin)	relating to scallops in particular. Main results of dredge impact
Eilif Gaard, Director & Jákup Reinert, Scientist	studies from northern area.
(Havstovan) Ámundur Nólsøe (HR)	Information related to the use of RBF for PI 1.1.1.
Assessment Team	

A Preliminary Draft Report was submitted on 22 October 2012, allowing thirty days for the client to consider the report. Client's comments are retained by Tún and are available to interested parties upon request. The assessment team considered those comments and submitted its response to the client.

The Peer Review Draft Report was submitted for review by two peer reviewers on 22 November 2012. The peer reviewers' reports, together with the assessment team's responses to comments, are published in Appendix 2 of this report. In response to peer reviewer comments, four conditions were generated for the fishery. Conditions and the client action plan can be found in Appendix 1.3. The client consulted with the research and advisory body (FAMRI) and the management authority (Ministry of Fisheries) as appropriate for implementation of relevant conditions.

The Public Comment Draft Report was issued on May 14th 2013. A review and report on compliance with scheme requirements was received from the MSC, prompting some amendments as outlined in the Appendix 3.3 to this report. Determination and Final Report were issued on August 6th 2013. No objections were raised to those during consultation period of 15 working days.

4.4.3 Evaluation Techniques

A working knowledge of the scallop fishery was obtained by literature review and by interviews with key actors in the scallop fishery. As outlined above, representatives of the client O.C. Joensen were interviewed, including senior management, the factory manager, and the captain of the vessel. The fishing vessel and processing factory were also visited. The assessment team also conducted stakeholder meetings with representatives from the Ministry of Fisheries, the Fisheries Inspection Services, the FAMRI and the Kaldbak Marine Laboratory.

The assessment team held several meetings shortly after the completion of site visit and stakeholder meetings, where team members reviewed and scored the fishery. Relevant team members presented preliminary scoring to other team members for each PISG. Each PISG was subsequently discussed by all team members and a consensus reached.

Knowledge of P2 species were obtained from interviews with the management team of O.C. Joensen, including the MD, the processing manager and the captain of the vessel. Regulations for retained- and/or bycatch species are contained in the fishing license. P2 species were divided into two groups:

- <u>Retained species:</u> Commercial fish species which are caught and landed.
- <u>Bycatch species:</u> Species that are caught and subsequently returned to sea alive.

There are no known interaction with ETP species such as seabirds and mammals, and sensitive species such as deep-water corals e.g. *Lophelia* are not present within the areas fished.

The team proposed to use the default assessment tree, except for Performance Indicator (PI) 1.1.1 - Stock status. Although detailed landing data are reported by the fishery, regular stock assessments are not performed on the fishery due to its small scale and nature. Therefore biologically based limits for sustainability cannot be estimated for the queen scallop population, triggering the RBF according to Table AC2 of the Certification Requirements.

SICA meetings were held with representatives of the client and the Faroese authorities. The SICA was conducted at the same time as stakeholder interviews and was announced as a special section of each meeting agenda. During interviews, stakeholders were introduced to the RBF and each received a copy of Annex CC from the Certification Requirements, before relevant questions were asked pertaining to the various aspects of the SICA. During the site visit to O.C. Joensen headquarters, an in-depth interview was conducted to establish a list of all activities present in the fishery according to Table CC2 (*CR v1.2, Annex CC 2.1.3*), and capture, i.e. fishing was considered to be the most hazardous with relevance to the scallop stock status (see Appendix 1.2; Table A1.2.1). In subsequent SICA interviews stakeholders were asked if they agreed with the conclusion reached that fishing was the most hazardous activity.

All relevant stakeholders were consulted on the spatial, temporal, and intensity of the fishery (*CR* v1.2, Annex CC 2.3.2-2.3.4) and the relevant scores recorded. Stakeholders were also consulted in

order to identify and score the most vulnerable subcomponent in Table CC3 (*CR v1.2, Annex CC*). Scores from all stakeholders were summarized, and the assessment team subsequently completed the SICA for the fishery (see Table A1.2.2 in Appendix 1.2). The scores and rationales obtained from the client and stakeholders are summarized in the SICA scoring Table A1.2.2 in Appendix 1.2.2. Details of scoring rational from each stakeholder are summarized in Appendix 3.1.

Following the SICA, the assessment team conducted a PSA for the scallop fishery based on client and stakeholder interviews and/or other relevant expert knowledge (see Table A1.2.2 in Appendix 1.2).

For the fishery to meet the minimum requirements for MSC certification it must (a) achieve a weighted aggregate score of at least 80 for each of the three MSC Principles and (b) achieve a score of at least 60 for each Performance Indicator.

Various issues in the report and scoring were reviewed by the team, following the peer reviews, as well as comments from the MSC in response to the PCDR. After addressing these issues, assessment of the fishery resulted in aggregate scores of 80 or above for all three Principles. Furthermore, the fishery scored below 80 and above 60 on four Performance Indicators, thus prompting the setting of conditions. The assessment team therefore recommends that the fishery be granted fishery certification against the MSC Principles and Criteria for Responsible Fishing.

5. Traceability

5.1 Eligibility Date

The **Actual Eligibility Date** for the Faroe Islands Queen Scallop Fishery is **15 November 2012**. Scallop caught by the approved fishing vessel within the specified unit of certification following this date will be eligible to enter into chain of custody as an MSC certified product (see also section 5.3). This date meets client's wishes within the framework of the MSC Certification Requirements and yet is consistent with the logistics of and traceability within the fishery.

The Target Eligibility Date (TED) was first set at 15 August 2012 which marks the beginning of the fishing season in the main fishing area (Area 1: East). On 14 May 2013 public notification of an amended TED of 15 November 2012 was issued which is just under six months prior to the publication of the Public Comment Draft Report. By that date over half the licensed season for the Eastern region and 45 days for the Northern region are left for scallop fishing efforts.

An effective system is already in place that enables the tracing of products derived from the fishery back to date of landing. The fresh catch undergoes primary processing immediately after landing, is then quick frozen, stored and then exported for further processing and eventual marketing and distribution.

5.2 Traceability within the Fishery

Scallops within the Faroese exclusive economic zone are fished by a single vessel that is owned by the client. There is no trans-shipping of catch involved. Fishing of scallops outside the unit of certification by the vessel is not a realistic possibility. The catch is not processed on board the vessel.

A logbook of catches is kept by the vessel's captain and the location and duration of each haul is also recorded electronically. The catch from each fishing trip is weighed at the point of landing and recorded by the processing factory. Landing and logbook records are submitted to the Faroe Marine Research Institute.

The catch is delivered to a single processing plant which is also owned and operated by the Client, O.C. Joensen. Currently the processing facility is dedicated to the primary processing and storage of the client's scallop catch only. This dedication should be reviewed during surveillance audits and any projected change of this status should be notified by the client to the certification body.

Potential MSC fishery certification would include the vessel and potentially also the primary processing of the catch by the client's processing operation. There is no indication of risk of mixing of catch by the vessel from the unit of certification with catch from other non-certified sources within the fishery itself.

Processing and trading subsequent to the point of delivery of semi-processed scallop from the client's processing and storage facility at Oyri is potentially conducted by one or more operations and in more than one country. Segregation of eligible fish products from non-eligible products will have to be verified by MSC Chain of Custody auditing of all such facilities.

5.3 Eligibility to Enter Further Chains of Custody

Scallop caught by the Client's vessel Nordheim B/V, landed at Oyri harbor in the Faroe Islands, undergoes primary processing immediately after landing by the processing operation of the Client at Oyri. Products of the scallop fishery derived from that primary processing will be eligible to enter into further chain of custody. It should however be noted that the first point of entry into chain of custody will be subject to review during the expected regular surveillance of the fishery.

6. Evaluation Results

6.1 Principle Level Scores

Table 6.1: Final Principle Level Scores	
Principle	Score
Principle 1 – Target Species	82.5 - PASS
Principle 2 – Ecosystem	90.3 - PASS
Principle 3 – Management System	92.5 - PASS

6.2 Summary of Scores

Table 6.2: Summary of Principle Indicator scores for the Faroe Island Queen Scallop Fishery.				
Principle	Component	PI No.	Performance Indicator (PI)	Score
1	Outcome	1.1.1	Stock status	100
		1.1.2	Reference points	80
		1.1.3	Stock rebuilding	N/A
	Management	1.2.1	Harvest strategy	85
		1.2.2	Harvest control rules & tools	60
		1.2.3	Information & monitoring	75
		1.2.4	Assessment of stock status	80
2	Retained species	2.1.1	Outcome	80
		2.1.2	Management	90
		2.1.3	Information	90
	Bycatch species	2.2.1	Outcome	80
		2.2.2	Management	95
		2.2.3	Information	95
	ETP species	2.3.1	Outcome	100
		2.3.2	Management	100
		2.3.3	Information	100
	Habitats	2.4.1	Outcome	80
		2.4.2	Management	95
		2.4.3	Information	75
	Ecosystem	2.5.1	Outcome	100
		2.5.2	Management	90
		2.5.3	Information	85
3	Governance and	3.1.1	Legal & customary framework	100
	policy	3.1.2	Consultation, roles & responsibilities	100
		3.1.3	Long term objectives	100
		3.1.4	Incentives for sustainable fishing	100
	Fishery specific	3.2.1	Fishery specific objectives	95
	management	3.2.2	Decision making processes	80
	System	3.2.3	Compliance & enforcement	100
		3.2.4	Research plan	75
		3.2.5	Management performance evaluation	75

6.3 Conditions and/or Recommendations

6.3.1 Conditions

Taking into consideration all the available evidence, comments and peer reviews received, the assessment team has set the following conditions for certification, with regard to the four specified Performance Indicators for which the fishery scored less than 80 and above 60.

- **Condition 1: PI 1.2.2** Evidence must be provided that the move-on rule is set at an appropriate level to allow for recovery of local scallop beds. Uncertainties regarding the set level of the move-on rule must be addressed as well. A limit reference point or proxy thereof and actions as the LRP is approached shall be implemented for the fishery. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives.
- **Condition 2: PI 1.2.3** CPUE in the eastern area must be monitored by authorities in addition to CPUE for the exploratory areas.
- **Condition 3: PI 2.4.3** Sufficient data must be provided to assess the impact of the heavier dredge on the habitat for the main eastern fishing area.
- **Condition 4: PI 3.2.4** Some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
- **Condition 5: PI 3.2.5** Formal mechanisms to review the fishery must be implemented. These mechanisms should provide for internal reviews on a regular basis and occasionally external review.

The conditions and the milestones expected to be achieved, together with the actions required and the actions planned by the client, are outlined in further details in Appendix 1.3. The client has consulted with the research and advisory body (FAMRI) and the management authority (Ministry of Fisheries) to assure the cooperation and external resources necessary for the implementation of those conditions, especially conditions 3, 4 and 5.

6.3.2 Recommendations

It is recommended that the annual review should include review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy. Results of this annual review should be recorded and be available to interested parties. An annual review of all aspects of the fishery would emphasize the commitment of both the company and the authorities to stability and sustainability of the fishery.

6.4 Determination, Formal Conclusion and Agreement

The Faroe Islands Queen Scallop fishery achieved aggregate scores above 80 for each Principle. The Client has issued a plan of action to address the conditions set and milestones expected to be reached to improve the performance of the fishery where it scored below the 80 level. Subsequently the assessment team has passed a determination to recommend certification of the fishery against the MSC Principles and Criteria for responsible fishing.

Tún's Certification Committee has met to review the assessment and has approved the assessment team's recommendation.

The Committee's conclusion is that the Faroe Islands Queen Scallop fishery shall be awarded certification, confirming that the fishery conforms to the Marine Stewardship Council's Principles and Criteria for Sustainable Fishing.

6.5 Changes in the Fishery Prior to and Since Pre-Assessment

The client (O.C. Joensen) has informed Vottunarstofan Tún of discussion with the Faroe Marine Research Institute regarding future research on the scallop stock. The FAMRI has confirmed to the client of its commitment to conduct a scientific catch survey in the north during the 2012 season. The FAMRI has now conducted the survey in cooperation with O.C. Joensen, using the company's fishing vessel for the survey.

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7.1 Websites Accessed for Information

7.1.1 Faroese Fisheries Websites

http://www.biofar.fo

http://www.fishin.fo/

http://www.fishoneline.org

http://www.fisk.fo/Admin/Public/DWSDownload.aspx?File=%2fFiles%2fFiler%2fFisk%2fPDF%2fFO_fi sheries_and_aquaculture_final_revised.pdf

http://www.fve.fo/

www.hav.fo

http://www.logir.fo/system/foframe.htm

www.lum.fo

http://seasthefuture.com

7.1.2 Other Websites

http://www.genustraithandbook.org.uk/genus/aequipecten/

Appendix 1: Performance Indicator Scores and Rationales

Principle 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/R	ationale		
60	а	N/A	It is likely that the stock	is above the point where recruit	ment would be impaired.			
			N/A; See SG100b					
80	а	N/A	It is highly likely that th	e stock is above the point where	recruitment would be imp	paired.		
			N/A; See SG100b					
	b	N/A	The stock is at or fluctua	ating around its target reference	point.			
			N/A; See SG100b					
100	а	N/A	There is a high degree of	of certainty that the stock is abov	e the point where recruit	ment would be impaired.		
			N/A; See SG100b					
	b	N/A	There is a high degree o recent years.	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.				
			RBF used for PI 1.1.1, se	ee Appendix 1.2: Risk Based Fr	ramework (RBF) Output	ts.		
	Referenc	es						
				Stock Status	relative to Reference Poin	nts		
			Type of reference point	Value of reference point		Current stock status relative to reference point		
Target	Target reference point		N/A	N/A		N/A		
Limit reference point		oint	N/A	N/A		N/A		
OVERA	LL PERFOR	RMANCE IN	DICATOR SCORE:			SICA = 100 PSA = 97.3 (Use higher score if both more than 80)		
CONDIT		IBER (if rele	evant):			N/A		

PI	PI 1.1.2		Limit and target reference points are appropriate for the stock				
SG	Issue	Met? (Y/N)	Justification/Ra	ationale			
60	а	N/A	Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.				
			N/A; See SG80a				
80	а	N/A	Reference points are appropriate for the stock and can be estimated.				
			Default score is 80, since the RBF is used for PI 1.1.1 (see Appendix 1.2: Risk Based I	ramework (RBF) Outputs)			
	b	N/A	The limit reference point is set above the level at which there is an appreciable risk	of impairing reproductive capacity.			
			N/A; See SG80a				
c N/A The target reference point is such that the stock is maintained at a level consistent with B _{MSY} or some measure or st		with $B_{\mbox{\scriptsize MSY}}$ or some measure or surrogate with similar intent or outcome.					
			N/A; See SG80a				
	d	d N/A Key low trophic level species, the target reference point takes into account the ecological role of the stock.					
			This is not a key LTL species according to the ASFIS list of species (CR, Box CB1) and does not hold a key role in the ecosystem (CR, Box CB3).				
100	b	b N/A	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionar issues.				
			N/A; See SG80a				
	c N/A The target reference point is such that the stock is maintained at a level consistent with B _{MSY} or some measure or surrogate with sim higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certain the stock as the ecological role of the stock with a high degree of certain the stock		vith B _{MSY} or some measure or surrogate with similar intent or outcome, or a gical role of the stock with a high degree of certainty.				
		N/A; See SG80a					
	Reference	S					
OVER	ALL PERFOR	RMANCE I	NDICATOR SCORE:	80			
CONE		IBER (if re	elevant):	N/A			

PI	PI 1.1.3		Where the stock is depleted, there is evidence of stock rebuilding				
SG	Issue	Met? (Y/N)	Justification/Rat	ionale			
60	а	N/A	Where stocks are depleted rebuilding strategies which have a reasonable expectation of success are in place.				
			PI 1.1.3 is not scored, since the RBF is used for PI 1.1.1 (CR v1.2, Table CC1). See Appe	ndix 1.2: Risk Based Framework (RBF) Outputs.			
	b	N/A	A rebuilding timeframe is specified for the depleted stock that is the shorter of 30 yea 5 years, the rebuilding timeframe is up to 5 years.	rs or 3 times its generation time. For cases where 3 generations is less than			
			N/A; See SG60a				
	с	N/A	Monitoring is in place to determine whether they are effective in rebuilding the stock	within a specified timeframe.			
			N/A; See SG60a				
80	а	N/A	Where stocks are depleted rebuilding strategies are in place.				
			N/A; See SG60a				
	b	N/A	A rebuilding timeframe is specified for the depleted stock that is the shorter of 20 yea 5 years, the rebuilding timeframe is up to 5 years.	rs or 2 times its generation time . For cases where 2 generations is less than			
c N/A; See SG60a c N/A There is evidence that they are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they wi stock within a specified timeframe.							
			There is evidence that they are rebuilding stocks, or it is highly likely based on simulat stock within a specified timeframe.	ion modelling or previous performance that they will be able to rebuild the			
	N/A; See SG60a						
100	а	N/A	Where stocks are depleted, strategies are demonstrated to be rebuilding stocks contine the specified timeframe.	nuously and there is strong evidence that rebuilding will be complete within			
			N/A; See SG60a				
	b	N/A	The shortest practicable rebuilding timeframe is specified which does not exceed one	generation time for the depleted stock.			
		N/A; See SG60a					
	Referenc	es					
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	N/A			
CONE	DITION NU	JMBER (if	relevant):	N/A			

PI	1.2.1		There is a robust and precautionary harvest strategy in place			
SG	Issue	Met? (Y/N)	Justification/Rationale			
60	а	Ŷ	The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points.			
			MSC GCRv1.1: "CC 3.1.5: Teams shall include in their rationale for the unmodified Annex CB PI 1.2.1 an explanation of how the harvest strategy works to achieve stock management objectives consistent with ensuring the fishery operates at a low risk as defined in the RBF."			
			Since the RBF was used in PI 1.1.1, informal approaches are assessed against PI 1.2.1 according to MSC GCRv1.1 (GCB 2.5.7) ("GCB2.5.7.1 The RBF infers certain triggers for data-deficient fisheries in the absence of biological based limits.").			
			During stakeholder interviews, authorities and the fishing company expressed that their objectives for managing this stock is sustainability and stability. In Faroe Islands there is a general strategy of effort control. This is set out on the Commercial Fisheries Act, which limits the number of licenses for vessels larger than 20grt to the number that was present in 1995. There is also a general cap on capacity increase and replacement vessels in any fishery are required to have similar or less catching capacity. These restrictions on the increase in the number of licensees and capacity increase directly apply to the scallop fishery.			
			Therefore the general harvest strategy employed in the scallop fishery is effort control. However, a TAC is set by FAMRI for one of the exploratory fishing areas.			
			"GCB2.5.7.1 Assessment of data-deficient fisheries against this indicator should consider how elements of the harvest strategy combine to manage impa such that susceptibility is maintained at or below acceptable levels given the productivity of the species."			
			Elements of the harvest strategy for Faroese queen scallop include the following:			
			• <u>Spatial/temporal limitations</u> : The fishery is only allowed to operate within a specific area, as specified by their fishing license for each area. The fishery in the main eastern area operates from August to March. Only 12 fishing days are allowed for the research license outside Funningsfjord. It is estimated that the fishery covers 34km ² a year, which is 8.5% of the main fishing scallop ground. However, queen scallop are widely distributed all over the Faroese shelf at depths from 20-450m (Sneli et. al 2005 as cited by Tendal & Dinesen 2005), therefore the total distribution area of scallops are larger than the 400km ² main fishing areas. Thus in reality the fishery exploits less than 8% of the total distribution area of scallops around the islands.			
			• <u>Catch restrictions:</u> In the northern area there is a TAC set. In 2011 the TAC was 1000 tonnes.			
			 <u>Mesh size</u>: The mesh size of the scallop dredge is 75mm and belly ring size is 55mm, which allows scallops to spawn at least one or two times before being caught. Size at sexual maturity is 40mm (Ursin 1956). There is also a mechanical sorting grid on board connected to a shoot for returning smaller individuals alive to the sea where they have high possibility of surviving (Currie and Parry 1996; Nall 2011). The company only processes scallops of larger than 55mm and the general size of landed scallops range from 55-65mm. 			
			• <u>Move on rule</u> employed by the client: When the CPUE goes below 1.5t/hour in a particular scallop bed, skipper moves on to another area. This results in a rotation between areas, effectively "resting" the stock in other areas, as there is only one fishing vessel. Areas can be rested for 2-3 years before the vessel returns.			
			• Capacity increase and license restrictions: Additional vessels will not be allowed into the fishery. In the Faroese Islands only vessels that had a license in			

PI	1.2.1		There is a robust and precautionary harvest strategy in place
SG	Issue	Met? (Y/N)	Justification/Rationale
			1995 are allowed to fish under the fishing day system, and replacement vessels must be demonstrated to have the same or less capacity than its predecessor. These restrictions also apply to the single scallop fishing vessel.
			PSA analysis (Appendix 1.2.2) demonstrates that the scallops have high productivity. Although vertical overlap with the gear is high, areal overlap is very low and selectivity is estimated to be moderate. Post-capture mortality was scored as high, since survival of post-capture specimens could not be quantified. However, there is observer evidence that captured juveniles are alive when returned to sea.
			The elements of the harvest strategy listed above all combine and are geared towards keeping effort in the fishery stable and impact on the stock low. Thus maintaining a sustainable fishery and managing impact on the stock.
	b	Y	The harvest strategy is likely to work based on prior experience or plausible argument.
			"GCB2.5.7.2 The assessment should factor in the likelihood of changes within the fishery that could potentially lead to an increase in the risk of impact from fishing activity over time."
			The CPUE in the main fishing area has been stable for the last decade with these harvest strategies in place (see Fig. 3.4). However, it should be kept in mind that recruitment into the scallop stock is most likely to be variable as is reported for other scallop stocks. With these elements of the harvest strategy in place, only 8.5% of the main fishing area of queen scallops was exploited in 2011. The figure below demonstrates that the number of fishing days (and therefore area exploited) in the main eastern fishing has remained stable and fluctuated around 80 days for the last decade. It is only in the experimental areas where fishing days increased, and the increase in the north for 2012 included a survey conducted in cooperation with FAMRI. High MSC scores converted from SICA and PSA analysis further demonstrate that levels of exploitation for this stock are likely to be below full exploitation rate (see GCC3.2.2).



PI 1.2.1		There is a robust and precautionary harvest strategy in place	
SG	Issue	Met? (Y/N)	Justification/Rationale
			RBF analysis resulted in a SICA score of 1 and a PSA score of 1.83, corresponding to MSC scores of 100 and 97.3, respectively. This demonstrates that the fishery is conducted far below a level of full exploitation at MSY, which corresponds to a SICA score of 3 (see GCC3.2.2). The PSA score also show that the stock is being exploited at levels lower than the risk-based limit- and target reference points, which correspond to MSC scores converted from PSA scores of 60 and 80, respectively (see GCC3.2.1.1 and GCC3.1.2.1). The combination of these measures ensures the survival of individuals until maturity and closed areas ensure recruitment, thus working together towards sustainability of the stock. The various measures in place ensure that impact on the fishery is likely to be maintained a level below that of full exploitation (as indicated by SICA and PSA analysis).
	b	Y	The harvest strategy may not have been fully tested but monitoring is in place and evidence exists that it is achieving its objectives.
GCB2.5.7.3 Teams shall further consider how elements of the strategy are combining to ensolve the strategy are combining to ensolve the strategy are combining to ensolve the strategy are being achieved.			GCB2.5.7.3 Teams shall further consider how elements of the strategy are combining to ensure that the fishery is moving in the desired direction or operating at a low risk level and that qualitative or semi-quantitative objectives are being achieved.
			Monitoring is in place through logbooks that are maintained and sent to authorities, VMS data is also sent on an hourly basis. The client also monitors CPUE and employs the move-on rule. The MRI also monitors CPUE for the two experimental areas in the north.
			The CPUE in the main fishing area has been stable for the last decade, providing evidence for a relatively stable stock, as fishing capacity has not been increased. The number of fishing days in the main eastern area remained relatively stable, fluctuating around 80 for the past decade. It is only in the exploratory areas where the number of days increased. SICA and PSA analysis used in the RBF demonstrates that the fishery operates at a level below that of full exploitation rate of MSY (see explanations in SG80a above and GCC3.2.2).
100	а	Y	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.
			Harvest strategies are specifically designed to limit and keep effort stable, to ensure sustainability of the stock and limit overall impact through spatial, temporal and other measures. SICA and PSA analysis used in the RBF demonstrates that the fishery operates at a level below that of full exploitation rate of MSY (see explanations in SG80a above), and therefore an overall low exploitation rate.
			The move-on rule employed by the skipper is responsive to the state of the stock, resulting in effectively resting local scallop beds, allowing them to recover between years. Local beds can be rested for 2-3 years.
	b	Ν	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 strategies have not been fully evaluated, since available data has not been fully analyzed by authorities.
	d	Ν	The harvest strategy is periodically reviewed and improved as necessary.

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
			There are no formal, regular reviews of the harvest strategy and its elements, as authorities have not seen any reason to do so. In general, small fisheries for scallops and shellfish have lower priority with authorities.	
References		es	 Faroese Fisheries management act 1994 Currie, D.R. & Parry, G.D. 1996. Effects of scallop –dredging on a soft sediment community: a large-scale experimental study. <i>Mar. Ecol. Prog. Ser.</i> 134: 131-150. Nall, C.R. 2011. Survivability of target species discards in the Isle of Man Queen scallop (Aequipecten opercularis) fishery. Thesis 7th October 2011. 62pp Tendal, O.S and Dinesen, G.E. 2005. Biogenic sediments, substrates and habitats of the Faroese shelf and slope. <i>Biofar Proceedings</i> 2005: 224-242. Site visits Ursin, E, 1956. Distribution and growth of the queen <i>Chlamys opercularis</i> (Lamellibranchiata) in Danish and Faroese waters. <i>Meddelelser fra Danmarks Fiskeri- og Havundersøgelser</i>. Ny Serie Bind 1 Nr. 13 1956. 32pp 	
OVERALL PERFORMANC			E INDICATOR SCORE:	85
CONDITION NUMBER (i			relevant):	N/A

PI 1.2.2		There are well defined and effective harvest control rules in place		
SG	Issue	Met? (Y/N)	Justification/Rationale	
60	а	Y	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.	
			CC3.1.5c Teams shall include in their rationale for PI 1.2.2 an explanation of how harvest control rules act to reduce the risk as defined in the RBF, as unacceptable risk levels are approached.	
			Since the RBF was used in PI 1.1.1, informal approaches are assessed against PI 1.2.2 according to MSC GCRv1.1 (GCB 2.6.6).	
			"GCB2.6.6.1: CABs should assess the extent to which there are management tools and measures in place that are consistent with ensuring that susceptibility of	

PI 1.2.2		There are well defined and effective harvest control rules in place		
SG	Issue	Met? (Y/N)	Justification/Rationale	
			the target species to removal is no higher than that which would cause the risk to the target species to be above an acceptable risk range. Measures could be spatial, temporal, or changes to gear overlap"	
			<u>Rationale</u> : Management tools and measures in place for this fishery are listed in detail in PI 1.2.1 (SG60a). These include a move on rule by skippers, allowing local recovery of scallop beds, spatial and temporal limitations, which restrict the areas where fishing is allowed and protection during spawning season. Mesh sizes protect juveniles from being caught, and scallops under 55mm are returned to the sea alive. The fishery is also subject to severe effort limitations imposed by authorities – i.e. only one license for scallop fishing is issued annually, allowing only one vessel to fish for scallops. There are also restrictions on a capacity increase for this one fishing vessel. Given the fact that this is a highly productive species with low susceptibility (see	
			Appendix 1.2.2: Productivity-Susceptibility Analysis (PSA)Appendix 1.2.2: Productivity-Susceptibility Analysis (PSA), subject to severe effort limitation, the team concludes that removal from the fishery is maintained at levels that is far below that which is likely to cause a risk to the target species. SICA and PSA scores confirm that the species is exploited below full exploitation rate of MSY.	
			"GCB2.6.6.2 Assessments should also consider measures in place to respond to changes in the fishery. For example, by reducing susceptibility of target species when the fishery is not heading in the direction of its objectives."	
			<u>Rationale:</u> Skippers respond to a reduction in local CPUE (see the move-on rule). The move on rule effectively reduces local susceptibility when a particular scallop bed shows signs of declining stock size. Skippers consequently move on to other scallop beds, and thus allow for "resting" (recovery) of scallop beds. These local beds can be rested for 2-3 years before visiting them again. Landings and CPUE in the exploratory areas are monitored by the FAMRI, and management advice in these areas is given accordingly.	
	С	Y	Y There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.	
			CPUE and landings have been maintained at a stable level the last decade, indicating a sustainable fishery (see fig. 3.4), given that catchability in fishery has not increased. The implemented harvest control rules aims at limiting effort in the fishery and has resulted in less than 10% of the main fishing being fished annually, demonstrating that measures in place result in a low exploitation rate. The PSA score obtained in the fishery also concluded that exploitation levels are lower than full exploitation rates at MSY.	
80	а	N	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.	
			Area and catch limitations are well defined in the fishing license, and increase in capacity and number of license holders is banned by law. Other informal approaches, e.g. size limits, mesh size and a move-on rule are all well-defined. Skippers also respond to a reduction in local CPUE (see the move-on rule). The move on rule effectively reduces local susceptibility when a particular scallop bed shows signs of overfishing. Skippers consequently move on to other scallop beds, and thus allow for "resting" (recovery) of scallop beds.	
			Given the fact that this is a highly productive species with low susceptibility (see Appendix 1.2.2: Productivity-Susceptibility Analysis (PSA)), subject to severe effort limitation, the team concludes that removal from the fishery is maintained at levels, that is far below that which is likely to cause a risk to the target	

PI 1.2.2		There are well defined and effective harvest control rules in place		st control rules in place
SG	Issue	Met? (Y/N)	Met? (Y/N) Justification/Rationale	
			species. SICA and PSA scores confirm that the species is exploited below full exploitation	on rate of MSY.
			Although effort limitations in the fishery are clearly stipulated in legislations, there is	no limit reference point set and/or actions as a LRP is approached.
	В	N	The selection of the harvest control rules takes into account the main uncertainties.	
			Uncertainties cannot be determined, as no stock assessment is performed on the susceptibility (see	is fishery. However, given the high productivity of the species and low
Appendix 1.2.2: Productivity-Susceptibility Analysis (PSA), the low exploitation rate imposed by effort limitations, the stock is highly li a level that causes any risks to the stock. Limit- and target reference points in the RBF framework have been set as such that there is at leas the stock is above this level. The SICA and PSA score for this fishery shows that exploitation levels are far below full exploitation rate, regarding the stock level.		rate imposed by effort limitations, the stock is highly likely to be well below ⁵ framework have been set as such that there is at least 70% likelihood that ploitation levels are far below full exploitation rate, despite uncertainties		
			However, the effectiveness of the move-on rule has not been determined and there is	therefore some uncertainty in this regard.
	C	N	Available evidence indicates that the tools in use are appropriate and effective in ach	ieving the exploitation levels required under the harvest control rules.
			CPUE and landings have been maintained at a stable level the last decade, indicating increased. The implemented harvest control rules aims at limiting effort in the fishery thus maintaining low impact on the scallop stock.	a sustainable fishery (see fig. 3.4), given that catchability in fishery has not and has resulted in less than 10% of the main fishing being fished annually,
			In order for the fishery to score 80, evidence must be provided that the move-on rule	is effective and allows for recovery of local scallop beds.
100	b	N	The design of the harvest control rules takes into account a wide range of uncertainti	25.
			Uncertainties cannot be determined, as no stock assessment is performed on this fish	ery.
	С	N	Evidence clearly shows that the tools in use are effective in achieving the exploitation	levels required under the harvest control rules.
			Although CPUE indicates that the stock is stable, stock assessments are not performed	l.
	Referenc	es	Faroese Queen Scallop Fishing Licenses	
			Faroese Fisheries management act 1994	
OVER	ALL PERF	ORMANCI	E INDICATOR SCORE:	60

PI 1.2.2		There are well defined and effective harvest control rules in place		
SG	Issue	Met? (Y/N)	Justification/Rai	tionale
COND		JMBER (if	relevant):	Condition No 1

PI 1.2.3		Relevant information is collected to support the harvest strategy		
SG	Issue	Met? (Y/N)	Justification/Rationale	
60	а	Y Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.		
		All relevant information to support the effort based harvest strategy is available; i.e. fleet composition is known and log books containing in areas fished and catch support spatial/temporal restrictions. VMS data is also available to monitor/verify areas fished.		
			Sufficient information is recorded in log books maintained by skippers for detailed CPUE series and to employ the move-on rule in the fishery. There is only one vessel fishing, thus fleet structure is known.	
	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.	
			Authorities require skippers to maintain log books, including all required details, although they do not "monitor" the CPUE series in the main eastern area. FAMRI monitors CPUE in the experimental northern areas. However, CPUE is monitored by fishermen, as they employ this information in their "move on" rule when a local scallop bed shows signs of depletion. Therefore, CPUE is regularly monitored by skippers.	
80	а	Y	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.	
			All relevant information to support the effort based harvest strategy is available; i.e. fleet composition is known and log books containing information on dates, areas fished and catch support spatial/temporal restrictions. VMS data is also available to monitor/verify areas fished.	
			Sufficient information is recorded in log books maintained by skippers for detailed CPUE series and to employ the move-on rule in the fishery. There is only vessel fishing, thus fleet structure is known.	
	b	N	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.	

PI	1.2.3	Relevant information is collected to support the harvest strategy		ort the harvest strategy
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
			Harvest control rules in the scallop fishery are all geared towards controlling effort information on dates, areas fished and catch all combine to provide information for services every two hours and is available to monitor/verify areas fished.	ort in the fishery. Fleet composition is known and log books containing spatial/temporal restrictions. VMS data is sent to inspection
			In addition, the fishery collects data on CPUE, which is submitted to FAMRI. FAM exploratory fishing area is monitored by the client and skippers on an ongoing basis, w	RI regularly monitors CPUE in experimental areas. CPUE in the main and hich enable them to employ the move-on rule.
			However, to determine the effectiveness of effort controls in place in combination wi authorities in addition to CPUE for the exploratory areas.	th the move-on rule, CPUE in the eastern area should also be monitored by
c Y There is good information on all other fishery removals from the stock. O.C. Joensen holds the only license for exploitation of scallops, thus there are no other removals from the stock. Other fishers in the area operate no likelihood of catching scallops.				
		r removals from the stock. Other fishers in the area operate static gear with		
100 a N A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals as environmental information), including some that may not be directly related to the current harvest strategy, is available. Specific information on stock structure and abundance is not available.		mposition, stock abundance, fishery removals and other information such current harvest strategy, is available.		
		Specific information on stock structure and abundance is not available.		
	b N 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 inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.		and a high degree of certainty, and there is a good understanding of d management to this uncertainty.	
			Information on fishing areas and CPUE is available to support the informal harvest control rules. However, this information is not monitored regularly by FAMRI and uncertainties cannot be determined.	
	Reference	es	Site visits	
OVER	ALL PERFC	ORMANCI	E INDICATOR SCORE:	75
COND	ITION NU	MBER (if	relevant):	Condition No 2

PI 1.2.4		There is an adequate assessment of the stock status		f the stock status
SG	Issue	Met? (Y/N)	Justification/Ra	tionale
60	b	N/A	The assessment estimates stock status relative to reference points.	
			N/A; See SG80a	
	С	N/A	The assessment identifies major sources of uncertainty.	
			N/A; See SG80a	
80	а	N/A	The assessment is appropriate for the stock and for the harvest control rule.	
			Default score of 80 if RBF is used for PI 1.1.1. (see Appendix 1.2: Risk Based Frame	ework (RBF) Outputs)
	С	N/A	The assessment takes uncertainty into account.	
			N/A; See SG80a	
	е	N/A	The assessment of stock status is subject to peer review.	
N/A; See SG80a				
100	а	N/A	The assessment is appropriate for the stock and for the harvest control rule and takes the nature of the fishery.	into account the major features relevant to the biology of the species and
			N/A; See SG80a	
	С	N/A	The assessment takes into account uncertainty and is evaluating stock status relative	to reference points in a probabilistic way.
			N/A; See SG80a	
	d	N/A	The assessment has been tested and shown to be robust. Alternative hypotheses and	assessment approaches have been rigorously explored.
			N/A; See SG80a	
	е	N/A	The assessment has been internally and externally peer reviewed.	
			N/A; See SG80a	
	Referenc	es		
OVER	ALL PERFO	ORMANC	E INDICATOR SCORE:	80
COND	CONDITION NUMBER (if relevant):			N/A

Principle 2

Retained Species

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained s		cies and does not hinder recovery of depleted retained species
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
60	а	Y	Main retained species are likely to be within biologically based limits (if not, go to score	ing issue d below).
			By-catch limits for commercial fish species is 1% of the catch over the entire season. defined for this fishery.	This limit is never reached. Therefore there are no main retained species
	С	Y	If main retained species are outside the limits there are measures in place that are ex the depleted species.	pected to ensure that the fishery does not hinder recovery and rebuilding of
			There are no main retained species.	
	d	Y	If the status is poorly known there are measures or practices in place that are expecte biologically based limits or hindering recovery.	d to result in the fishery not causing the retained species to be outside
			There are no main retained species.	
80	а	Y	Main retained species are highly likely to be within biologically based limits (if not, go	to scoring issue c below).
			There are no main retained species.	
	c	Y	If main retained species are outside the limits there is a partial strategy of demonstra hinder recovery and rebuilding.	bly effective management measures in place such that the fishery does not
			There are no main retained species.	
100	а	I N	There is a high degree of certainty that retained species are within biologically based	limits and fluctuating around their target reference points.
			It cannot be said with a high degree of certainty that all retained species are within bio	ologically based limits and fluctuating around reference points.
	b	N	Target reference points are defined and retained species.	
			Cod and haddock has defined reference point, however, other species such monkfish	and flatfishes do not.
	Referenc	es	Faroese Queen Scallop Fishing Licenses	
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	80

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/Ra	tionale
COND	DITION NU	IMBER (if	relevant):	N/A

PI 2.1.2		There i	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	60 a		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.
			There are no main retained species.
	b	Y	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).
			There are no main retained species.
80	а	Y	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.
			There are no main retained species.
	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 species involved.
			There are no main retained species.
	С	Y	There is some evidence that the partial strategy is being implemented successfully.
			There are no main retained species.
100	а	Y	There is a strategy in place for managing retained species.
			The fishery employs only a scallop dredge, which is not designed to catch fish. Bycatch limits are specified in the annual fishing license. Limits for commercial fish species is 1% of the catch over the entire season.
	b	N	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.
			Bycatch of fish species is very low and the 1% limit specified in the fishing license is never reached. Although levels of fish bycatch in the scallop fishery are very low compared to target fishery landings for these species, testing has not been done.
	С	Y	There is clear evidence that the strategy is being implemented successfully.

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	
			Bycatch of fish species is very low and the 1% limit specified in the fishing license is ne	ver reached.
	d	Ν	There is some evidence that the strategy is achieving its overall objective.	
			See rationale for SG100b	
References Site visits		Site visits		
OVER	OVERALL PERFORMANCE INDICATOR SCORE:			90
CONDITION NUMBER (if relevant):			relevant):	N/A

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)	et? /N) Justification/Rationale	
60	а	Qualitative information is available on the amount of main retained species taken by the fishery.		
			There are no main retained species	
	b		Information is adequate to qualitatively assess outcome status with respect to biologically based limits.	
			There are no main retained species	
	С		Information is adequate to support measures to manage main retained species.	
			There are no main retained species	
80	a Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.		Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.	
			There are no main retained species	

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
	b		Information is sufficient to estimate outcome status with respect to biologically based limits.
			There are no main retained species
	С		Information is adequate to support a partial strategy to manage main retained species.
			There are no main retained species
	d		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)
			There are no main retained species
100	а	N	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.
			Information recorded in log books is accurate and verifiable. All commercial fish by-catch must be logged and landed at an authorized weight control landing slip office. These landings could be easily verified by Ministry officials if it would be necessary which it is not as they are minimal. Although the consequences for the status of affected populations cannot be directly determined, the small scale of the fishery in combination with restrictions on by-catch implies that effects on retained species populations are insignificant.
	b	N	Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.
			Information on retained species is available through investigations such as bottom trawl, acoustic and 0-group surveys carried out by the Faroese research vessel, Magnus Heinason, in addition to commercial catch and effort data from logbooks and the sampling of commercial catches for length and age analysis (Anon 2008).
	С	Y	Information is adequate to support a comprehensive strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
			Information recorded in log books is accurate and verifiable. All commercial fish by-catch must be logged and landed at an authorized weight control landing slip office. The information recorded on retained species is considered adequate to support management strategies for retained species.
	d	Y	Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species.
			Information on retained species is available through investigations such as bottom trawl, acoustic and 0-group surveys carried out by the Faroese research vessel, Magnus Heinason, in addition to commercial catch and effort data from logbooks and the sampling of commercial catches for length and age analysis.

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	
Reference		es	Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)	
OVERALL PERFORMANCE INDICATOR SCORE:			E INDICATOR SCORE:	90
CONDITION NUMBER (if relevant):				N/A

Bycatch Species

PI 2.	2.1	The fishery o	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	а	Y	Y Main by-catch species are likely to be within biologically based limits (if not, go to scoring issue b below).		
			No discards are allowed in any fishery in the Faroe Islands, and the client also lands "rusk" largely consisting of dead shells and stones. However, invertebrate species are allowed to be returned to the sea. Bycatch species can include scallops smaller than 55mm, starfish, whelks, horse mussels, and/or urchins. These are returned alive to sea, and therefore these "discards" are most likely to have limited impact on by-catch species. E.g. the skipper estimates that between 300 and 500 starfish can be caught during a fishing trip and these are returned to the ocean unharmed. Scallops smaller than 55mm are not considered here as they are the target species and thus evaluated under P1.		
			Bycatch in the fishery consists mostly of starfish, and it is estimated that around 300-500 starfish are caught in one fishing trip. The weight of starfish is estimated to be 150-200g, therefore a total of 75-100kg per fishing trip. The average catch per fishing trip for 2011 to 2012 e.g. is 2,240 kg. Starfish, which is the largest component of the bycatch thus comprises at most from 3.3%- to 4.4% of the catch. Therefore there are no main bycatch species in this fishery.		
	b	Y	If main by-catch 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.		
			No discards are allowed in any fishery in the Faroe Islands. There are no main bycatch species in this fishery (see SG60a).		
	С	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.		
PI 2.	2.1 Th	ne fishery	y 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		
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SG	Issue	Met? (Y/N)	Justification/Rat	ionale	
			No discards are allowed in any fishery in the Faroe Islands. Some invertebrate by-castarfish, are returned the ocean unharmed. It is therefore expected that bycatch in populations.	atch species including scallops smaller than 55mm (considered in P1), and the scallop fishery have virtually no impact on respective bycatch species	
			There are no main bycatch species in this fishery (see SG60a).		
80	а	Y	Main bycatch species are highly likely to be within biologically based limits (if not, go	to scoring issue b below).	
			No discards are allowed in any fishery in the Faroe Islands. There are no main bycatch	species in this fishery (see SG60a).	
	b	Y	If main bycatch species are outside biologically based limits there is a partial strategy fishery does not hinder recovery and rebuilding.	of demonstrably effective mitigation measures in place such that the	
			No discards are allowed in any fishery in the Faroe Islands. There are no main bycatch species in this fishery (see SG60a).		
100aNThere is a high degree of certainty that bycatch species are within biologically based limits.		mits.			
			No discards are allowed in any fishery in the Faroe Islands. Bycatch consist mostly of small scallops (considered as the target in Principle 1) and starfish. The are returned to the ocean alive and starfish has been shown to be fairly robust (Kaiser & Spencer 1995; Jenkins et.al 2001; Pranovi et. Al 2001). These discar most likely have a negligible impact on bycatch species populations.		
			However, there is not adequate knowledge on all bycatch species to determine their biologically based limits.		
	References		Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a S http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)	אר. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at <u>p://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=</u>)	
			Jenkins, S., Beukers-Stewart, B. & Brand, A. 2001. Impact of scallop dredging on benthic megafauna: A comparison of damage levels in captured and non- captured organisms. Marine Ecology Progress Series 215: 297-301.		
			Kaiser, M.J. & Spencer, B.E. 1995. Survival of bycatch from a beam trawl. Marine Ecology Progress Series 126:31-38.		
			Pranovi, F., Raicevich, S., Franceschini, G., Torricelli, P. & Giovanardi, O. 2001. Discard analysis and damage to nontarget species in the "rapido" trawl fishery. Mar. Biol. 139: 863-875.		
			Site visits		
OVER	ALL PERF	ORMANCI	E INDICATOR SCORE:	80	

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	e Met? (Y/N)	Justification/R	ationale
CONDITION NUMBER (if relevant):			relevant):	N/A

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 pop	
SG	Issue	Met? (Y/N)	Justification/Rationale
60	60 a		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.
			No discards are allowed in any fishery in the Faroe Islands. There are no main bycatch species in this fishery (see PI2.2.1; SG60a).
b Y The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fish		The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	
			No discards are allowed in any fishery in the Faroe Islands There are no main bycatch species in this fishery (see PI2.2.1; SG60a).
80	а	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.
			No discards are allowed in any fishery in the Faroe Islands. Also see SG100a There are no main bycatch species in this fishery (see PI2.2.1; SG60a).
	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.
			No discards are allowed in any fishery in the Faroe Islands There are no main bycatch species in this fishery (see PI2.2.1; SG60a).
	С	Y	There is some evidence that the partial strategy is being implemented successfully.
			No discards are allowed in any fishery in the Faroe Islands There are no main bycatch species in this fishery (see PI2.2.1; SG60a).
100	а	a Y There is a strategy in place for managing and minimising bycatch.	
			No discards are allowed in any fishery in the Faroe Islands.
			The effort-based Faroese fisheries management system was designed to take account of the fact that fishing for groundfish species in Faroese waters very often

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery do		es not pose a risk of serious or irreversible harm to bycatch populations
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
			results in a mixed catch, thus basing management on a multi-species approach and t the entire catch is legitimate and therefore has an economic value, thus there is incentives to discard non-targeted fish or misreport catches, which is often a serior must be landed and registered, providing reliable and accurate catch data which is vita	he reality of the ecosystem in which fishing takes place. Under this system, no for incentive for discards. This also has the clear benefit of removing us problem in species-specific, quota-based fisheries management. All fish al for ensuring the best quality scientific assessments of fish stocks.
	b	Y	Testing supports high confidence that the strategy will work, based on information di	rectly about the fishery and/or species involved.
			The Faroese Fisheries Inspection is responsible for monitoring and inspecting catch includes both onboard inspection, monitoring of transshipments and inspection of lan	es and landings of individual vessels and the weighing-in of catches. This dings in port.
	С	Y	There is clear evidence that the strategy is being implemented successfully.	
			The effort based fishing day system has been in place since 1996, and has thus multispecies approach, with no incentives for discards.	been implemented for more than a decade. This system is based on a
	d	d N	There is some evidence that the strategy is achieving its objective.	
None of the stakeholders contacted, including authorities, expressed any concern about discards in the Faroe Islands Although there are no incentives for discards in the Faroe Islands, no formal studies have been conducted.		about discards in the Faroe Islands or in the scallop fishery in particular. ave been conducted.		
References		es	Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at <a default.aspx?id='435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/Default.aspx?ID=435&M=News&NewsID="http://www.tinganes.fo/De</th' href="http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=" http:="" www.tinganes.fo="">	
			Site visits	
OVER	ALL PERF	ORMANCI	E INDICATOR SCORE:	95
COND	CONDITION NUMBER (if relevant):		relevant):	N/A

PI 2.2.3		Inform	nation 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	а	a y Qualitative information is available on the main bycatch species affected by the fishery.		
			No discards are allowed in any fishery in the Faroe Islands.	
			Logbooks are required, all catch landed, monitoring by authorities – inspection at landings point and monitoring of VMS also possible. Non-commercial catch, referred to as "rusk", is also recorded in the logbooks of the fishery, although they are not required by law to do so.	
			The effort-based Faroese fisheries management system has the clear benefit of removing incentives to discard non-targeted fish or misreport catches, which is often a serious problem in species-specific, quota-based fisheries management. All fish must be landed and registered, providing reliable and accurate catch data which is vital for ensuring the best quality scientific assessments of fish stocks.	
			The Faroese Fisheries Inspection is responsible for monitoring and inspecting catches and landings of individual vessels and the weighing-in of catches. This includes both onboard inspection, monitoring of transshipments and inspection of landings in port.	
	b	У	Information is adequate to broadly understand outcome status with respect to biologically based limits	
			No discards are allowed in any fishery in the Faroe Islands.	
	С	У	formation is adequate to support measures to manage bycatch.	
			Logbooks are required, all catch landed, monitoring by authorities – inspection at landings point and monitoring of VMS also possible. Non-commercial catch, referred to as "rusk", is also recorded in the logbooks of the fishery, although they are not required by law to do so.	
80	а	У	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery.	
			No discards are allowed in any fishery in the Faroe Islands.	
	b	У	Information is sufficient to estimate outcome status with respect to biologically based limits.	
			No discards are allowed in any fishery in the Faroe Islands.	
	C	У	Information is adequate to support a partial strategy to manage main bycatch species.	
			No discards are allowed in any fishery in the Faroe Islands.	

PI 2.2.3		Inform	ation on the nature and the amount of bycatch is adequate to determine the risk pos	ed by the fishery and the effectiveness of the strategy to manage bycatch
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
	d	У	Sufficient data continue to be collected to detect any increase in risk to main bycatch operation of the fishery or the effectively of the strategy).	species (e.g., due to changes in the outcome indicator scores or the
			No discards are allowed in any fishery in the Faroe Islands.	
100	а	У	Accurate and verifiable information is available on the amount of all bycatch and the	consequences for the status of affected populations.
			No discards are allowed in any fishery in the Faroe Islands.	
	b	У	Information is sufficient to quantitatively estimate outcome status with respect to bio	logically based limits with a high degree of certainty .
			No discards are allowed in any fishery in the Faroe Islands.	
c Y Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree its objective. No discards are allowed in any fishery in the Faroe Islands. The effort-based Faroese fisheries management system discard non-targeted fish or misreport catches, which is often a serious problem in species-specific, quota-based and registered, providing reliable and accurate catch data which is vital for ensuring the best quality scientific asses d N Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.		d evaluate with a high degree of certainty whether a strategy is achieving		
		sheries management system has the clear benefit of removing incentives to pecies-specific, quota-based fisheries management. All fish must be landed he best quality scientific assessments of fish stocks.		
		N	Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalit	ies to all bycatch species.
	No discards are allowed in any fishery in the Faroe Islands. Logbooks are required, all catch landed, monitoring by authorities – inspection at landings p monitoring of VMS also possible. Non-commercial catch, referred to as "rusk", is also recorded in the logbooks of the fishery, although they are not rec law to do so, although no details in species are provided. Bycatch species, mostly starfish and small scallops are returned to the ocean unharmed. observer evidence of bycatch being alive when returned to the ocean. However, there are no studies on actual survival rates.		I catch landed, monitoring by authorities – inspection at landings point and recorded in the logbooks of the fishery, although they are not required by starfish and small scallops are returned to the ocean unharmed. There is e are no studies on actual survival rates.	
References		es	Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)	
			Site visits	
OVER	ALL PERFO	ORMANCE		95

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 by		ed by the fishery and the effectiveness of the strategy to manage bycatch
SG	Issue	Met? (Y/N)	Justification/Rat	ionale
COND	ITION NU	MBER (if	relevant):	N/A

Principle 2: Evaluation Table: PI 2.3.1

ETP Species

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	а	y Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.	
			There are no ETP species for this fishery. ETP species found within the area are likely to include marine mammals (e.g. seals, cetaceans) and birds. However, there is no possibility of any meaningful interactions between the single scallop fishing vessel and any of these species (Hoydal et al. 2011). Sensitive cold water <i>Lophelia</i> coral beds are present in Faroese waters; however these do not overlap with the scallop fishery (Fredricksen 1992; Bruntse & Tendal 2001; Tendal & Dinesen 2005). Faroese authorities were also consulted in this respect and confirmed that no catch of any marine mammals in the dredge has ever been reported and that any significant interaction with ETP species was highly unlikely (pers. comm. Bjarni Mikkelsen, marine mammal expert, Faroe Natural History Museum). The skipper also confirmed that interaction with marine mammals was limited to a handful of sightings a year.
	b	У	Known direct effects are unlikely to create unacceptable impacts to ETP species.
			There are no ETP species for this fishery.
80	а	У	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.
			There are no ETP species for this fishery.
	b	У	Direct effects are highly unlikely to create unacceptable impacts to ETP species.
			There are no ETP species for this fishery.
	C	У	Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.

			There are no ETP species for this fishery.	
100	а	У	There is a high degree of certainty that the effects of the fishery are within limits of na	ational and international requirements for protection of ETP species.
			There are no ETP species for this fishery.	
	b	У	There is a high degree of confidence that there are no significant detrimental direct e	ffects of the fishery on ETP species.
			There are no ETP species for this fishery.	
	С	У	There is a high degree of confidence that there are no significant detrimental indirect	effects of the fishery on ETP species.
			There are no ETP species for this fishery.	
References Bruntse & Tendal 2001. Marine biological investigations and assem Faroe Islands. 82pp.		Bruntse & Tendal 2001. Marine biological investigations and assemblages of benthic ir Faroe Islands. 82pp.	overtebrates from the Faroe Islands. Kaldbak Marine Biological Laboratory,	
			Hoydal, K., Holt, T.J., Houg, A. & Davies, S. 2011. MSC Assessment Report for Faroe Is Site visits, stakeholder consultation Tendal & Dinesen 2005. Biogenic sediments, substrates and habitats of the Faroese sh	lands Scallop Fishery. elf and slope. Biofar Proceedings 2005: 224-242.
OVERALL PERFORMANCE INDICATOR SCORE:			100	
CONDITION NUMBER (if relevant):			relevant):	N/A

		The fish	ery has in place precautionary management strategies designed to:		
		•	Meet national and international requirements;		
PI 2.3.2		•	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		
	1	•	Minimise mortality of ETP species.		
SG	Issue	Met? (Y/N)	Justification/Rationale		
60ayThere are measures in place that minimise mortality, and are expected to be highly likely to achieve national and international requir of ETP species.		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.			
			There are no ETP species for this fishery.		
The Faroe Islands is a founding member of NAMMCO (the North Atlantic Marine Mammal Commission), which is an interconservation, management and study of marine mammals in the North Atlantic. The NAMMCO Agreement was signed Norway, Iceland, Greenland and the Faroe Islands, and entered into force 90 days later on 8 July 1992 (<u>www.nammco.no</u>).		The Faroe Islands is a founding member of NAMMCO (the North Atlantic Marine Mammal Commission), which is an international body for cooperation on the conservation, management and study of marine mammals in the North Atlantic. The NAMMCO Agreement was signed in Nuuk, Greenland on 9 April 1992 by Norway, Iceland, Greenland and the Faroe Islands, and entered into force 90 days later on 8 July 1992 (<u>www.nammco.no</u>).			
Coral reefs, which provide an important habitat for marine life, have been identified trawling in order to protect these habitats. The Fisheries Laboratory works in consu order to identify additional areas of coral which may be of ecological significance (see requirements for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the OSPAR Convention for the Protection of the Marine Environments for the Protection for the Protection of the Marine Environments for the Protection for th			Coral reefs, which provide an important habitat for marine life, have been identified and documented in Faroese waters. Three specific areas are closed to all trawling in order to protect these habitats. The Fisheries Laboratory works in consultation with fishermen to further map the seabed around the Faroe Islands in order to identify additional areas of coral which may be of ecological significance (source: <u>fisk.fo</u>) Regulations in the Marine Environmental Act are in line with the requirements for the OSPAR Convention for the Protection of the Marine Environment in the North Atlantic.		
b y The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar to be a simil		The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).			
			There are no ETP species for this fishery.		
80	а	У	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.		
			There are no ETP species for this fishery. See rationale in SG60a		
	b	У	There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.		
			There are no ETP species for this fishery.		
	C	У	There is evidence that the strategy is being implemented successfully.		
			There are no ETP species for this fishery.		

		The fish	ery has in place precautionary management strategies designed to:	
		•	Meet national and international requirements;	
PI 2.3.2		•	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/Rat	ionale
100	100 a		There is a comprehensive strategy in place for managing the fishery's impact on ETP s achieve above national and international requirements for the protection of ETP speci	pecies, including measures to minimise mortality that is designed to ies.
			There are no ETP species for this fishery.	
	b	У	The strategy is mainly based on information directly about the fishery and/or species i strategy will work.	nvolved, and a quantitative analysis supports high confidence that the
			There are no ETP species for this fishery.	
	с	У	There is clear evidence that the strategy is being implemented successfully.	
			There are no ETP species for this fishery.	
	d	У	There is evidence that the strategy is achieving its objective.	
			There are no ETP species for this fishery.	
	Referenc	es	www.nammco.no	
			http://www.fisk.fo/Admin/Public/DWSDownload.aspx?File=%2fFiles%2fFiler%2fFisk%	2fPDF%2fFO_fisheries_and_aquaculture_final_revised.pdf
OVER	OVERALL PERFORMANCE INDICATOR SCORE:			100
COND	CONDITION NUMBER (if relevant):			N/A

			t information is collected to support the management of fishery impacts on ETP species including:
DI	222	•	Information for the development of the management strategy;
	2.3.3	•	Information to assess the effectiveness of the management strategy; and
		•	Information to determine the outcome status of ETP species.
SG	Issue	Pe (Y/N) Justification/Rationale	
60	а	У	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.
			There are no ETP species for this fishery. (Also see PI 2.3.1 SG60)
	b	У	Information is adequate to broadly understand the impact of the fishery on ETP species.
			There are no ETP species for this fishery.
	С	У	Information is adequate to support measures to manage the impacts on ETP species.
			There are no ETP species for this fishery.
80	а	У	Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.
			There are no ETP species for this fishery.
	b	У	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.
			There are no ETP species for this fishery.
	С	У	Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.
			There are no ETP species for this fishery.
100	а	У	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
			There are no ETP species for this fishery.
	b	У	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
			There are no ETP species for this fishery.

PI 2.3.3		Relevan • •	It information is collected to support the management of fishery impacts on ETP speci 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.	es including:
SG	Issue	Met? (Y/N)	Justification/Rationale	
	С	У	Information is adequate to support a comprehensive strategy to manage impacts, mi of certainty whether a strategy is achieving its objectives.	nimise mortality and injury of ETP species, and evaluate with a high degree
			There are no ETP species for this fishery.	
	Referenc	es		
OVER	OVERALL PERFORMANCE INDICATOR SCORE:			100
COND	CONDITION NUMBER (if relevant):			N/A

Principle 2: Evaluation Table: PI 2.4.1

Habitat

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	а	Y	Y The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.		
			The fishery has been successfully conducted in the same area for over 40 years, indicating that habitats are not irreversibly affected. Only about 8.5% of the main fishing area is dredged annually, leaving more than 90% of the main fishing area unharmed by fishing. The fishery is mainly conducted on sandy bottoms where dredge impact is expected to be less, and fishermen actively avoid known hard structures.		
			Considering the small scale of the fishery and spatial/temporal restrictions, the fishery is unlikely to cause serious or irreversible harm to the habitat.		
80	а	Y	Y The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.		
			This fishery is conducted mainly on soft (sandy) bottom in relatively shallow waters. Fishermen tend to avoid areas with hard structures, where the bottom community is more sensitive for dredging. It is estimated that less than 8.5% of the main fishing area of scallops in Faroese waters is fished annually. About 34km ² of the ~400km ² main fishing areas are swept annually. This fishery is also subject to spatial/temporal restrictions, thus further limiting areas/times closed		

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		considered on a regional or bioregional basis and function
SG	Issue	Met? (Y/P/ N)	Justification/Rat	tionale
			to dredging, going some way toward reducing the impact of the fishery on benthic waters up to 200m depth (Bruntse & Tendal 2000; Bruntse 2001), then annual dre (2005, as cited by Tendal & Dinesen 2005) reports scallops to be even more widely dis	habitats. If the habitat where scallops are common is considered to be in dging only covers 0.02% of the 152300km ² (<u>www.hav.fo</u>) area. Sneli et al. tributed or from 50 to 450m depth.
			Considering the small scale of the fishery and spatial/temporal restrictions, the fishery	is highly unlikely to cause serious or irreversible harm to the habitat.
100	а	Р	There is evidence that the fishery is highly unlikely to reduce habitat structure and fur	nction to a point where there would be serious or irreversible harm.
			A study on the impact of dredging has been conducted in the northern fishing area average size of the animals were reduced in the areas dredged, although in some case area rather than an overall reduction in biomass or numbers. However, overall irreversible harm. Fishing in the northern and main eastern area takes place on similat the study in the north can be applied to the eastern fishing area. This study provides harm (i.e. "gross changes to habitat type or disruption of its role" – CR v1.2; CB3.14.2.2) to the habitat. Skippers also avoid hard structures in the acquired knowledge of the area. Fishing also covers only 8.5% of the main fishing area in waters up to 200m depth (Bruntse & Tendal 2000; Bruntse 2001), then annual dr (2005, as cited by Tendal & Dinesen 2005) reports scallops to be even more widely dist. However, a score of 100 not justified, since the weight of dredge was increased in 201	(Matras 2001). Results indicate that for 31 of 54 species, the numbers and es the effect was seen as a reduced rate of increase compared to the control species diversity was unaffected, indicating that dredging did not cause ar bottom types, i.e. sandy bottoms with some rocks. Therefore results from is some evidence that dredging in these sandy areas does not cause serious 2.1) or irreversible harm (i.e. <i>"changes that would imply some sort of regime</i> he habitat and dense aggregations of horse mussels through sonar maps and a of scallops. If the habitat where scallops are common is considered to be edging only covers 0.02% of the 152300km ² (www.hav.fo) area. Sneli et al. tributed or from 50 to 450m depth.
			Bruntse, G. and Tendal, O.S. (Eds.) 2000. Marine biological investigations and asse Biological Laboratory, Faroe Islands. GEM 2000-0024 (a report).	emblages of benthic invertebrates from the Faroe Islands. Kaldbak Marine
	Referenc	es	Bruntse, G. 2001. Aequipecten opercularis grounds, in: Bruntse, G. &Tendal, O.S. (invertebrates from the Faroe Islands. Kaldbak Marine Biological Laboratory. p	Eds.) (2001). Marine biological investigations and assemblages of benthic o. 37-38.
			Matras, U. 2001. Stutttíðarávirkan av jákupsskeljaveiðu á tey størru dýrini á botninur	n. Fiskirannsóknarstovan juni 2001. 34pp.
			Tendal, O.S and Dinesen, G.E. 2005. Biogenic sediments, substrates and habitats of the	e Faroese shelf and slope. Biofar Proceedings 2005: 224-242.
			Site Visits	
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	80
COND		MBER (if	relevant):	N/A

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	а	Y	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.
			The scallop fishery in the Faroe Islands is regulated mainly by effort and measures in place include severe effort limitation, i.e. the fishery is restricted to a single vessel, and further spatial and temporal limitations as specified in fishing license.
	b	Y	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).
			The general ban on dragged bottom gear is protecting inshore habitats. The small scale of the dredge fishery, with effort, spatial and temporal restrictions, is unlikely to affect inshore habitats to a large degree.
80	а	Y	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.
			In Faroe Islands, bottom gear, such as trawling is banned inside the 12mile limit, and the scallop fishery is a derogation of this law. Other measures include severe effort limitation (only one boat), and spatial/temporal limitation.
	b	Y	There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.
			The general ban on dragged bottom gear is protecting inshore habitats. The small scale of the dredge fishery, with effort, spatial and temporal restrictions, is unlikely to affect inshore habitats to a large degree. Only about 8.5% of the main fishing area of queen scallops is dredged yearly and an estimated 0.02% of the habitat where scallops are reported to be common.
	с	Y	There is some evidence that the partial strategy is being implemented successfully.
			The fishery is managed by spatial/temporal restrictions as well, further reducing impact on habitat. The fishery is further restricted by effort limitation, allowing only one license and fishing vessel. There is only one fishing vessel; therefore the effort limitation strategy can be successfully implemented. The vessel also has VMS, thus fishing areas can be monitored.
100	а	Y	There is a strategy in place for managing the impact of the fishery on habitat types.
			Licenses for the scallop fishery are limited to a single vessel and authorities do not allow an increase in fishing capacity, if the vessel were to be replaced. The scallop fishery is only allowed within a certain area. Static gear takes precedence over scallop dredges in all cases.

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
			Limiting the scallop fishery to one vessel, restricted areas and an eight month season result in a restricted area covered by the fishery. The annual coverage is only 34km ² per annum. Scallops are considered to be common from 50-200m depth and in some fjords. The area covered by this depth ranges is around 152300km ² (www.hav.fo). The annual fishing area thus covers only 0.02% of the area where scallops occur. Other measures in place applicable to all fisheries in the Faroe Islands include targeted closed areas, closing spawning areas temporarily, closing large areas to trawling, including inshore areas and areas <200m, protecting and mapping vulnerable areas such as coral reefs. Regulations are implemented through the Marine Environmental Act, which is in line with various international conventions (see <u>source</u>).
	b	Y	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.
			Studies of scallop dredging on bottom communities from elsewhere have confirmed negative effect. The extent varies considerably depending on the dredge design, method used, the bottom type, composition of fauna and season. Soft bottom and summer closure as is in the Faroese fishery are both factors contributing to lesser effect.
			Studies on the effect of dredging were conducted in the northern area. Results indicate that for 31 of 54 species, the numbers and average size of the animals were reduced in the areas dredged, although in some cases the effect was seen as a reduced rate of increase compared to the control area rather than an overall reduction in biomass or numbers. However, overall species diversity was unaffected, indicating that dredging did not cause irreversible harm (Matras 2001). Scallop fishing in the main eastern fishing area is conducted on a similar sandy bottom, thus results are comparable.
	С	Y	There is clear evidence that that strategy is being implemented successfully.
			Licenses for the scallop fishery are limited to a single vessel and authorities do not allow an increase in fishing capacity, if the vessel were to be replaced. The scallop fishery is only allowed within a certain area. Static gear takes precedence over scallop dredges in all cases. Authorities have no intention of adding effort to this fishery and have been issuing a single license for more than the past 20 years. An increase in capacity or number of licenses is prohibited by the commercial fisheries act, and this applies to the scallop fishery as well. The fact that no additional licensed have been awarded, despite interests, shows that the strategy of effort limitation is being implemented successfully.
	d	Ν	There is some evidence that the strategy is achieving its objective.
			The ban on dragged bottom gear within the 12mile limit has been in place since the 1960s. Authorities have no intention of adding effort to this fishery and have been issuing a single license for more than the past 20 years. An increase in capacity or number of licenses is prohibited by the commercial fisheries act. There are no formal studies on the effect of the trawler ban within 12 miles.
	Reference	es	Matras, U. 2001. Stutttíðarávirkan av jákupsskeljaveiðu á tey størru dýrini á botninum. Fiskirannsóknarstovan juni 2001. 34pp.

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/Rat	tionale	
Site visits Anon. 2008. Faroe I http://www.tingane http://www.hav.fo/			Site visits Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a S <u>http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=</u>) <u>http://www.hav.fo/index.php?option=com_content&view=article&id=9&Itemid=205</u>	iustainable Future. Ministry of Fisheries and Natural Resources. (available at	
OVERALL PERFORMANCE INDICATOR SCORE:			INDICATOR SCORE:	95	
CONDITION NUMBER (if relevant):			relevant):	N/A	

PI	2.4.3	In	formation 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	а	Y	There is basic understanding of the types and distribution of main habitats in the area of the fishery.
			The main habitat types are known through the BIOFAR project (see fig below from Bruntse & Tendal 2001). Tendal & Dinesen (2005) described biogenic habitats and structures in the Faroes in detail. In the Faroe Islands the main areas for fishing queen scallops are in the on-shelf area predominantly on sandy bottoms with considerable amounts of course material, especially shell but also stones and gravel, interspersed with areas of rock (Nicolajsen 1997; ICES 2008).
			64 64 65 65 66 65 66 67 66 67 66 67 67 66 67 67
			60" 60" 13" 2" 11" 10" 9" 8" 7" 6" 5" 4" 3" 2"

	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.
			Log books record exact fishing locations and the vessel is also equipped with VMS, therefore there is reliable information on the spatial interaction of the gear and habitat. There is broad understanding of dredge impacts on sandy bottoms from various studies (Hinz et al. 2012; Veale et al. 2000). Main habitat type in this fishery is sandy bottoms with some course materials such as gravel and shell. The nature of gear impact has been studied by Matras (2001). Fishing covers about 8.5% of the main fishing area of scallops. However, if the habitat where scallops are reported to be common is considered, which is from shallow waters down to 200m depth, the fishery only covers about 0.02% of the 152300km ² covered by these depths (see <u>www.hav.fo</u>).
80	а	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.
			Habitat types in the fishing area are mostly sandy bottom with some coarse material and are well known by the skipper, as areas of hard structures are avoided to prevent damage to fishing gear. Sonar records have been built up by fishermen for the last 15 years and are used to avoid hard structures. The main habitat types are known through the BIOFAR project (Bruntse & Tendal 2001). Tendal & Dinesen (2005) described main biogenic habitats and structures in the Faroese in detail. These studies provide a good overview of the distribution and vulnerability of habitat types in the Faroe Islands. Sensitive habitats include corals and sponges, but these are found in deeper waters and do not overlap with scallop fishing.
	b	N	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.
			Log books record exact fishing locations and the vessel is also equipped with VMS, therefore there is reliable information on the spatial interaction of the gear and habitat. Studies on the impact of dredging have been conducted in the northern area. However, no data is available for the impact of the heavier gear (as of 2012) in the main eastern fishing area.
			Fishing covers about 8.5% of the main fishing area of scallops. However, if the entire habitat is considered, which is from shallow waters down to 200m depth, the fishery only covers about 0.02% of the 152300km ² covered by these depths (see <u>www.hav.fo</u>). Fishermen also have sonar records built up for the last 15 years that allow them to avoid hard structures. Fishermen also have reasonably good knowledge on dense aggregations of horse mussels and avoid these areas. However, if horse mussel is caught, the vessel immediately moves to other areas.
	С	Y	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).
			The impact of dredging has been studied for the northern area. This study was conducted on the same vessel and using the same gear as is used in the fishery and on similar bottom type, therefore results from the study are considered to be representative for the fishery in general.
			An increase in risk to the habitat is unlikely, since the fishery continues to be limited on a spatial and temporal scale, thus maintaining low risk to the habitat.
			Data on fishing areas are collected on an ongoing basis by the vessel and submitted to authorities, therefore information on the spatial impact of the fishery is being collected and any increase in the fishing areas can be detected.

100	а	Y	The distribution of habitat types is known over their range, with particular attention to) the occurrence of vulnerable habitat types.
			The main habitat types are known through the BIOFAR project (Bruntse & Tendal 200 the Faroe Islands in detail. Vulnerable sponges and corals, particularly <i>Lophelia</i> beds a overlap with the fishing area (see fig in SG60a). The distribution of horse mussel, which	01). Tendal & Dinesen (2005) described biogenic habitats and structures in are found around the Faroe Islands, however, their main distribution do not n is considered to be an important biogenic habitat, is also known.
	b	Ν	The physical impacts of the gear on the habitat types have been quantified fully.	
			Impacts of dredging have been studied in the north, however long-term impacts have have not been studied.	e not been fully quantified, and the impacts of the increased dredge weight
	с	Ν	Changes in habitat distributions over time are measured.	
			There is no monitoring of habitat distribution over time.	
			Bruntse, G. and Tendal, O.S. (Eds.) 2001. Marine biological investigations and asse Biological Laboratory, Faroe Islands. 82pp.	mblages of benthic invertebrates from the Faroe Islands. Kaldbak Marine
			Hinz, H., Murray, L.G., Malcolm, R. & Kaiser, J., 2012, The environmental impacts of the Marine Environmetal Research, 73: 85-95.	ree different queen scallop (Aequipecten opercularis) fishing gears.
			ICES. 2008. Faroe Plateau Ecosystem: Ecosystem Overview. Report of the ICES Advisory Committee 2008. ICES Advice, 2008. Book 4. 48pp.	
			http://biofar.fo	
	Reference	es	http://www.hav.fo/index.php?option=com_content&view=article&id=9&Itemid=205	
			Matras, U. 2001. Stutttiðarávirkan av jákupsskeljaveiðu á tey størru dýrini á botninum. Fiskirannsóknarstovan juni 2001. 34pp.	
			Nicolajsen, A. 1997. The history of the queen scallop fishery of the Faroe Islands, p.49	-56. U.S. Dep. Commer., NOAA Tech. Rep. NMFS 129, pp. 49-56.
			Site visits	Earoaca chalf and clong. Biofar Drocoodings 2005: 224-242
			Veolo L. O., Hill A.S., Howking S.L., Brand A.B. 2000. Efforts of long term physical distur	bance by commercial scallen fiching on subtidal enifaunal accomblages and
			habitats. Marine Biology. 137: 325- 337.	bance by commercial scallop fishing of subtruat epitaulial assemblages and
OVER	ALL PERFC	ORMANC	E INDICATOR SCORE:	75
COND	CONDITION NUMBER (if relevant):			N/A

Principle 2: Evaluation Table: PI 2.5.1

Ecosystem

PI	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	а	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.
			This fishery consists of a single vessel, operating in limited areas, and is therefore highly unlikely to affect any key elements of the ecosystem.
80	а	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.
			This fishery consists of a single vessel, operating in limited areas, and is therefore highly unlikely to affect any key elements of the ecosystem.
			The fishery does not overlap with <i>Lophelia</i> beds, which are considered to be highly vulnerable (Bruntse & Tendal 2001). <i>Modiolus</i> beds are considered to be important in the ecosystem, possibly as nursery areas for various fish species. The fishery overlaps with <i>Modiolus</i> , beds, however, <i>Modiolus</i> beds extend far beyond the small area of overlap with the scallop fishery (Bruntse & Tendal 2001). However, fishermen avoid fishing on dense horse mussel aggregations.
			Various fish species prey on benthic animals such as scallops, however, studies show that their main prey item is fish, sandeel being preferred when abundant (ICES 2008). Therefore, scallops are not considered as a key prey item in the Faroe ecosystem, and fishing do not overlap with sensitive areas and avoids the partially overlapping horse mussel aggregations.
100	а	Y	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.
			The small scale and restricted area of operation of this fishery, together with evidence of studies from the northern area show that the fishery is highly unlikely to disrupt key elements of the ecosystem.
			The fishery does not overlap with <i>Lophelia</i> beds, which are considered to be highly vulnerable (Bruntse & Tendal 2001, Tendal & Dinesen 2005). <i>Modiolus</i> beds are considered to be important in the ecosystem, possibly as nursery areas for various fish species. The fishery overlaps with <i>Modiolus</i> , beds, however, <i>Modiolus</i> beds extend far beyond the small area of overlap with the scallop fishery (Bruntse & Tendal 2001, Tendal & Dinesen 2005). Fishermen also avoid fishing on dense horse mussel aggregations.
			Various fish species prey on benthic animals such as scallops, however, studies show that their main prey item is fish, sandeel being preferred when abundant (ICES 2008).
			Therefore, scallops are not considered as a key prey item in the Faroe ecosystem, fishing do not overlap with sensitive areas and avoids the partially overlapping horse mussel aggregations. The annual coverage of the scallop fishery is only 34km ² per annum, which is 0.01% of the Faroese EEZ (which is 260 995km ²). Studies from the northern area (Matras 2001) provide evidence that dredging did not affect biodiversity adversely.
			There are extensive ongoing research programs on ecological elements in the Faroe Islands (<u>www.hav.fo</u>). Fish production in the ecosystem is food limited and

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		
			fluctuates relatively well with primary production (ICES 2008). Scallops are not conside	ered to be a key prey species in the ecosystem.	
			Thus it can be inferred that the scallop fishery is highly unlikely to cause trophic casca prey species (sandeel, Norway pout) (ICES 2008), affect size distribution of communit not been conducted, fishing is not highly selective apart from excluding juveniles, population.	de through depletion of key predators (e.g. cod, haddock and saithe) or key ties, and cause gross changes in biodiversity. Although genetic studies have , and is therefore not expected to affect genetic diversity of the scallop	
References		es	Bruntse, G. and Tendal, O.S. (Eds.) 2001. Marine biological investigations and assemblages of benthic invertebrates from the Faroe Islands. Kaldbak Marine Biological Laboratory, Faroe Islands. 82pp.		
			ICES. 2008. Faroe Plateau Ecosystem: Ecosystem Overview. Report of the ICES Advisory Committee 2008. ICES Advice, 2008. Book 4. 48pp.		
			Tendal, O.S and Dinesen, G.E. 2005. Biogenic sediments, substrates and habitats of the Faroese shelf and slope. Biofar Proceedings 2005: 224-242.		
			www.hav.fo		
			Site visits		
OVER	OVERALL PERFORMANCE INDICATOR SCORE:		E INDICATOR SCORE:	100	
COND	CONDITION NUMBER (if relevant):		relevant):	N/A	

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	а	Y	There are measures in place, if necessary.
			The objective of Faroese fisheries management is to conserve and utilise marine fish stocks in order to ensure biological and economic sustainability and secure optimal socio-economic benefits from fisheries.
			In Faroe Islands, bottom gear, such as trawling is banned inside the 12mile limit, and the scallop fishery is a derogation of this law. This law directly protects the scallop habitat and other important biogenic habitats in the ecosystem such as horse mussel beds in the area. Other measures in the scallop fishery include severe effort limitation (only one vessel allowed), and further spatial/temporal limitations as specified in the fishing licenses.

PI	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
			Other measures in place applicable to all fisheries in the Faroe Islands include targeted closed areas, closing spawning areas temporarily, closing large areas to trawling, including inshore areas and areas <200m, protecting and mapping vulnerable areas such as coral reefs. Regulations are implemented through the Marine Environmental Act, which is in line with various international conventions (see <u>source</u>).
	b	Y	The measures take into account potential impacts of the fishery on key elements of the ecosystem.
			The effort limitation of licensing only one vessel, and spatial/temporal restrictions limit potential impact of the fishery on the ecosystem.
	c Y The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/e		
			For the scallop fishery the restrictions in fishing effort, including restrictions on fishing capacity, and spatial/temporal closures can be considered as a strategy that restricts impact on the ecosystem.
80	а	Y	There is a partial strategy in place, if necessary.
			In Faroe Islands, bottom gear, such as trawling is banned inside the 12mile limit, and the scallop fishery is a derogation of this law. Other measures include severe effort limitation (only one boat), and spatial/temporal limitations.
	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.
			Good information is available on the areas fished through logbooks, and VMS. The only fishing license limits the areas allowed to fish, thus restraining impacts of the fishery on the ecosystem.
	С	Y	The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).
			The effort limitations imposed on the fishery result in very limited impact on the overall Faroese ecosystem (0.01% of Faroese EEZ see PI 2.5.1). The effort limitation is expected to work, due to the small size of the fishery, good information and there are also inspection services in place. Faroese authorities are satisfied that the fishery is compliant with regulations.
	d	Y	There is some evidence that the measures comprising the partial strategy are being implemented successfully.
			These measures are implemented successfully through the Faroese Fisheries Inspection services. Control and monitoring service tasks include controlling/monitoring amongst other things, fishing licenses and fishing days, quotas in Faroese waters, in middle distant waters, and in distant waters, log books on catches and methods of fishing.
			Only one fishing vessel has been given a license for scallop fishing over the past 25 years, demonstrating commitment of the Faroese authorities to effort

PI	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		
			limitation for this fishery.		
100	а	Y	There is a strategy that consists of a plan , in place.		
	Effort limitation is explicitly set out in Faroese legislation. The scallop fishery falls under this legislation, and nei increased capacity are allowed in the fishery.		Effort limitation is explicitly set out in Faroese legislation. The scallop fishery falls under this legislation, and neither additional fishing vessels, nor increased capacity are allowed in the fishery.		
	In addition to limits on fishing effort, an integral part of Faroese fisheries management is a range of measures w relation to the ecosystem in which it takes place. This is applicable to all fisheries in the Faroe Islands include spawning areas temporarily, closing large areas to trawling, including inshore areas and areas <200m, protecting such as coral reefs. Regulations are implemented through the Marine Environmental Act, which is in line with van (see source).		In addition to limits on fishing effort, an integral part of Faroese fisheries management is a range of measures which aim to balance fishing in relation to the ecosystem in which it takes place. This is applicable to all fisheries in the Faroe Islands include targeted closed areas, closing spawning areas temporarily, closing large areas to trawling, including inshore areas and areas <200m, protecting and mapping vulnerable areas such as coral reefs. Regulations are implemented through the Marine Environmental Act, which is in line with various international conventions (see source).		
	b N The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at le in place. The plan and measures are based on well-understood functional relationships between the fishery and the Component ecosystem.		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.		
			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.		
			An ecosystem approach is implicit in the Faroe Islands fisheries management system based on effort limitations and area closures.		
			There are effort limitations in place; i.e. only on vessel is allowed in the fishery with a cap on capacity increase. Further limitations are applied by restricting fishing area, and season. In the experimental areas in the north, the fishery is also restricted by catch limits and a restriction on fishing days.		
			However, there are no mechanisms in place for modification of fishing impacts should the need arise.		
	с	N	The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.		
			The ecosystem approach of the Faroe Islands fisheries management system is generally thought to be effective for demersal species (e.g. Zeller & Reinert 2004). However, recent evaluations indicate that the initial effort might have been set too high (Jakupsstovu et al. 2007)		
			The effort limitations in the fishery have been in place in the main fishing area since 1988, with one vessel allowed, apart from few years with an additional factory trawler in the north. Thus since 1991, only one vessel was allowed to fish for scallops in the Faroe Islands. Since 1994, the limitations on the number of fishing licenses and/or capacity increases have become part of legislation. This demonstrates that the effort limitation have been imposed and maintained effectively in this fishery for more than 20 years.		
			However, ecosystem impacts of the fishery have not been fully evaluated.		
	d	Ŷ	There is evidence that the measures are being implemented successfully .		
			These measures are implemented successfully through the Faroese Fisheries Inspection services. Control and monitoring service tasks include		

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)	Met? Justification/Rationale (Y/N)			
			controlling/monitoring amongst other things, fishing licenses and fishing days, quot books on catches and methods of fishing.	tas in Faroese waters, in middle distant waters, and in distant waters, log		
			Only one fishing vessel has been given a license for scallop fishing over the past 2 limitation for this fishery.	25 years, demonstrating commitment of the Faroese authorities to effort		
			Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a S http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)	Sustainable Future. Ministry of Fisheries and Natural Resources. (available at		
	References		References Jakupsstovu, S. H. í, Cruz, L. R., Maguire, J-J., and Reinert, J. 2007. Effort regulation of of Marine Science, 64: 730–737.		Jakupsstovu, S. H. í, Cruz, L. R., Maguire, J-J., and Reinert, J. 2007. Effort regulation of of Marine Science, 64: 730–737.	the demersal fisheries at the Faroe Islands: a 10-year appraisal. ICES Journal
			Zeller, D. and Reinert, J. 2004. Modelling spatial closures and fishing effort restrictions	in the Faroe Islands marine ecosystem. <i>Ecological Modelling</i> 172: 403–420.		
OVER	ALL PERFO	ORMANCI	E INDICATOR SCORE:	90		
COND	CONDITION NUMBER (if relevant):			N/A		

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	а	Y	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity).		
			The BIOFAR study describes key biogenic habitats in the ecosystem (Bruntse & Tendal 2001). Key elements in the Faroese Ecosystem is known and (see ICES 2008). In addition, Tendal & Dinesen (2005) described biogenic habitats and structured in detail. FAMRI also measures key factors in the ecosystem such as general hydrography, primary production, zooplankton, recruitment of key LTL species, and indices of the main commercial fish species (<u>www.hav.fo</u> and <u>http://www.hav.fo/index.php?option=com_content&view=article&id=105&Itemid=202</u>).		
	b	Y	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.		

PI	2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem
SG	Issue	Met? (Y/N)	Justification/Rationale
			Impacts of dredging the seabed have been studied in the northern area (Matras 2001). The fishery is not expected to have direct impacts on key elements of the ecosystem.
80	а	Y	Information is adequate to broadly understand the key elements of the ecosystem.
			The BIOFAR study is describes key biogenic habitats in the ecosystem (Bruntse & Tendal 2001). Key elements in the Faroese Ecosystem is known and (see ICES 2008). In addition, Tendal & Dinesen (2005) described biogenic habitats and structured in detail. The FAMRI also measures key factors in the ecosystem such as general hydrography, primary production, zooplankton, recruitment of key LTL species, and indices of the main commercial fish species (www.hav.fo, also see rationale for SG100c).
	b	Y	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.
			Impacts of dredging the seabed have been studied in the northern area. The study showed that overall biodiversity was not affected. Considering results from this study and the limited spatial impact of the fishery in relation to the entire Faroese ecosystem (0.01% of the Faroese EEZ is covered by the fishery). In addition, there are no main retained- or bycatch species and there are no ETP species in the fishery. Important and/or vulnerable habitats do not overlap with the fishery, except for partial overlap of horse mussel beds, which fishermen avoid. It can be inferred that the fishery is not expected to have direct impacts on key elements of the ecosystem
	c	Y	The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known .
			There are extensive ongoing research programs into various aspects of oceanography and marine biology in the waters around the Faroese (see rationale in SG100c)
	d	Y	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.
			This fishery consists of a single vessels operating in limited areas, and are therefore highly unlikely to affect any components of the ecosystem. Information on all bycatch/retained species is available and spatial impact of the vessel is known. Scallops are not considered to be a key prey species in the Faroese Ecosystem. Fishing is not expected to impact key predator/prey species, as demonstrated by the limited amount of retained species or to have significant impact on the overlapping <i>Modiolus</i> biogenic habitat, as these areas are avoided by fishermen and they only partially overlap with scallop habitat. Therefore, it can be inferred that main consequence for the ecosystem is minimal.
	e	Y	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).

PI	2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem
SG	Issue	Met? (Y/N)	Justification/Rationale
			The impact of dredging has been studied for the northern area. This study was conducted on the same vessel and using the same gear as is used in the fishery, therefore results from the study are considered to be representative for the fishery in general. There are no changes expected in the future for this fishery, therefore, current information is sufficient. No changes in spatial impact are expected for this fishery due to various effort restrictions in place. Detailed information on fishing operations continues to be collected in logbooks, thus any potential changes in spatial operations can be detected.
100	b	Y Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.	
			Impacts of dredging the seabed have been studied in the northern area. The fishery is not expected to have direct impacts on key elements of the ecosystem. Main interactions with the ecosystem can be inferred through information on retained-, bycatch-, and ETP species, spatial distribution of the fishery and distribution and extent of important biogenic habitats.
	С	N	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 .
			Limited information is available on the state of the scallop stock and state of bycatch species, however, the fishery has been maintained for many years and impact of fishing have been restricted through various effort limitation strategies. Bycatch consist mainly of starfish, and limited amounts of whelks, and sea urchins, and horse mussels, which are returned live to the sea. There are no encounters with ETP species. Thus the impact of the fishery on bycatch and ETP species are identified and considered to be insignificant.
			The main functions of the ecosystem are understood through ongoing research programs at the FAMRI. There is ongoing environmental research on the oceanic-, shelf-, and fjord ecosystems, as well as research on primary production, fish stocks and fisheries
			(<u>http://www.hav.fo/index.php?option=com_content&view=article&id=3&Itemid=103</u> and <u>http://www.fishin.fo/Default.aspx?ID=8604</u> , also see examples of various references below). Other agencies involved include the Environment Agency of the Faroe Islands (ENVOFAR) and Faroese Museum of Natural History (bird and mammal research).
	d	Ν	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.
			This fishery consists of a single vessels operating in limited areas, and are therefore highly unlikely to affect any components of the ecosystem. Information on all bycatch/retained species is available, however information of stock status of the target and bycatch species are not available. Information on all fishery removals is available through log books, and landing data.
	e	N	Information is sufficient to support the development of strategies to manage ecosystem impacts.
			Authorities receive sufficient information on all landed species, to enable them to make decision regarding ecosystem impacts – e.g. when bycatch of small haddock were perceived to be too high, the authorities responded by limiting bycatch in the fishery. The spatial impact of the fishery is known and monitored in logbooks.

PI	PI 2.5.3		There is adequate know	vledge of the impacts of the fishery on the ecosystem	
SG	Issue	Met? (Y/N)		Justification/Rationale	
			The ongoing research on Faroese Ecosystem (see SG100c) is an ecosystem model for the Faroe Plateau and Bank, which ecosystems. However, full information is not available for all species impa	s part of the ongoing monitoring and modeling of fish stocks and their habitats. FAMRI is developing is capable of providing comprehensive information on optimum and sustainable use of the marine acted by the fishery.	
			Bruntse, G. and Tendal, O.S. (Eds.) 2001. Marine biological investigations and assemblages of benthic invertebrates from the Faroe Islands. Kaldbak Marine Biological Laboratory, Faroe Islands. 82pp.		
			Eliasen S.K. 2004. Zero-Dimensional Model of the Lowest Trophical Levels of the Marine Ecosystem on the Faroe Shelf. Faroese Fisheries Laboratory Technical Report, 04-02. http://www.frs.fo/ew/media/Ritgerðir/2004/TecRep0402.pdf		
			ICES 2008. Faroe Plateau Ecosystem: Ecosystem Overview. Report of the ICES Advisory Committee 2008. ICES Advice, 2008. Book 4. 48pp		
			Hansen, B., Hátún, H., Kristiansen, R., Olsen, S.M., Østerhus, S. 2010. Stability and forcing of the Iceland-Faroe inflow of water, heat, and salt to the Arctic. Ocean Sci., 6, 1013–1026, 2010. www.ocean-sci.net/6/1013/2010/doi:10.5194/os-6-1013-2010.		
			Hátún, H., Payne, M.R., Beaugrand, G., Reid, P.C., Sandø, A.B., b,g, Drange, H., Hansen, B., Jacobsen, J.A., Bloch, D. 2009. Large bio-geographical shifts in the north-eastern Atlantic Ocean: from the subpolar gyre, via plankton, to blue whiting and pilot whales. Progress in Oceanography 80 (2009) 149–162		
	Referenc	es	Jákupsstovu, S.H. (2005). The BIOMAR Project. BIOFAR Proceedings 2005: 7–8. <u>http://www.biofar.fo/documents/00003.pdf</u>		
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			www.edios.org		
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	85	
CONE	CONDITION NUMBER (if relevant):			N/A	

Principle 3

			nagement system exists within an appropriate legal and/or customary framework which ensures that it:
PI	3.1.1	• Is c	apable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;
			serves the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and
		• Inc	orporates an appropriate dispute resolution framework.
SG	Issue	(Y/N)	Justification/Rationale
60	а	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.
			Faroese authorities have full jurisdiction of all living resources in the Faroese fisheries zone, FFZ. Most demersal stocks in the FEZ are not shared stocks, but are fully regulated by Faroese authorities.
			Regulations of all fisheries in the Faroese fisheries zone (FFZ) and Faroese fishing vessels outside the Faroese fisheries zone are based on the Commercial Fishery Act, 1994.
			Articles 1-3 of the Act read as follows:
			"1. The Act encompasses all commercial exploitation of living resources in the Faroese Fisheries Zone and exploitation by fishing vessels flying the flag of the Faroe Islands in waters outside the FFZ. Excepted are living resources in rivers and lakes and whales, seals, birds and reared fish.
			2. The living resources in the FFZ and the allocations the Government of the Faroe Islands has acquired outside the FFZ are the property of the Faroese People. In the administration of this act the aim should be to conserve the resources and exploit them in a sustainable and rational way, both in biological and economic terms, and with due concern for the relationship between stocks of plants and animal in the Sea and their abundance, in order to secure the optimal flow of benefits for the society, constant employment and income and possibilities for commercial activities all over the country.
			3. paragraph 2. Fishing rights allocated in accordance with this act do not transfer property rights to the licensees. The fishing rights can be withdrawn without compensation."
			The 3 articles clearly state that all commercial fisheries by Faroese fishing vessels are regulated under the Act. Article 2 states the principles and objectives which meet requirements in international law and instruments.
	b	Y	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.
			If a Faroese citizen does not accept an administrative decision in fisheries matter they can seek redress from the Minister. Complaints can be submitted to the Ombudsman (for example about the processing of a case by the administration) or brought before the courts.
			The legal framework for the handling of infringements is found in the Commercial Fisheries Act Chapter 10, Articles 40 to 48.
			The following penalties apply:
			Temporary or permanent loss of fishing license;
			• Loss of catch and gear. This is mandatory if the infringement is fishing without fishing license, fishing in closed areas and discarding
			• Fines

			nagement system exists within an appropriate legal and/or customary framework which ensures that it:
PI	3.1.1	• Is c	apable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;
			serves the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and
		Met?	
SG	Issue	(Y/N)	Justification/Rationale
	С	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.
			Fishing operators can take disputes to the fisheries administration and the Minister under national legislation. Most cases involving infringements are settled by the administrative decision of the Faroe Islands Fisheries Inspection. A few go to the courts and very few beyond the first level of courts, Føroya Rættur, in Tórshavn.
	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.
			Persons that want to sell fish must have a fishery license. Fishing for own consumption does not require a license.
			In the comments to the Commercial Fisheries Act it is positively stated that this is to codify the century old customary right to fish for own consumption. This form of subsistence fishing is important, especially outside the capital Tórshavn.
80	b		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.
			Generally with respect to legal disputes, if a Faroese citizen does not accept an administrative decision in fisheries matter they can seek redress from the Minister. Complaints can be submitted to the Ombudsman (for example about the processing of a case by the administration) or brought before the courts.
			There is a legal framework for the handling of infringements found in the Commercial Fisheries Act Chapter 10, Articles 40 to 48 (see SG60b).
			There have been no legal disputes in the scallop fishery in particular.
	С	Y	The management system or fishery is attempting to comply in a timely fashion within binding judicial decisions arising from any legal challenges.
			Legal challenges are responded to in a timely fashion. Court decisions are few, a couple at most every year and are generally accepted by the administration.
	d	Y	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
			In the comments to the Commercial Fisheries Act it is positively stated that this is to codify the century old customary right to fish for own consumption. This form of subsistence fishing is important, especially outside the capital Tórshavn.
100	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.

		The ma	nagement system exists within an appropriate legal and/or customary framework which ensures that it:
Ы	PL 3.1.1		apable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;
		• Ob	serves the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and
	[• Inc	orporates an appropriate dispute resolution framework.
SG	Issue	Met? (Y/N)	Justification/Rationale
			There is a legal framework for the handling of infringements found in the Commercial Fisheries Act Chapter 10, Articles 40 to 48 (also see SG60a).
Two cases of temporary losses of fishing licenses were before the courts this summer. The ship-owners considered a 4 week for violating restrictions on herring bycatch, when fishing for mackerel. In other cases the courts have established how considered by the fisheries administration.		Two cases of temporary losses of fishing licenses were before the courts this summer. The ship-owners considered a 4 week loss of their fishing license too harsh for violating restrictions on herring bycatch, when fishing for mackerel. In other cases the courts have established how certain paragraphs of the Commercial Fisheries Act have to be interpreted by the fisheries administration.	
			There have not been any infringement recorded by the Inspection Services in the scallop fishery and no decisions have been put to the Minister or brought before the court.
	C	Y	The management system or fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.
			The Fishing Industry is involved in the decision making through the Fisheries Advisory Committee, which scrutinizes all bills and executive orders related to fisheries regulations and through the Fishing Days Committee. In the mixed demersal fisheries in the FFZ for cod, haddock, saithe and some other species; each group of vessels of different categories is allotted a number of fishing days and these are again divided between a number of individual licensees in each group.

		The management system exists within an appropriate legal and/or customary framework which ensures that it:			
PI	PI 3.1.1		apable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2;		
		• Ob	serves the legal rights created explicitly or established by custom of people dependent	t on fishing for food or livelihood; and	
	_	Met?	orporates an appropriate dispute resolution manework.		
SG	Issue	(Y/N)	Justification/Rat	ionale	
			amend the Commercial Fisheries Act. This bill is reviewed by the Fisheries Advisor (Løgting), shortly before a new regulatory year starts 1 st of September every year (see	ry Committee, and the bill is then introduced to the Faroese Parliament schematic below).	
			This procedure is set for the demersal fisheries in FFZ, and effectively allocates fishin agreed to the fishing days system.	ng rights to that fishing fleet. In 1995, the fishing industry in contractually	
			In addition to the fishing rights allocated in annual bills put to the Parliament, the principles to allocate fishing rights in fishing licenses. The license then spells out th fisheries. The fishery for greater silver smelt, <i>Argentina silus</i> , a seasonal semi-pelag halibut and monkfish and the scallop fishery under assessment here.	Minister and the Fisheries Administration are mandated under the same le allocation and the conditions. This is the case for the three specialized ic fishery by 6 larger trawlers, a gillnet fishery by 3 vessels for Greenland	
	d	Y	The management system has a mechanism to formally commit to the legal rights creat food and livelihood in a manner consistent with the objectives of MSC Principles 1 and	ted explicitly or established by custom of people dependent on fishing for 2.	
			In the comments to the Commercial Fisheries Act it is explicitly stated that this is to co of subsistence fishing is important, especially outside the capital Tórshavn.	dify the century old customary right to fish for own consumption. This form	
			The ecosystem approach is highlighted internationally by fishery bodies, like NEAFC an The Convention on Biological Diversity, CBD (it is generally considered that the FAO Cc	d their UN cooperation partner FAO and regional Seas bodies, like OSPAR. de of Conduct fulfils the requirements set out by CBD.)	
			The United Nations Convention on the Law of the Sea of 10 December 1982, UNCLOS	(entered into force 1994)	
			The United Nations Fish Stock Agreement 1995 (entered into force 2001)		
			The Compliance Agreement		
Referen		es	The Code of Conduct for Responsible Fisheries adopted by the 28th Session of the Con October 1995. (voluntary)	ference of the Food and Agriculture Organisation of the United Nations in	
			The Rio declaration and Agenda 21 and 2002 1nd 2012 commitments.		
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	100	
COND		JMBER (if	relevant):	N/A	

PI	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	а	Y	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.
			Parties involved in the management process are:
			Representatives of the Fishing Industry through the Fisheries Advisory Committee, and the Fishing Days Committee.
			Ministry of Fisheries
			Faroese Marine Research Institute (Havstofan)
			The Faroese Parliament (Løgting)
	b	Y	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.
			The fisheries are monitored according to the requirements in the Commercial Fisheries Act.
			The Faroe Islands Fisheries Inspection (Fiskiveiðieftirlitið <u>http://www.fve.fo/</u>) is responsible for the surveillance of all fisheries operations, at sea and on land, undertaken by Faroese flagged fishing vessels. It was established in 1976. It has two inspection vessels. Vessels from the Royal Danish Navy also participate in inspections at sea.
			The service has the following specific tasks:
			Control and registration of fishing days;
			Control and registration of catch and by catch quotas;
			Observers on board of fishing vessel;
			VMS message registration;
			Certifying weighing-in systems;
			Port State Control;
			Control and registration of landings by Faroese flagged fishing vessels in ports outside the Faroe Islands;
			Real time closures to protect juvenile fish;
			The Fishing days Committee annually reports on the perception of the fishers on the state of the stocks, general conditions in the sea, the condition of the fish and other observations. These are reported to the Ministry and are part of the basis for the Ministers proposal for fishing days to the Parliament. The fisheries organizations are all invited to given their opinion to the Industry Committee, when it prepares its recommendation on the Minister's Proposal to the Parliament.
			The Fisheries Advisory Committee scrutinizes the bills and their legal implications and reports to the Ministry and the Parliament.

PI	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		
80	а	Y	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.		
			Parties involved in the management process have been defined and their responsibilities are as set out in the diagram below(also see SG60a):		
			The Faroese Amended Parliament Act Bill on fishing days Bill on fishing days Advice Ministry of Faroe Marine Advice Research Institute Bill for Review Bill for Review Review Science Fisheries Advisory Industry Representatives		
	b Y The management system includes consultation processes that regularly seek and accept relevant information, including lo system demonstrates consideration of the information obtained.		The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.		
			The Statutory consultation takes place annually according to the system under SG80a. Information is sought from the fishing industry through the Committee on Fishing Days, and the Fisheries Advisory Committee, as well as scientific advice obtained from the FAMRI.		
	С	Y	The consultation process provides opportunity for all interested and affected parties to be involved.		
			All the main vessel groups in the demersal fisheries in the Faroe Islands are represented in the Committees and are invited by the parliamentary Industry Committee to give their opinion, before the Committee makes its final recommendation to the Parliament		
100	а		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.		
			Industry is involved in the decision making through the Fisheries Advisory Committee, which scrutinizes all bills and executive orders related to fisheries regulations.		

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		ionale		
			In each fishing year (September-August), each group of vessels is allotted a number o licensees in each group.	of fishing days and these are again divided between a number of individual		
			The Committee on Fishing Days - which is made up of industry representation - makes state of the stocks and makes recommendations on the number of fishing days and c amend the Commercial Fisheries Act. This bill is reviewed by the Fisheries Advisory Co shortly before a new regulatory year starts 1. September every year.	recommendations to the Minister of Fisheries. The FAMRI also assesses the other regulatory measures. The Minister then decides and prepares a bill to mmittee, and the bill is then introduced to the Faroese Parliament (Løgting)		
			The Industry Committee of the Parliament as a rule invites all interested parties to be	heard by the Committee before making its recommendations		
	b	Y	The management system includes consultation processes that regularly seek and acce system demonstrates consideration of the information and explains how it is used or	pt relevant information, including local knowledge. The management not used.		
			The Statutory consultation takes place annually according to the diagram in SG80a. The Fishing days Committee annually reports on the perception of the fishers on the state of the stocks, general conditions in the sea, the condition of the fish and other observations. These are reported to the Ministry and are part of the basis for the Ministers proposal for fishing days to the Parliament. The fisheries organizations are all invited to given their opinion to the Industry Committee, when it prepares its recommendation on the Minister's Proposal to the Parliament. The FAMRI also assesses the state of the stocks and makes recommendations on the number of fishing days and other regulatory measures to the Minister. The Fisheries Advisory Committee scrutinizes the bills and their legal implications and reports to the Ministry and the Parliament.			
	с	Y	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.			
			All the main vessel groups in the demersal fisheries in the Faroe Islands are repre Committee to give their opinion, before the Committee makes its final recommendation	sented in the Committees and are invited by the parliamentary Industry on to the Parliament		
	Deference	The Commercial Fisheries Act (Løgtingslóg um vinnuligan Fiskiskap (LØGTINGSLÓG N http://www.logir.fo/system/foframe.htm		28 FRÁ 10. MARS 1994 UM VINNULIGAN FISKISKAP)		
Reference		Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)		ustainable Future. Ministry of Fisheries and Natural Resources. (available at		
			http://www.fve.fo			
OVER	OVERALL PERFORMANCE INDICATOR SCORE:			100		
CONDITION NUMBER (if relevant):			relevant):	N/A		

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	а	Y	Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy
			The Commercial Fisheries Act in its § 2 clearly states the overarching principles for the fisheries of the Faroese:
			"2. The living resources in the FFZ and the allocations the Government of the Faroe Islands has acquired outside the FFZ are the property of the Faroese People. In the administration of this act the aim should be to conserve the resources and exploit them in a sustainable and rational way, both in biological and economic terms, and with due concern for the relationship between stocks of plants and animal in the Sea and their abundance, in order to secure the most optimal flow of benefits for the society, constant employment and income and possibilities for commercial activities all over the country."
			These principles and objectives have to be met by all Faroese fisheries. Apart from putting sustainability as the rational principle at the center of the management of the living resources of the sea in the Faroe Islands it at the same time meets the requirements of international Law and instruments developed since the signing of the UN Convention of the Law of the Sea in 1982.
80	a Y Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit with management policy.		Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy.
			The long term objectives of biological and economic sustainability are the overriding, statutory principles that have be at basis for all decisions on management of all Faroese fisheries.
100	100 a Y Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary appr required by management policy.		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.
			The objectives are in the Faroe Islands legal requirements included in Law.
			The Commercial Fisheries Act in its § 2 clearly states the overarching management principles for the fisheries of the Faroese:
			"2. The living resources in the FFZ and the allocations the Government of the Faroe Islands has acquired outside the FFZ are the property of the Faroese People. In the administration of this act the aim should be to conserve the resources and exploit them in a sustainable and rational way, both in biological and economic terms, and with due concern for the relationship between stocks of plants and animal in the Sea and their abundance, in order to secure the most optimal flow of benefits for the society, constant employment and income and possibilities for commercial activities all over the country."
			These principles and objectives have to be met by all Faroese fisheries. Apart from putting sustainability as the rational principle at the center of the management of the living resources of the sea in the Faroe Islands it at the same time meets the requirements of international Law and instruments developed since the signing of the UN Convention of the Law of the Sea in 1982.

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	
References		es	The Commercial Fisheries Act (Løgtingslóg um vinnuligan Fiskiskap (LØGTINGSLÓG NR. 28 FRÁ 10. MARS 1994 UM VINNULIGAN FISKISKAP) <u>http://www.logir.fo/system/foframe.htm</u> Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at <u>http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=</u>)	
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				N/A

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 management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.	
			The management system of fishing days removes incentives of underreporting and discards. The surveillance and monitoring of the number of fishing days used is straightforward and feasible. The Faroese Fisheries management system actively seeks information and input from the representatives of the fishing industry as well as scientific advice.	
			There is also a system of penalties in place for non-compliance with fisheries regulations.	
80	а	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.	
			Subsidies to Faroese fisheries were massive in the 1970'ies and 1980'ies. After the financial crisis they were abandoned and there are no direct public subsidies to any Faroese fisheries today. The effort based management system removes incentives of underreporting and discards. The surveillance and monitoring of the number of fishing days used is straightforward and feasible.	

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	
	In the scallop fishery, the fact that there is only one fishing vessel, and therefore no "competition" for the allocated effort, results in incentives for responsibly.		competition" for the allocated effort, results in incentives for fishers to fish,	
			The main concern is to deliver regularly to developed markets with a stable fishery ov production. The input control overseen by the authorities with seasonal and area Fishery Act not to allow new entrants to the fishery.	rer the years. The company will have all incentives for long term sustainable closures is a easily enforcable and a firm policy based on the Commercial
			iddtion there is a system of penalties in place for failing to comply with reguations relating to e.g. fishing gear, seasonal and areal closures, landing and ording of bycatch, and landing and recording of catch. Failure to comply can result in monetary fines or confiscation of fishing gear or both.	
100	а	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.	
			The management system of fishing days means that all catch is legal and therefore monitoring of the number of fishing days used is straightforward and feasible.	e removes incentives of underreporting and discards. The surveillance and
			There is a system of penalties in place for failing to comply with reguations relating to bycatch, and landing and recording of catch. Failure to comply can result in monetary	e.g. fishing gear, seasonal and areal closures, landing and recording of fines or confiscation of fishing gear or both.
			Annual reviews of Fisheries Management Act are discussed in the parliament and in the Fishing Days Committee. The penalty system is part of the Fisheries Management	put from the industry come through the Fisheries Advisory Committee and Act, and thus included in this review.
Reference		es Frágreiðing um 80-Árini <u>http://logting.elektron.fo/logtingsmal/logtingsmal00/ymis</u>		%20tilfar/grein19.pdf
OVER	OVERALL PERFORMANCE INDICATOR SCORE:			100
CONDITION NUMBER (if relevant):			relevant):	N/A
PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
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SG	Issue	Met? (Y/P/ N)	Justification/Rationale	
60	а	Y	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.	
			The objectives of the scallop fishery are those set out in the Commercial Fisheries Act.:	
		"2. The living resources in the FFZ and the allocations the Government of the Faroe Islands has acquired outside the FFZ are the property of the Far the administration of this act the aim should be to conserve the resources and exploit them in a sustainable and rational way, both in biological terms, and with due concern for the relationship between stocks of plants and animal in the Sea and their abundance, in order to secure the most benefits for the society, constant employment and income and possibilities for commercial activities all over the country."		
		Thus, Faroese National legislation has clearly set out long-term objectives of sustainable exploitation of all marine resources, which is constrained principles.		
80	а	A Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fis management system.		
	The short- and long-term objectives of all fisheries are explicitly expressed in the Fisheries		The short- and long-term objectives of all fisheries are explicitly expressed in the Fisheries Management act (see SG60a).	
How these apply to the fishery specific is expressed in the annual fishery licenses, which contain restrictions on season (for this fishery is simplified because there is only one licensee, who without the danger of free riders in the fishery will have of sustainability in biological and economic terms.		How these apply to the fishery specific is expressed in the annual fishery licenses, which contain restrictions on season (fishing time) and area. The management of this fishery is simplified because there is only one licensee, who without the danger of free riders in the fishery will have every incentive to meet the objective of sustainability in biological and economic terms.		
	The client O.C Joensen, the Ministry and the FAMRI have all expressed during stakeholder consultation that the general objective for sustainability and the small scale of the fishery. The objective of maintaining the small scale of the fishery is explicitly set out in the which restricts the number of licenses in any particular fishery to the number of licenses present in 1995. Vessels can only be sub same or less capacity. These explicit regulations set out in legislation restrict the fishery to one vessel, with a ban on capacity increase fishery, such as spatial, temporal and catch restrictions are explicitly expressed in fishing licenses. The FAMRI provides advice on th areas, which is adopted in fishing licenses issued by the Ministry.		The client O.C Joensen, the Ministry and the FAMRI have all expressed during stakeholder consultation that the general objective for this fishery is to maintain sustainability and the small scale of the fishery. The objective of maintaining the small scale of the fishery is explicitly set out in the Commercial fisheries act, which restricts the number of licenses in any particular fishery to the number of licenses present in 1995. Vessels can only be substituted by vessels with the same or less capacity. These explicit regulations set out in legislation restrict the fishery to one vessel, with a ban on capacity increase. Further restrictions on the fishery, such as spatial, temporal and catch restrictions are explicitly expressed in fishing licenses. The FAMRI provides advice on the two northern exploratory areas, which is adopted in fishing licenses issued by the Ministry.	
			The client also has an objective of maintaining CPUE above a certain level – the move-on rule. However, the move-on rule is not a formally adopted measure.	
100	а	Р	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.	
			The short- and long-term objectives are well defined in the Fisheries Management act (see SG60a) and these are demonstrably expressed in the annual fishing licenses, with spatial and temporal constraints set out.	
Strong objectives for sustainable fishing come out of the self-interests of the sole owners and single vessels allowed to fish intentions to add more fishing licenses to the scallop fishery, as set out in legislation.		Strong objectives for sustainable fishing come out of the self-interests of the sole owners and single vessels allowed to fish. The Faroese authorities also have no intentions to add more fishing licenses to the scallop fishery, as set out in legislation.		

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		
			There is good surveillance of all fisheries operations in the Faroe Islands, therefore the objective of effort control through spatial and temporal restrictions can be monitored.		
			Some monitoring of CPUE as a proxy of abundance is done by the FAMRI in the exploratory areas, and can be used a measure of performance against objectives.		
			Since neither stock assessment nor monitoring of proxies such as CPUE is done for the main eastern fishing area, complete performance against objectives cannot be measured.		
	Referenc	es			
OVER	ALL PERF	ORMANC	E INDICATOR SCORE:	95	
CONDITION NUMBER (if relevant):			relevant):	N/A	

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	а	Y There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	
		Fishing licenses are issued by the Ministry annually, setting the conditions for the fishery for the only vessel in this fishery.	
		This includes: Decision on the length of the fishing season, the areas that can be fished in the main the fishery in the Eastern Area, catch limits for the exp fishery in the Northern Area and the number of fishing days in exploratory fishery in Djúpini.	
			The exploratory fisheries are managed and monitored by Havstovan, the FAMRI.
	b	Y Decision-making processes respond to serious issues_identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely adaptive manner and take some account of the wider implications of decisions.	
			In the 40 years history of the fishery the only issue has been by-catches haddock in a year where a massive year class of haddock recruited on the Faroese shelf. This was sorted out by the authorities by setting a limit of 1 % by-catch of fish species in the fishery. In normal years the by-catch of fish is negligible.

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
80	а	a Y There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Fishing licenses are issued by the Ministry annually, setting the conditions for the fishery for the only vessel in this fishery.		Fishing licenses are issued by the Ministry annually, setting the conditions for the fishery for the only vessel in this fishery.
This includes: Decision on the length of the fishing season, the areas that can be fished in the main the fishery in the Easter taken in the exploratory fishery in the Northern Area and the number of fishing days in exploratory fishery in Djúpini.		This includes: Decision on the length of the fishing season, the areas that can be fished in the main the fishery in the Eastern Area, the catch amount that can be taken in the exploratory fishery in the Northern Area and the number of fishing days in exploratory fishery in Djúpini.	
			The exploratory fisheries are managed and monitored by Havstovan, the Faroese Marine Research Institute.
	b	Y	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.
		In the 40 years history of the fishery the only issue has been by-catches haddock in a year where a massive year class of haddock recruit This was sorted out by the authorities by setting a limit of 1% by-catch of fish species in the fishery. In normal years the by-catch of fish is	
	Around 1990 a factory trawler received an exploratory license in the Northern Area, managed and monitors by the Faroese Marine F felt that the license was to invasive and the vessel had problems to meet the conditions, the exploratory license was withdrawn.		Around 1990 a factory trawler received an exploratory license in the Northern Area, managed and monitors by the Faroese Marine Research Institute. Fishermen felt that the license was to invasive and the vessel had problems to meet the conditions, the exploratory license was withdrawn.
	c Y Decision-making processes use the precautionary approach and are based on best available information.		Decision-making processes use the precautionary approach and are based on best available information.
The decisions by the authorities are based on the knowledge acquired from the fishery and the research main 1981; Nicolajsen 1984). Catches and catch-per-unit-effort has fluctuated without a trend over the period and that the fishing capacity and resultant effort should be kept stable in the main fishing area. Changes in licen in the Northern area and Djúpini, monitored by Havstovan.			The decisions by the authorities are based on the knowledge acquired from the fishery and the research mainly undertaken in the 1970s and 1980s (Hoydal 1980; 1981; Nicolajsen 1984). Catches and catch-per-unit-effort has fluctuated without a trend over the period and to be precautionary the authorities have maintained that the fishing capacity and resultant effort should be kept stable in the main fishing area. Changes in licenses depend on the result of the exploratory fisheries in the Northern area and Djúpini, monitored by Havstovan.
d Y Explanations are provided for any actions or lack of action associated with findings and relevant recommendations evaluation and review activity.		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.
	Management decisions are communicated to the company through their fishing license, at least once a year, but some communicate answers to the company's applications in writing, but also telephonically. Explanations are normally provide also telephonically. Various public institutions e.g. the Ministry, coast guard, The Marine Research institute ar consulted/informed of decisions. Stakeholders with no direct interest in this fishery are not informed on a regular basis, but is available from the Ministry.		Management decisions are communicated to the company through their fishing license, at least once a year, but sometimes 3-4 times a year. Authorities communicate answers to the company's applications in writing, but also telephonically. Explanations are normally provided in writing, in a letter or e-mail, but also telephonically. Various public institutions e.g. the Ministry, coast guard, The Marine Research institute and health authorities are formally consulted/informed of decisions. Stakeholders with no direct interest in this fishery are not informed on a regular basis, but statistical information on the fishery is available from the Ministry.
100 b N Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a t manner and take account of the wider implications of decisions.		Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	
The decisions by the authorities are based on the knowledge acquired from the fishery and the research mainly un 1981; Nicolajsen 1984). Catches and catch-per-unit-effort has fluctuated without a trend over the period and to be that the fishing capacity and resultant effort should be kept stable in the main fishing area. Changes in license con fisheries in the Northern area and Djúpini, monitored by Havstovan.			The decisions by the authorities are based on the knowledge acquired from the fishery and the research mainly undertaken in the 1970s and 1980s (Hoydal 1980; 1981; Nicolajsen 1984). Catches and catch-per-unit-effort has fluctuated without a trend over the period and to be precautionary the authorities have maintained that the fishing capacity and resultant effort should be kept stable in the main fishing area. Changes in license conditions depend on the result of the exploratory fisheries in the Northern area and Djúpini, monitored by Havstovan.

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives		es that result in measures and strategies to achieve the objectives
SG	Issue	Met? (Y/N) Justification/Rationale		
All issues are not taken into account during the decision process, e.g. CPUE trends for the traditional eastern fis decisions on the license.		the traditional eastern fishing area is not considered annually when making		
d N Formal reporting to all interested stakeholders describes how the management system responded to findings and relevant recommendations en research, monitoring, evaluation and review activity.		n responded to findings and relevant recommendations emerging from		
			There is no formal reporting from the Ministry on this specific fishery, but informa Statistical Office, in special reports and in connection with the annual cycle of the Par in the Faroe Islands in August 2012, in spite of going widely publicly inviting anyor interested in meeting the Assessment team.	ation on fisheries in general are in the public domain in reports from the liament adopting the fishing days. As observed at the stakeholder meetings with an interest, no NGO or stakeholder outside the fishing sector was
References Hoydal, K. 1980. Uppskot til loyta veiðu á ytra felti. Fiskirannsóknastovan. Thorshavn Hoydal, K. 1981. Jakupsskel undir Föroyum. Fiskirannsóknastovan. Thorshavn. Nicolaisen Á 1984. Jomfrugsters (Chlamys opercularis) i færgskfarvand, population.		Hoydal, K. 1980. Uppskot til loyta veiðu á ytra felti. Fiskirannsóknastovan. Thorshavn. Hoydal, K. 1981. Jakupsskel undir Föroyum. Fiskirannsóknastovan. Thorshavn. Nicolajsen, Á. 1984. Jomfruøsters (<i>Chlamys opercularis</i>) i færøskfarvand, populationso	lynamikaffiskeri. Thesis Roskilde Universitet.	
OVERALL PERFORMANCE INDICATOR SCORE:			E INDICATOR SCORE:	80
CONDITION NUMBER (if relevant):			relevant):	N/A

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	а	Y	Monitoring, control and surveillance mechanisms exist are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.	
		The Faroe Islands Fisheries Inspection (Fiskiveiðieftirlitið <u>http://www.fve.fo/</u>) is responsible for the surveillance of all fisheries operations, at sea a undertaken by Faroese flagged fishing vessels. It was established in 1976. It has two inspection vessels. Vessels from the Royal Danish Navy also p inspections at sea.		
			The service has the following specific tasks:	
			Control and registration of fishing days;	

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	
			 Control and registration of catch and by catch quotas; Observers on board of fishing vessel; VMS message registration; Certifying weighing-in systems; Port State Control; Control and registration of landings by Faroese flagged fishing vessels in ports outside the Faroe Islands; Real time closures to protect juvenile fish; The Faroe Islands Fisheries Inspection cooperates with the Danish prosecution services in the Faroe Islands and can make fast track decisions how to handle 	
			infringements. The infringing party can appeal to the local court (Føroya Rættur) if they do not accept the decisions. Appeals can be made to the Danish Eastern High Court and, and if accepted by the Danish Appeals Permission Board, the Supreme Court to the Danish Supreme Court.	
	b	Y	Sanctions to deal with non-compliance exist and there is some evidence that they are applied. The general sanctions are described under SG60a. The single vessel that has been operating in the scallop fishery in the last two decades and no infringements has been reported. Around 1990 the exploratory license of one was revoked permapently as it did not observe the conditions of the license	
	С	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.	
			No infringements have been reported for this fishery.	
80	а	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.		
			See SG60a	
	b	Y	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	
			See SG60b	
	С	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.	
			No infringements have been reported for this fishery.	
	d	Y	There is no evidence of systematic non-compliance.	
			No infringements have been reported for this fishery.	

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/Rat	ionale	
100	а	Y	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.		
			See SG60a. A comprehensive monitoring, control and surveillance system has been implemented in the Faroe Islands. All vessels larger than 15 GT must maintain a daily log of their activities in an authorized catch logbook which is issued for this purpose, recording data for each set or haul, and they must also have satellite vessel monitoring systems (VMS) in both national and international waters. The Faroese Fisheries Inspection is responsible for monitoring and inspecting catches and landings of individual vessels and the weighing-in of catches. This includes both onboard inspection, monitoring of transshipments and inspection of landings in port. Faroese inspection and rescue vessels, in cooperation with Danish naval patrol vessels, provide for a constant patrol presence in Faroese waters.		
	b	Y	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.		
			There are no cases of non-compliance reported in the scallop fishery. The Inspection services have the mandate to withdraw fisheries licenses for a period of time. In the Faroe Islands, there are a number of examples of penalties being applied in other fisheries, demonstrating that the system is effective. The Commercial fisheries act has a separate section on penalties. The planning of monitoring and control by the inspection vessels in the Faroese addresses operations which could notentially cause major problems to the management system		
	С	Y	There is a high degree of confidence that fishers comply with the management system effective management of the fishery.	n under assessment, including, providing information of importance to the	
			No infringements have been reported for this fishery. Gear conflicts or area conflicts have been sorted out locally between the scallop vessel and local fishermen.		
References		es	http://www.fve.fo/ Site visits		
OVER	ALL PERFO	ORMANCI	E INDICATOR SCORE:	100	
COND	ITION NU	MBER (if	relevant):	N/A	

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	а	Y	Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2.
			Although no stock assessment is done, there is some monitoring in experimental areas by the FAMRI. Research on the effect of dredging on the seabed has been conducted in the north in 2012.
	b	Y	Research results are available to interested parties.
			Research results are available to interested parties through the FAMRI.
			All data, biological and fishery, are available from the Company and are accessible to scientists and the FAMRI. The FAMRI has not prioritized analysis for these data in recent years, apart from monitoring in experimental areas.
80	а	N	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.
The last stock assessment was under taken in the midredge was conducted in 2001 (Matras 2001), and a subscription that since been monitored by inspecting the CPUE (as a			The last stock assessment was under taken in the middle 1980s (Hoydal 1980; 1981; Nicolajsen 1984), and some research on the environmental impact of the dredge was conducted in 2001 (Matras 2001), and a survey was planned and conducted by FAMRI in the northern area in 2012. The stock in the main fishery area has since been monitored by inspecting the CPUE (as a proxy for abundance). The CPUE has primarily been monitored by the client, O.C. Joensen.
			In the two areas where exploratory licenses are allocated; the FAMRI monitors and analyses data from the fishery. A scientific catch survey was planned and conducted by FAMRI in the north in 2012.
	To justify a score of 80, monitoring must be done by the authorities in the main fishing area as well as the explored fishery must be provided.		To justify a score of 80, monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
	b Y Research results are disseminated to all interested parties in a timely fashion.		Research results are disseminated to all interested parties in a timely fashion.
	Research on the fishery is done with full cooperation of the vessel owners and research results are available to vessel owner available to all interested parties.		Research on the fishery is done with full cooperation of the vessel owners and research results are available to vessel owners. All research results are public and available to all interested parties.
100aNA comprehensive research plan provides the management system with a coherent and strategic approach to research acrost timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.		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.	
There is no formal, comprehensive research plan for this fishery. However, catches and CPUE are scientific catch survey in the north.			There is no formal, comprehensive research plan for this fishery. However, catches and CPUE are monitored in the experimental area and there are plans for a scientific catch survey in the north.
b N Research plan and results are disseminated to all interested parties in a timely fashion and a		N	Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available.
Research plans for the exploratory fisheries are not published, but should be available for scrutiny from any par results are public and are available to all interested parties.			Research plans for the exploratory fisheries are not published, but should be available for scrutiny from any party that wants to have a look at them. Research results are public and are available to all interested parties.

References	Hoydal, K. 1980. Uppskot til loyta veiðu á ytra felti. Fiskirannsóknastovan. Thorshavn.		
	Hoydal, K. 1981. Jakupsskel undir Föroyum. Fiskirannsóknastovan. Thorshavn.		
	Nicolajsen, Á. 1984. Jomfruøsters (Chlamys opercularis) i færøskfarvand, populationsdynamikaffiskeri. Thesis Roskilde Universitet.		
	Matras, U. 2001. Stutttíðarávirkan av jákupsskeljaveiðu á tey størru dýrini á botninum. Fiskirannsóknarstovan juni 2001. 34pp.		
OVERALL PERFORMANCE	E INDICATOR SCORE:	75	
CONDITION NUMBER (if relevant):		Condition No. 3	

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	а	Y The fishery has in place mechanisms to evaluate some parts of the management system.		
		The management system for demersal fisheries in general is enshrined in the Commercial fisheries Act. The objectives and requirements of th reviewed by the Faroese parliament once a year, based on information from the FAMRI and the Fisheries Ministry. The fishery is considered as very l vessel operating under seasonal and area limitations and annually covering only a fraction of the fishable area		
		The Scallop fishery is subject to an annual review of licenses. The exploratory licenses are discussed between the licensee, the Ministry and the Inst Marine Research. The FAMRI recommends on TAC and fishing days in the experimental areas in the north.		
	b	Y The fishery-specific management system is subject to occasional internal review.		
			The fishery is reviewed annually by the Ministry as all other Faroese fisheries before new fishing licenses are issued.	
80	а	a Y The fishery has in place mechanisms to evaluate key parts of the management system		
		The Scallop fishery is subject to an annual review of licenses. The exploratory licenses are discussed between the licensee, the Ministry an Marine Research. The Ministry of Fisheries issues licenses annually and these are based on FAMRI advice on e.g. TAC, area and season (number		
	b	N The fishery-specific management system is subject to regular internal and occasional external review.		
			All demersal fisheries are reviewed annually at the renewal of the fishing licenses.	
			The annual review processes have both internal and external elements. The Minister may commission an external review of a specific element of the management system, but there is no formal mechanism that requires such action on a regular basis and it has not happened in recent years for the scallop	

			fishery. For this reason the score has been reduced.		
100	а	N	The fishery has in place mechanisms to evaluate all parts of the management system.		
			The Scallop fishery is subject to an annual review of licenses. The exploratory licenses are discussed between the licensee, the Ministry and the Institute of Marine Research.		
			The Company's role as a co-manager should be emphasized. The conditions in the fishing licenses are discussed and the authorities then include the conditions in the license. The Company, as a sole operator, has all incentives to meet the objectives in the Commercial Fisheries Act. This is achieved by keeping the capacity, the season and the areas in the main fishing ground stable.		
			Not all parts of the scallop fishery are evaluated annually.		
	b	N	The fishery-specific management system is subject to regular internal and external review.		
			All demersal fisheries are reviewed annually at the renewal of the fishing licenses, however no external review is in place.		
			The Commercial Fisheries Act (Løgtingslóg um vinnuligan Fiskiskap (LØGTINGSLÓG NR. 28 FRÁ 10. MARS 1994 UM VINNULIGAN FISKISKAP) Annual Fishing Licenses, Nordheim, <u>http://www.logir.fo/system/foframe.htm</u> -		
References		es	Anon. 2008. Faroe Islands Fisheries & Aquaculture – Responsible Management for a Sustainable Future. Ministry of Fisheries and Natural Resources. (available at http://www.tinganes.fo/Default.aspx?ID=435&M=News&PID=568&NewsID=)		
OVERALL PERFORMANCE INDICATOR SCORE:			E INDICATOR SCORE:	75	
CONDITION NUMBER (if relevant):			relevant):	Condition No. 4	

Appendix 1.2: Risk Based Framework (RBF) Outputs

Hazard Identification

Direct impact of Fishing F	Fishing Activity	Present (yes/no)	Rationale
Capture B	Bait collection	N	No bait collection
F	Fishing	Y	Scallops are caught by dredge.
Ir	ncidental behaviour	N	No incidental behaviour that result in capture of scallops could be identified
Direct impact without capture B	Bait collection	N	No bait collection
F	Fishing	Y	Undersized scallops are sorted and returned alive to sea.
Ir	ncidental behaviour	N	No incidental behaviour identified.
G	Gear loss	N	Gear loss has no direct impact on the scallop population.
A	Anchoring/ mooring	N	Anchoring is not expected to damage scallops
N	Navigation/steaming	N	Navigation/steaming is not expected to damage scallops
Addition/ movement of biological T material Ia	Franslocation of species (boat aunching, re-ballasting)	N	Undersized scallops are returned alive close to capture location.
D	Discarding catch	N	Undersized scallops and invertebrates are returned alive to sea at capture locations.
S	Stock enhancement	N	No stock enhancement present.
Р	Provisioning	N	No bait is used in this fishery
Disturb physical processes B	Bait collection	N	No bait collection
F	Fishing	Y	The scallop dredge contacts and disrupts the seafloor. Some large stones caught in the dredge are moved to other areas.
В	3oat launching	N	N/A
A	Anchoring/ mooring	N	Anchoring is not expected to have major impacts on physical processes
N	Navigation/ steaming	N	Navigation/steaming is not expected to disturb physical processes
External Hazards (specify the particular C example within each activity area)	Other capture fishery methods	N	Apart from scallop dredging and a small summer fishery for flatfishes, only static gear is allowed to fish in the area. This has no impact on the scallop population.

Table A1.2.2: Principle 1.1.1 SICA Sc	oring Table for the Faroe Islands queen scallop fishery						
Performance Indicator	Risk-causing activities	Spatial scale of activity	Temporal scale of activity	Intensity of activity	Relevant subcomponents	Consequence score	MSC Score
Target species	Fishing activities from all fisheries including:				Population size	1	100
outcome	<u>Direct capture</u>			-	Reproductive capacity		
	Unobserved mortality (e.g. gear loss)	2	4	3	Age/size/sex structure		
	 Other identified risk-causing activities (please specify) 				Geographic range		
Kationale:	All stakeholders agreed that fishing (i.e. direct capture) was most likely to have an effect on the status of the scallop stock according to the hazard identification table CC2 (CR, pC116). Prior to stakeholder consultation, an interview was conducted with the client to establish all activities in the fishery (see Table 1.2.1A above) Spatial scale: The client determined the spatial scale of the fishery to be 1-15% of the total distribution. None of the stakeholders were prepared to estimate the spatial scale of the fishery, due to uncertainties regarding the total distribution of the scallop stock and/or lack of knowledge regarding the actual area fished. Information was obtained from the client regarding the area covered per fishing trip and number of trips for the last year. According to this information it was estimated that about 34km ² of the main fishing area of 400km ² is covered annually or about 8.5%. The team considered this as a maximum estimate, as both the FAMRI and the skipper agreed that scallops are more widely distributed around the islands than the main fishing areas of 400km ² . This corresponds to a SICA spatial score of 2 (1-15%).						
	SICA temporal scale of 4 (100-200 days per year). There was some increase in fishing days in 2012 after SICA meetings were conducted. However, fishing days were still less than 150, resulting in an unchanged score of 4.						
	- Intensity scale = moderate. All stakeholders agreed that the fishing was at a moderate level (3), except one who scored 2 (minor). A consensus was reached by the assessment team on a final score of 3, as this was the most precautionary and in agreement with the majority of stakeholders.						
	Stakeholders agreed that fishing was most likely to affect population size, as no evidence exists for changes in population structure or reproduction. A recent decrease in meat yield was most likely due to environmental changes (temperature) rather than population size.						
	Consequence score: The majority of stakeholder agreed to a consequence score of 1, citing the stability of CPUE and landings for many years. Thus fishing is unlikely to have negative impacts on population size. However, some stakeholders scored either 1 to 2 or 2, based on the argument that fishing had an impact on the virgin population.						
	Also see Appendix 3: Stakeholder Submissions Table A3.1 for a s	ummary of st	akeholder sco	res and ration	ales.		

Appendix 1.2.1: Scale Intensity Consequence Analysis (SICA)

Appendix 1.2.2:	Productivit	y-Susceptibility	Analysis	(PSA)
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Table A1.2.3: PSA Principle 1 Ration	ale Table for Faro	e Islands	Queen Scallop PSA				
PI number	1.1.1						
Species							
Productivity			Rationale	Score			
Average age at maturity	Individuals reach a	a size of ~4	10mm in two years and those over 40mm were found to be mature. Thus age at maturity is 2-3 years of age (Ursin 1956)	1			
Average maximum age	8-10 years (Brand	2006)		2			
Fecundity	Over 1 million egg	s per year	(http://www.genustraithandbook.org.uk/genus/aequipecten/)	1			
Average maximum size	Brand (2006) reports average maximum size of ~90mm, which is relatively small compared to other scallop species. However, the largest scallops observed in the Faroe Island fishery are not more than 70mm.						
Average size at maturity	Average size at full maturity in the Faroese has been estimated ~44mm (Ursin 1956)						
Reproductive strategy	Broadcast spawner (Vause et al.2007)						
Trophic level	The queen scallop is a benthic invertebrate, and a filter feeder, feeding on plankton and detritus and is at a relatively low trophic level (around 2-2.5 according to Pauly et al. 1998). Scallops are not on the list of LTL species given by MSC and are not a key LTL species in Faroese waters.						
Fishery							
Susceptibility			Rationale	Score			
Areal Overlap	Based on the area Table 1.2.1a in Ap are distributed all species is almost o	a covered pendix 2. around t certainly b	by dredge fishing last year, it is estimated that less than 10% of the population distribution is fished annually (also see 1). The estimate of 8.5% is based on the main fishing areas of 400km ² only. All stakeholders agreed that queen scallops ne islands outside of the main fishing areas. Therefore the overlap of the fishing effort with the total distribution of the elow 8.5%.	1			
Vertical Overlap	High. Scallops are bottom dwellers fished by a dredge; therefore there is a high overlap of the species with the fishing gear.						
Selectivity	Estimated efficiency of scallop dredges in the Faroe Islands has not been investigated. However, other studies report only 11-50% efficiency depending on investigations (Beukers-Stewart et al. 2001; Gedamke et al. 2005; McLoughlin et al. 1991). The dredge has an overnet with 75mm mesh and size at full maturity is around 44mm, therefore length at maturity is 1.7 times the mesh size = medium susceptibility. General size landed ranges from 55-65mm, which is above the size at maturity.						
Post capture mortality	Individuals smaller than 55mm are released alive to the ocean. Survival studies have not been studied in the Faroe Islands, but there is observer evidence of animals being released alive. Retained scallops (>55mm) are also alive post-capture and upon landing. However, it could not be verified that >33% of small scallops/retained scallops can survive post-capture.						
PSA score	1.83		MSC Score	97.3			

Figure A 2.3:

Faroese queen scallop PSA worksheet for RBF and PSA graph.

					Produ	octivity	y Score	es [1 3	3]			SL	uscepti	bility S	cores [ˈ	1 3]			PSA scores	(automatic)
TAXA_NAME FAMILY_NAM	E SCIENTIFIC_NAME	COMMON_NAME	Average age at maturity	Average max age	Fecundity	Average max size	Average size at Maturity	Reproductive strategy	Trophic level (fishbase)	Total Productivity	(average)	Availability	Encounterability	Selectiv ity	Post-capture mortality	Total (multiplicative)	Color on PSA plot	PSA Score	MSC Score	Risk Category Name
Mollusca/Bivalvia Pectinidae	Aequipecten opercularis	Queen Scallop	1	2	1	1	1	1	1	1.	.14	1	3	2	3	1.43		1.83	97.3	Low
Nonusca/bivaria Pequipection opercularis Queen scalop 1 2 1 1 1 1 3 2 3 1.83 97.3 Low																				
		1.0		1.5 (<-High	Prod	2.0 luctivity	y (Lo	 25 DW->)		3.0)									

Appendix 1.3: Conditions

Table A1.3.1: Condition 1	
Performance Indicator	PI 1.2.2 There are well defined and effective harvest control rules in place
Score	60
	<u>SG80a:</u> "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."
	<u>SG80b:</u> "The selection of the harvest control rules takes into account the main uncertainties."
	<u>SG80c:</u> " Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules."
Rationale	<u>Rationale:</u> In order for the fishery to score 80, evidence must be provided that the move-on rule is effective and allows for recovery of local scallop beds. In addition, a limit reference point (LRP) or proxy thereof must be set for the stock and actions for reducing exploitation rate as the LRP is approached. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives.
	<u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non- binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	 SG80a: A limit reference point or proxy thereof and actions as the LRP is approached shall be implemented for the fishery. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives. SG80b&c: Evidence must be provided that the move-on rule is set at an appropriate level to allow for recovery of local scallop beds. Uncertainties regarding the set level of the move-on rule must be addressed as well.
Milestones	Milestone 1:At the first annual surveillancethe client shall provide evidence that a program/projectto evaluate the effectiveness of the move-on rule, including uncertainties, has beeninitiated and that funding and/or resources have been made available for theevaluation. Evidence shall also be provided of a draft LRP and resulting actions.Resulting score:60Milestone 2:At the second annual surveillance the client shall provide evidence of progress inevaluating the effectiveness of the move-on rule, including identification ofuncertainties. A limited reference point shall be set for the fishery and resulting actions

Resulting score: 70
<u>Milestone 3:</u> At the third annual surveillance the client shall provide evidence that the set level of the move-on rule is effective for recovery of local scallop beds and that uncertainties have been taken into account regarding the set level. <u>Resulting score:</u> 80
The effectiveness of the set level shall be monitored throughout the period of certification. The LRP and associated actions shall be implemented throughout the period of certification.

PI 1.2.3 Relevant information is collected to support the harvest strategy
75
<u>SG80b:</u> "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."
<u>Rationale:</u> In order to determine the effectiveness of effort controls in place in combination with the move-on rule, CPUE in the eastern area should be monitored by authorities in addition to CPUE for the exploratory areas.
<u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non- binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
CPUE in the eastern area should be monitored by authorities in addition to CPUE for the exploratory areas.
Milestone 1: At the first annual surveillance the client shall provide evidence that a program for regular monitoring of CPUE has been initiated in order to support the harvest strategy of effort control and the move-on rule. Resulting score: 75 Milestone 2: At the second annual surveillance the client shall provide evidence that a program for monitoring CPUE in all areas have been implemented in order to support the harvest strategy of effort control and the move-on rule. Resulting score: 80 A program for monitoring the CPUE in all areas shall be maintained throughout the

Table A1.3.3: 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
	<u>SG80b:</u> "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."
Rationale	<u>Rationale:</u> There is reliable information on the spatial interaction of the gear and habitat and studies on the impact of dredging have been conducted in the northern area (Matras 2001). However, no data is available for the impact of the heavier dredge that has been in use since 2012 in the main eastern fishing area.
	Previous conditions raised: No previous conditions raised.
Condition	Sufficient data must be provided to assess the impact of the heavier dredge on the habitat for the main eastern fishing area.
	<u>Milestone 1:</u> At the first annual surveillance the client shall provide evidence that a program is being planned to assess the impact of the heavier dredge on the main eastern habitat. <u>Resulting score:</u> 75
	<u>Milestone 2:</u> At the second annual surveillance the client shall provide evidence that a program has been initiated to assess the impact of the heavier dredge on the main eastern habitat. <u>Resulting score:</u> 75
Milestones	<u>Milestone 3:</u> At the third annual surveillance the client shall provide evidence of progress/completion of the program to assess the impact of the heavier dredge on the main eastern habitat. <u>Resulting score:</u> 75-80
	<u>Milestone 4:</u> At the fourth annual surveillance the client shall provide evidence of completion of the program to assess the impact of the heavier dredge on the main eastern habitat. <u>Resulting score:</u> 80
	The CAB shall be notified of any changes in gear throughout the certification period, and PI 2.4.3 shall be rescored accordingly at the next surveillance.

Table A1.3.4: Condition 4	
Performance Indicator	PI 3.2.4 The fishery has a research plan that addresses the information needs of management
Score	75
Rationale	<u>SG80a:</u> 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.

	<u>Rationale</u> : To justify a score of 80, at least some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
	<u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non-binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	Some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
	<u>Milestone 1:</u> At the first annual surveillance the client shall provide evidence that a program for regular monitoring of the fishery in all areas has been initiated and a draft research plan shall be presented. <u>Resulting score:</u> 75
Milestones	<u>Milestone 2:</u> At the second annual surveillance the client shall provide evidence that a program for regular monitoring of the fishery in all areas has been implemented, in addition to a formal research plan for the fishery. <u>Resulting score:</u> 80
	A program for regular monitoring of the fishery in all areas shall be maintained throughout the period of certification. The research plan shall be followed throughout the period of certification.

Table A1.3.5: Condition 5	
Performance Indicator	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
Score	75
Rationale	SG80b: The fishery-specific management system is subject to regular internal and occasional external review. <u>Rationale:</u> The annual review processes have both internal and external elements. The Minister may commission an external review of a specific element of the management system, but there is no formal mechanism that requires such action on a regular basis and it has not happened in recent years for the scallop fishery. For this reason the score has been reduced.
	Previous conditions raised: The fishery failed a previous assessment and this PI scored 75. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non- binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).

Condition	Formal mechanisms to review the fishery must be implemented. These mechanisms should provide for internal reviews on a regular basis and occasionally external review.
Milestones	<u>Milestone 1:</u> At the first annual surveillance the client shall provide evidence that formal mechanisms for internal review of the fishery-specific management system have been initiated. <u>Resulting score:</u> 75
	<u>Milestone 2:</u> At the second annual surveillance the client shall provide evidence that formal mechanisms for internal review of the fishery-specific management system have been implemented and the mechanisms for occasional external review has been initiated. <u>Resulting score:</u> 75
	<u>Milestone 3:</u> At the fourth and final annual surveillance evidence of an external review of the fishery shall be presented. <u>Resulting score:</u> 80
	An internal review of the fishery shall be maintained for the period of certification.

Table A1.3.6: Recommendation 1	
Performance Indicator	Principles 1 and 3
Recommendation	It is recommended that the annual review should include review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy. Results of this annual review should be recorded and be available to interested parties. An annual review of all aspects of the fishery would emphasize the commitment of both the company and the authorities to stability and sustainability of the fishery.

Appendix 1.3.1 Client Action Plan

Client Statement Confirming Client's Approval of Conditions and Recommendation and Measures to Meet Conditions Set

O.C. JOENSEI Faroe Island 422256 To: Vottunarstofan Tún ehf. Þarabakki 3 IS-109 Reykjavík Icceland 27-07-2013 Re.: Client Program of Action to Address Conditions set for MSC Certification of the Faroe Islands Queen Scallop Fishery O.C. Joensen has reviewed the conditions set by Tún's assessment team for potential MSC certification of the Faroe Islands Queen Scallop fishery, as well as the milestones defined by the team as necessary to fulfil those conditions and thus improve the fishery's performance on the Performance Indicators where the fishery scored less than 80 and above 60. O.C. Joensen has also reviewed the amendments of the above, set out by Tún in response to comments received on the Public Comment Draft Report of this assessment. O.C. Joensen is committed to fulfilling the amended conditons and to reaching the specified milestones. This is further detailed in the amended Client Action Plan attached. O.C. Joensen has consulted the Faroe Marine Research Institute (FAMRI) and the Ministry of Fisheries and Natural Resources with regard to Conditions 1, 2, 4 and 5 and has, among other things, received written assurances from those entities that they will, respectively, conduct annual monitoring and reporting of the queen scallop fishery and conduct annual review of the management strategy based on the FAMRI scientific report as well as other information. The Ministry will also initiate external review of that strategy every fifth year. As recommended by the assessment team, O.C. Joensen will encourage the management bodies to include in their annual review a review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy and will work to make this review available to interested parties. On behalf of the Client (O.C. Joensen) *keljavirk*i 450 Oyri Ræki EO 298 40 & Position Por psoosible Nan +298 Attached: Client Action Plan (O.C. Joensen – Faroe Islands Queen Scallop Fishery)

1

Client Action Plan

O.C. Joensen – Faroe Islands Queen Scallop Fishery Marine Stewardship Council Fishery Standards Conformity Assessment Body: Vottunarstofan Tún ehf.

Table A 3.1: Condition 1	
Performance Indicator	PI 1.2.2 There are well defined and effective harvest control rules in place
Score	60
	<u>SG80a:</u> "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."
	<u>SG80b:</u> "The selection of the harvest control rules takes into account the main uncertainties."
	<u>SG80c:</u> "Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules."
Rationale	<u>Rationale:</u> SG80a: A limit reference point (LRP) or proxy thereof must be set for the stock and actions for reducing exploitation rate as the LRP is approached. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives.
	<u>SG80b&c</u> : In order for the fishery to score 80, evidence must be provided that the move-on rule is effective and allows for recovery of local scallop beds.
	<u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non- binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	SG80a: A limit reference point or proxy thereof and actions as the LRP is approached shall be implemented for the fishery. Since a LRP cannot be analytically determined, measures should be introduced to respond to changes in the fishery, e.g. by reducing susceptibility of the stock when the fishery is not heading in the direction of its objectives. SG80b&c: Evidence must be provided that the move-on rule is set at an appropriate level to allow for recovery of local scallop beds. Uncertainties regarding the set level of the move-on rule must be addressed as well.
Milestones	Milestone 1: At the first annual surveillance the client shall provide evidence that a program/project to evaluate the effectiveness of the move-on rule, including uncertainties, has been initiated and that funding and/or resources have been made available for the evaluation. Evidence shall also be provided of a draft LRP and resulting actions. Resulting score: 60
	At the second annual surveillance the client shall provide evidence of progress in

	 evaluating the effectiveness of the move-on rule, including identification of uncertainties. A limit reference point shall be set for the fishery and resulting actions in case the LRP is approached. <u>Resulting score:</u> 70 <u>Milestone 3:</u> At the third annual surveillance the client shall provide evidence that the set level of the move-on rule is effective for recovery of local scallop beds and that uncertainties have been taken into account regarding the set level. <u>Resulting score:</u> 80 The effectiveness of the set level shall be monitored throughout the period of certification. The LRP and associated actions shall be implemented throughout the period of certification.
Client action plan	Based on successful stock maintenance for decades the present practice will be formalized by writing guidelines, which will be followed. A certain minimum catch limit (kg/hour) will be included in this guideline. Also, the company will initiate a small project to evaluate the move on rule by analysing the available date on the geographical positions of each tow the past years. We will contact the Faroe Marine Research Institute, and/or the Ministry of Fisheries as appropriate, in order to implement a limit reference point or proxy thereof and related actions.
Consultation on condition	The relevant entities for progress in this action plan are the Faroe Marine Research Institute (FAMRI) and the Faroe Islands Ministry of Fisheries in collaboration with the client O.C. Joensen. Both institutes have confirmed that they will address issues relevant to their institute.

Table A 3.2: Condition 2	
Performance Indicator	PI 1.2.3 Relevant information is collected to support the harvest strategy
Score	75
Rationale	<u>SG80b:</u> "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."
	<u>Rationale:</u> In order to determine the effectiveness of effort controls in place in combination with the move-on rule, CPUE in the eastern area should be monitored by authorities in addition to CPUE for the exploratory areas.
	<u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non- binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	CPUE in the eastern area should be monitored by authorities in addition to CPUE for the exploratory areas.

Milestones	<u>Milestone 1:</u> At the first annual surveillance the client shall provide evidence that a program for regular monitoring of CPUE has been initiated in order to support the harvest strategy of effort control and the move-on rule. <u>Resulting score:</u> 75
	<u>Milestone 2:</u> At the second annual surveillance the client shall provide evidence that a program for monitoring CPUE in all areas have been implemented in order to support the harvest strategy of effort control and the move-on rule. <u>Resulting score:</u> 80
	A program for monitoring the CPUE in all areas shall be maintained throughout the period of certification.
Client action plan	We as a company will continue registering the CPUE for each tow and will request the authorities to monitor this. We will contact both the Faroe Marine Research Institute and the Ministry of Fisheries in order to have the CPUE monitoring formalized.
Consultation on condition	The relevant entities for progress in this action plan are the Faroe Marine Research Institute (FAMRI) and the Faroe Islands Ministry of Fisheries in collaboration with the client O.C. Joensen. Both institutes confirmed that they will address issues relevant to their institute.

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
75
<u>SG80b:</u> "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."
<u>Rationale:</u> There is reliable information on the spatial interaction of the gear and habitat and studies on the impact of dredging have been conducted in the northern area (Matras 2001). However, no data is available for the impact of the heavier dredge that has been in use since 2012 in the main eastern fishing area.
Previous conditions raised: No previous conditions raised.
Sufficient data must be provided to assess the impact of the heavier dredge on the habitat for the main eastern fishing area.
Milestone 1: At the first annual surveillance the client shall provide evidence that a program is being planned to assess the impact of the heavier dredge on the main eastern habitat. Resulting score: 75 Milestone 2: At the second annual surveillance the client shall provide evidence that a program has been initiated to assess the impact of the heavier dredge on the main eastern habitat. Resulting score: 75

	Milestone 3:At the third annual surveillance the client shall provide evidence of progress/completion of the program to assess the impact of the heavier dredge on the main eastern habitat. Resulting score: 75-80Milestone 4: At the fourth annual surveillance the client shall provide evidence of completion of the program to assess the impact of the heavier dredge on the main eastern habitat. Resulting score: 80The CAB shall be notified of any changes in gear throughout the certification period, and PI 2.4.3 shall be rescored accordingly at the next surveillance.
Client action plan	A study will be initiated in order to assess a possible impact of the heavier dredge on the habitat for the main eastern fishing area. Our company will cooperate fully in all aspects of this study, including providing data, participate in in-site studies and provide funds.
Consultation on condition	N/A

Table A 3.3: Condition 4	
Performance Indicator	PI 3.2.4 The fishery has a research plan that addresses the information needs of management
Score	75
Rationale	 <u>SG80a:</u> 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. <u>Rationale:</u> To justify a score of 80, at least some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided. <u>Previous conditions raised:</u> The fishery failed a previous assessment and this PI scored 60. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non-binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	Some monitoring must be done by the authorities in the main fishing area as well as the exploratory areas and a formal research plan for the fishery must be provided.
Milestones	Milestone 1: At the first annual surveillance the client shall provide evidence that a program for regular monitoring of the fishery in all areas has been initiated and a draft research plan shall be presented. Resulting score: 75 Milestone 2: 75

	At the second annual surveillance the client shall provide evidence that a program for regular monitoring of the fishery in all areas has been implemented, in addition to a formal research plan for the fishery. <u>Resulting score:</u> 80 A program for regular monitoring of the fishery in all areas shall be maintained throughout the period of certification. The research plan shall be followed throughout the period of certification.
Client action plan	We as a company will contact both the Faroe Marine Research Institute and the Ministry of Fisheries in order to have monitoring formalized. We will also request a formal research plan and in this relation put our vessel fully equipped and crewed at disposal at no cost.
Consultation on condition	The relevant entities for progress in this action plan are the Faroe Marine Research Institute (FAMRI) and the Faroe Islands Ministry of Fisheries in collaboration with the client O.C. Joensen. Both institutes confirmed that they will address issues relevant to their institute.

Table A 3.4: Condition 5	
Performance Indicator	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
Score	75
Rationale	SG80b: The fishery-specific management system is subject to regular internal and occasional external review. Rationale: The annual review processes have both internal and external elements. The Minister may commission an external review of a specific element of the management system, but there is no formal mechanism that requires such action on a regular basis and it has not happened in recent years for the scallop fishery. For this reason the score has been reduced. Previous conditions raised: The fishery failed a previous assessment and this PI scored 75. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non-binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (CR27.21.3.4).
Condition	Formal mechanisms to review the fishery must be implemented. These mechanisms should provide for internal reviews on a regular basis and occasionally external review.
Milestones	<u>Milestone 1:</u> At the first annual surveillance the client shall provide evidence that formal mechanisms for internal review of the fishery-specific management system have been initiated. <u>Resulting score:</u> 75

	<u>Milestone 2:</u> At the second annual surveillance the client shall provide evidence that formal mechanisms for internal review of the fishery-specific management system have been implemented and the mechanisms for occasional external review has been initiated. <u>Resulting score:</u> 75
	<u>Milestone 3:</u> At the fourth and final annual surveillance evidence of an external review of the fishery shall be presented. <u>Resulting score:</u> 80
	An internal review of the fishery shall be maintained for the period of certification.
Client action plan	We as a company will contact the Faroe Marine Research Institute and the Ministry of Fisheries in order to have implemented a formal review mechanism evaluating the performance of the management system.
Consultation on condition	The relevant entities for progress in this action plan are the Faroe Marine Research Institute (FAMRI) and the Faroe Islands Ministry of Fisheries in collaboration with the client O.C. Joensen. Both institutes confirmed that they will address issues relevant to their institute.

Table A 3.5: Recommendation 1				
Performance Indicator	Principles 1 and 3			
Recommendation	It is recommended that the annual review should include review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy. Results of this annual review should be recorded and be available to interested parties. An annual review of all aspects of the fishery would emphasize the commitment of both the company and the authorities to stability and sustainability of the fishery.			
Client action plan	O.C. Joensen will encourage the management bodies to include in their annual review a review of the stability of the fishery and the CPUE in the main eastern area, as well as the management strategy and will work to make this review available to interested parties.			
Consultation on recommendation	N/A			

Appendix 2: Peer Review Reports

CAB Introductory Note: CAB's Response to Peer Review Reports

In the light of comments from peer reviewers, the assessment team re-examined the CPUE data closely. Some discrepancies in the data became apparent during this process. For some fishing trips the catch was separated into two entries, however, the entry for time fished was not separated, but reported to be exactly the same. This resulted in a too low CPUE for many fishing trips. The data entries were corrected as appropriate and all figures and numbers were updated and the report changed as appropriate. All discussions on CPUE were subsequently moved to section 3.3.4.2 Landings and CPUE, for ease of reading. The entire chapter on Principle 2 was rewritten in response to issues addressed by peer reviewers. Furthermore, minor text changes were made for clarification purposes in response to comments. Rationales for many scoring issues were addressed, and these are indicated in responses to each scoring issue below. Conditions were generated for PIs 1.2.2; 1.2.3; 3.2.4, and 3.2.5 in response to peer reviewers.

Peer Reviewer 1

Overall Opinion:

Has the assessment team arrived at an appropriate	Yes/No	Conformity Assessment Body Response
conclusion based on the evidence presented in the		
assessment report?		
Justification:		There no plans or intentions by the
Yes in general, but with some exceptions. This is a unique	ie fishery	Faroese authorities to increase the
with a number of strengths and weakness. In a normal of	case the	number of licenses for this fishery. The
weaknesses of this fishery would make it very challenging	ng to pass	client also expressed no desire to acquire a larger vessel and has every intention of keeping a stable fichery.
for MSC certification. For example, there is no formal m	onitoring of	
either the stock status or the effects of the fishery on the	e wider	
ecosystem. It is well known that scallop stocks are often	ı highly	The commercial fisheries act prohibits
variable and difficult to manage, and that scallop dredge	e fisheries	an increase in the number of licenses
such as this one can have considerable negative impacts	s on benthic	in any fishery as well as restricts
habitats and communities. However, due to very tight e	ffort	increase in canacity if a vessel is to be
controls this fishery is only prosecuted by one boat in a	small part of	replaced
both the inshore waters of the Faroes and the local geo	graphic	
range of the scallops. The remainder of the area is large	ly protected	Scores for the following PIs were
from fishing with mobile gear. The restriction of the fish	ery to one	lowered: 1.2.2; 1.2.3; 2.2.1; 2.2.2;
boat encourages stewardship of the resource and is pro	bably a key	2.2.3; 2.4.2; 2.5.2; 3.2.1; 3.2.4; and
factor behind the fishery still being relatively stable mor	e than 30	3.2.5. The score of 2.4.1 was increased
years after it commenced (but see comments below). The second s	here is also a	after review.
very strong overall fisheries management scheme in pla	ce in the	Conditions were generated for PIs
Faroe Islands. For these reasons I believe the assessors	are justified	1 2 2 1 2 3 3 2 4 and 3 2 5 calling for
in passing this fishery against all 3 MSC Principles. Howe	ever, it is	various issues to be addressed e.g. the
worth noting that although the certifier considers this fi	shery to be	effectiveness and uncertainties
small-scale because it is only prosecuted by one boat, it	catches a	regarding the move-on rule
significant amount of queen scallops – approximately 30	0% of the	monitoring of the CPLIE a research
total European catch (Brand 2006). The addition of ever	n 1 more	nlan and review of the management
vessel license would also completely change the nature	of this	strategy for the fishery
fishery. Given these characteristics, and the current lack	c of	strategy for the fishery.
monitoring and research into this fishery I therefore agr	ee that it	
should be subject to an annual review, ideally as a cond	ition of	
certification. This review will need to identify key refere	nce or	
trigger points in stock status and ecosystem effects whi	ch call for	
management action. I also have concerns about some o	f the	
Performance Indicator scores where I feel the assessors	have been	
overly generous. These will be detailed in the appropria	te sections	
below.		

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?	Yes/No	Conformity Assessment Body Response
<u>Justification:</u> N/A		

If included:		
Do you think the client action plan is sufficient to	Yes/No	Conformity Assessment Body
close the conditions raised?		Response
Justification:		
N/A		

General Comments on the Assessment Report (optional)

In general I thought the report was well constructed and written. There were still a few typographical errors and spelling mistakes. I don't see it as my place to detail all of these here, but I would encourage the authors to proof read the report once again.

<u>CAB Response:</u> The report was proofread again.

Specific comments:

Pg 14: Figure 3.1. This map is fairly unclear and lacking labels. Is anything better available?

<u>CAB Response:</u> No, unfortunately this is the best map available from publications.

Pg 15, 1st paragraph: Cyclical and steady stocks are described. So what type are queen scallops in general and the one stock in the Faroe Islands in particular?

<u>CAB Response</u>: The Faroese stock is most likely to be steady. A sentence was included to describe the Faroese stock.

Pg 15/16: The section at the end of this page/start of the next one suggests incidental fishing mortality can be quite high in this species. Elsewhere in this report (based on Montgomery 2008) you state incidental mortality is negligible. Montgomery is an unpublished MSc thesis that only assessed post-capture mortality over a short period of time in artificial conditions (aquaria) whereas the published paper here (Allison and Brand 1995) suggests it is a significant issue on the actual fishing grounds. You need to reconcile this difference (see my comments on scoring below).

<u>CAB Response</u>: The assessment team agrees that the Montgomery (2008) study is not comparable to wild scallop populations and references to this study were excluded here. However, there is observer evidence from researchers (pers. comm. Kjartan Hoydal) and the client that scallops returned to sea are alive. The text was amended and the section moved to 3.3.3 Harvest control strategy as it concerns the target species, which is not considered as a bycatch.

Pg 16, 3rd paragraph: A natural mortality of 0.6 is very high. What implications does this have for management of the fishery?

<u>CAB Response</u>: The natural mortality calculation of Nicolajsen (1984) was based on data from Ursin in the fifties and is therefore the total mortality of an unfished stock. A fishing mortality of 0.3 should thus have less effect on a stock with such high natural mortality.

Pg 16, Figure 3.2: The legend needs to state that these data are from the eastern fishing ground.

<u>CAB Response</u>: The legend was amended as appropriate.

Page 17, Figure 3.3: The legend needs to state that these data are from the eastern fishing ground. It also needs to be clear what each data point represents – daily, weekly or monthly CPUE? Furthermore, the statistics for this trendline must be displayed. It also stands to reason that CPUE should not drop below a certain level if the fishing boat moves on before this happens.

<u>CAB Response</u>: The figure represents CPUE per fishing trip (now Fig 3.5, p.20). The legend was amended as such and statistics for the trendline added to the figure.

Pg 19: You use the phrase "rusk" at the top of this page (and elsewhere). I had no idea what it meant until it was defined much later in the scoring section. It needs to be defined here.

<u>CAB Response</u>: A definition was added in the appropriate section.

Page 20: Figure 3.5. I read the figures of CPUE off this graph and conducted a regression analysis on the trend over time. Based on this analysis CPUE has declined at a statistically significant rate between 1992 and 2011 (y=-125.86 +256068, R²=0.57, p<0.001). This point appears to be ignored in this report and assessment, which only concentrates on the more recent time period between 2001 and 2012 (in Figure 3.3). For example, the paragraph above figure 3.5 refers to the landings data displayed below, but when it talks about CPUE it refers back to figure 3.3. This has implications for scoring (see further comments below).

<u>CAB Response</u>: The assessment team has reconsidered and amended the entire section as well as section 3.3.4.2 (CPUE and landings). All discussion regarding CPUE has now been moved to the section 3.3.4.2 (CPUE and landings) to provide better clarity on discussions of CPUE.

The assessment team agrees that the CPUE has overall decreased from 1992 until 2011 (now Fig. 3.4). The former half the twenty year period in Fig. 3.4 shows some fluctuations in CPUE with very high CPUE reached in 1993 and 1995, whereas the CPUE stabilized after 2001 for the latter half of the period. Fig 3.5 clearly shows that there is no significant decrease in the CPUE for last decade, which reflects the current state of the stock and is the most relevant for the current fishery. Scallops are short-lived, and scallop stocks are known to be subject to high variability in spatial and temporal recruitment. In the Faroe Islands there is limited knowledge on recruitment patterns into the scallop stock; however, it is likely that recruitment variability is reflected in fluctuations of the CPUE and landings to some extent, as fishing capacity has remained stable for the past two decades. Trends in CPUE have no direct consequence for scoring, since PI 1.1.1 used the RBF, utilizing SICA and PSA analysis.

Pg 22: Is the restricted fishing season enforced or a voluntary measure? It would be good to make this clear.

<u>CAB Response</u>: The fishing season is enforced in the main eastern fishing area and is specified in the fishing license. Fishing season for the northern area is also specified in the fishing license and is almost year round, and a shorter fishing season is specified for the Funningsfjord (Djúpini) area. It was clarified in the text that fishing season is specified in fishing licenses.

Pg 24, 2nd paragraph: It is well known that complex benthic structures such as provided by hydroids and bryozoans are key settlement sites for scallops (e.g. see Howarth et al., 2011). It is safe to assume they are in this population too.

<u>CAB Response</u>: A part of rusk consists of what fishermen refer to as "grass" which consists of hydroids and bryozoans which seems to indicate that scallops settle here. Smaller scallops are reported by fishermen to be more abundant in deeper areas where more "grass" are part of the catch (Hoydal et al. 2011).

Pg 24, 3rd paragraph: What is "garbage"?

<u>CAB Response:</u> Garbage refers mostly to "general household" garbage and this only refers to the Funningfjord area.

Pg 25 & 26, Fishery impacts on habitats: It is well known that scallop dredging has considerable negative effects on many benthic habitats and communities. Although some studies suggest less affects than others, this generally results from conducting experiments in areas already subject to a long history of disturbance, or from a lack of sampling power. It is not clear if the experiment conducted in the Faroe Islands was conducted in a previously undisturbed area, but it appears to have been done in a small area, over a short period of time, and with limited replication. Furthermore the results have not been fully analyzed. It is therefore unlikely to be a robust test of the effects of scallop dredging in this area. However, the fact that the fishery only covered 11% of the fishing ground in 2011 (assuming this was a typical year) is much more pertinent, and suggests that overall rates of disturbance by the fishery are probably relatively low.

<u>CAB Response</u>: The research in the northern areas is in a relatively small area and has not been continued in recent years due to other priorities at the FAMRI. These studies were carried out using the fishing vessel and the gear used for commercial scallop fishing. The team agrees that the pertinent fact is the extent of the fishery. In fact more accurate calculations concluded that the fishery only covers 8.5% of the main fishing grounds.

Pg 26: Does the discard ban only cover commercial species, or everything that is caught? There must be some exceptions. You need to make this clear.

<u>CAB Response:</u> The discard ban refers to commercial species. Everything else is recorded as rusk and the data are available.

Pg 27: It is very unlikely that all starfish are returned to the sea unharmed. Some species suffer almost 100% mortality after being caught in dredges (Jenkins et al., 2001).

<u>CAB Response</u>: There is no quantitative research on this. However, during investigations of the fishery in 1980 and 1981; observations on the part of the catch that went back to the sea it was showed that the undersized scallops often swam away from the vessel as well as other invertebrates were relatively unharmed (Kjartan Hoydal pers. comm.). References to various studies were added to the text indicating variable survival rates for different species, with starfish showing high survival rates due to regeneration. Largest mortalities are reported for vulnerable species such as sponges and corals. These species are not recorded in the bycatch, and dense aggregations of e.g. sponges are not found in the main scallop fishing area.

Pg 27, ETP species: I presume from this statement that no interactions with ETP species have ever been recorded?

<u>CAB Response</u>: The only encounter with marine mammals reported by the skipper is a handful of sightings a year. Marine mammal experts from the Faroese Natural History Museum confirmed that there has never been any records of ETP species interaction with the dredge, and that it was considered to be highly unlikely (pers. comm. Bjarni Mikkelsen).

Pg 27, Area of operation and jurisdiction: How are these variations in TAC decided?

<u>CAB Response</u>: TAC for the northern experimental fishery is decided by the FAMRI, which examines landings and CPUE from the area. The TAC of 1,500 tonnes was never reached and was lowered to 1,000 tonnes subsequently.

Pg 32: How frequently are landings and related data verified by Ministry of Fishery officials?

<u>CAB Response</u>: We know that they are available to the ministry in line with other catch data from other fisheries. It is presumed that they are checked when new annual fisheries licenses are issued.

Pg 33, Figure 3.11: What do the different colors represent? We need a key.

<u>CAB Response:</u> A key was added to the figure legend. (Now Fig. 3.13)

Pg 34, 4th paragraph: The lack of any plans to examine the long-term impacts of dredging is a key concern.

<u>CAB Response</u>: Referring to the following statement in the introduction of the reviewer: "However, due to very tight effort controls this fishery is only prosecuted by one boat in a small part of both the inshore waters of the Faroese and the local geographic range of the scallops. The remainder of the area is largely protected from fishing with mobile gear. The restriction of the fishery to one boat encourages stewardship of the resource and is probably a key factor behind the fishery still being relatively stable more than 30 years after it commenced." This will make it difficult to make the case that limited resources at FAMRI should be used for investigating long term impacts in the Eastern area. The fishery only covers 8.5% of the main fishing area, leaving more than 90% untouched. The move-on rule employed by the skipper also effectively rests scallop beds for 2-3 years. Considering wider ecosystem impacts, the scallop fishery dredges only 0.01% of the area covered by the Faroese EEZ.

Pg 34, last paragraph: Undersized scallops are not necessarily all returned to the seabed alive. At least some will have suffered fatal damage while others will have been damaged by the dredges but remain on the seabed (Jenkins et al., 2001). This section also highlights that lack of information on discard rates and size / age structure of the queen scallop population.

<u>CAB Response</u>: Scallops are not discarded actively, but passes through mechanical sorting grid and is passed out to sea. Without doubt there will be damage to a fraction of the undersized scallops but there are no estimates of survival rates. However, studies by Nall 2011 in the Isle of Man fishery indicate good survival rates for juvenile scallops caught by dredges. The skipper reports very few juveniles being caught. Some text was included to ascertain uncertainties regarding survival rates.

Pg 43, Last paragraph: Have these surveys now been conducted? Why is there no plan to survey area 1 (the eastern area) given that is the main fishing ground?

<u>CAB Response:</u> Research and planning is conducted by the FAMRI, and limited resources are available for smaller fisheries. A survey was planned and conducted in cooperation with the client in 2012. Results are not available yet.

References:

- Howarth LM, Wood HL, Turner AP, Beukers-Stewart BD (2011) Complex habitat boosts scallop recruitment in a fully protected marine reserve. *Marine Biology*. 158: 1767-1780.
- Jenkins SR, Beukers-Stewart BD and Brand AR (2001). The effect of scallop dredging on benthic megafauna: a comparison of damage levels in captured and non-captured organisms. *Marine Ecology Progress Series.* 215: 297-301.

Performance Indicator Review

Please complete the table below for each Performance Indicator which are listed in the Conformity Assessment Body's Public Certification Draft 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
1.1.1	See RBF assessment				
1.1.2	See RBF assessment				
1.1.3	See RBF assessment				·
1.2.1	No	No	N/A	The certifier gave a score of 85 for this PI. Analysis of this score is problematic for two reasons. Firstly, target and limit reference points have not been defined, therefore how can we know if the harvest strategy is achieving its objectives? Secondly, while the harvest strategy appears likely to result in a sustainable fishery, there is evidence of a significant decline in CPUE on the main / Eastern fishing ground between 1992 and 2011. I read the figures of CPUE off Figure 3.5 and conducted a regression analysis on the trend over time. Based on this analysis CPUE has declined at a statistically significant	Scoring for this PI was reviewed and additional rationale added. PI 1.1.1 was assessed using the RBF methodology; therefore informal approaches against PI 1.2.1 were assessed according to GCB2.5.7 in the MSC Guidance Certification Requirements. The general harvest strategy in this fishery is effort control as set out by the commercial fisheries act. It was clarified in the scoring that this is the strategy being scored. Various elements that are part of

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
				rate between 1992 and 2011 (y=-125.86 +256068, R ² =0.57, <i>p<0.001</i>) This negative trend appears to have been ignored in this assessment, which only concentrates on a sub-section of this time period (between 2001 and 2012 - see Figure 3.3) when CPUE appears to be more stable (although this has not been analysed statistically). At the very least I would like the certifier to acknowledge this decline and further justify the score they have given.	the strategy of effort control were subsequently considered. PSA analysis concluded that the species is of high productivity and although vertical overlap with the gear is high, areal overlap is low, and selectivity moderate. The strategy and measures in place are all geared towards keeping the impact of the fishery stable. The assessment team agrees that the CPUE has decreased from 1992 until 2011. However, Fig. 3.5 clearly shows that there is no significant decrease in the CPUE for last decade, which reflects the current state of the stock and is the most relevant for the fishery. High MSC scores converted from SICA and PSA analysis further demonstrate that levels of exploitation for this stock are far below full exploitation rate at MSY.

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
1.2.2	No	No	N/A	The certifer gave this PI a score of 80. See concerns above. There are a number of harvest control rules in place and the scale / intensity of the fishery is highly likely to be sustainable, but despite what is written in this section e.g. "There are no indications of a declining trend in CPUE (Fig 3.5)" my analysis is to the contrary.	Scoring for this PI was reviewed and additional rationale added. <u>The score was</u> <u>lowered to 70 and a condition was added.</u> Since the RBF was used in PI 1.1.1, informal approaches are assessed against PI 1.2.2 according to <i>MSC GCR v1.1 (GCB</i> 2.6.6). Scoring of this PI was reviewed. Scoring for this PI considers how management tools and measures ensure that susceptibility of the target species to removal is not higher than that which would cause risk. It is also assessed how measures respond to changes in the fishery. There is no significant decline in CPUE in the last decade which is the most relevant for the current state of the stock. Given the measures implemented towards effort control, the susceptibility of scallops is maintained at a low level. Aspects of SICA and PSA analysis were added to the scoring as well as the limited area covered by the fishery.

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	No	N/A	The certifer scored this PI at 80. I largely agree with the scoring in this section, however, for it to be scored 80 then CPUE in the main eastern fishing ground should be monitored in the future by authorities / scientists. At present there is no information on stock structure available. A programme of catch sampling would also be beneficial.	Scoring for this PI was reviewed and additional rationale added. The assessment team agrees that authorities should monitor at least CPUE in the main fishing area. <u>The score was</u> <u>lowered to 75 and an appropriate</u> <u>condition was set.</u>
1.2.4	See RBF assessment				
2.1.1	Yes	Yes			
2.1.2	Yes	Yes			
2.1.3	Yes	Yes			·
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
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2.2.1	Yes	No	N/A	The certifer scored this PI at 100. Although it appears highly likely that bycatch species are not at risk from this fishery, I don't see how it can be given a score of 100 (near perfect) when neither the amount nor fate of discarded bycatch (e.g. small scallops and echinoderms) is monitored.	A fishery would meet SG100 if bycatch is negligible in its impact (GCB3.8.4). Bycatch consist mostly of small scallops (considered under P1 as the target species) and starfish. These are returned to the ocean alive and starfish has been shown to be fairly robust (Kaiser and Spencer 1995; Jenkins et al 2001; Pranovi 2001). These discards most likely have a negligible impact on bycatch species populations. However, there is not adequate knowledge on all bycatch species to determine their biologically based limits. <u>The score was lowered to 80.</u>
2.2.2	Yes	No	N/A	The certifer scored this PI at 100. I largely agree with the scoring in this section, but again think a score of 100 is too high given that some relevant information is lacking. 90 or 95 would be more appropriate.	Although there are no incentives for discards in the Faroe Islands, no formal studies have been conducted. <u>The score was lowered to 95</u> .

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
2.2.3	Yes	No	N/A	The certifer scored this PI at 100. As above, I don't see how this can be scored 100 when there is no information available on the bycatch of non-commercial species. It is therefore impossible to justify the statement "Many species, including small scallops are returned to the ocean unharmed". However, I do agree that the discard ban accounts for bycatch of commercial species in a very comphrehensive fashion.	Bycatch species, mostly starfish and small scallops are returned to the ocean unharmed. Small scallops are the target species and thus evaluated in Principle 1. There is observer evidence of bycatch being returned to the ocean unharmed. However, there are no studies actual survival rates. The score was lowered to 95.
2.3.1	Yes	Yes	N/A		
2.3.2	Yes	Yes	N/A		·
2.3.3	Yes	Yes	N/A		
					I
2.4.1	No	No	N/A	The certifer gave this PI a score of 80. I don't see how it can be scored any more than 80. Given the limited spatial scale of the fishery it is highly unlikely that it is reducing habitat structure and function. However, there is very little evidence for this. The study done in the northern area appears to be limited in terms of scale and has	Scoring for this PI was reviewed and additional rationale was added. <u>The score</u> <u>was increased to 95</u> , as now a partial score for SG100 was obtained. Although the study in the northern area is small scale, it shows reduced rate of

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
				not been fully analysed. Only quoting the study in Iceland (Thorarinsdottir et al., 2008) is highly selective. There are literally dozens of other studies showing significant negative effects of scallop dredging in a variety of habitats.	increase for some species and that overall species diversity was unaffected. In the main eastern fishing area, fishermen avoid hard structures and fish mainly on soft bottoms, and are thus comparable to the area studied. This study provides some evidence that dredging in these sandy areas does not cause serious harm (i.e. "gross changes to habitat type or disruption of its role" – CR v1.2; CB3.14.2.1) or irreversible harm (i.e. "changes that would imply some sort of regime change"- CR v1.2; CB3.14.2.2) to the habitat.
					References to other studies including Thorarinsdottir were removed from rationale in SG100 and only evidence concerning the scallop fishery was added.
					The spatial and temporal scale is very limited and highly unlikely to cause serious and irreversible harm to the habitat. Additional rationale was added putting the scale of scallop fishery into perspective of the wider habitat where scallops occur. Only 0.02% of this wider

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
					area is dredged by the vessel annually.
2.4.2	Yes	No	N/A	The certifer gave this a score of 100. I agree there is a strategy in place, but the evidence that it is working is limited. I would give a score of 90.	Additional rationale regarding closed areas in the Faroese and the area covered by the scallop fishery was added. <u>The score was lowered to 95</u> .
2.4.3	Yes	No	N/A	The certifer gave this PI a score of 85. I would score it at 75 because the impacts of dredging are yet to be properly quantified. The study on the effects of dredging should be expanded and more fully analysed.	Main habitat types, and vulnerable areas are known through the BIOFAR study and the fishery do not overlap with these areas, justifying a score of 85, i.e. SG100a is reached, but not SG100b and c. Additional rationale was added to all SG's and also SG80c. A map of main habitat types was added.
					I
2.5.1	Yes	No	N/A	The certifer scored this PI at 100. I would score it at 80 because of the limited evidence that there is not harm (see above).	PI 2.5.1 considers the broad ecological community and ecosystem in which the fishery operates. Additional rationale was added. The limited spatial and temporal scale of

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
					this fishery makes it highly unlikely to disrupt key elements in the underlying ecosystem. Although small scale, the study in the north showed no overall reduction of biodiversity and it is conducted on the same bottom type as in the main eastern area. Scallops are not considered to be a key prey item in the Faroese ecosystem. It can be inferred that the scallop fishery is highly unlikely to cause trophic cascade through depletion of key predators (e.g. cod, haddock and saithe) or key prey species (sandeel, Norway pout), affect size distribution of communities, and cause gross changes in biodiversity.
2.5.2	Yes	Yes	N/A		

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
2.5.3	Yes	No	N/A	The certifer scored this PI at 100. I would score it at 85. The scale and intensity of the fishery and the way it is managed indicate it is unlikely to be having signficant impacts on the ecosystem. However discarded bycatch is not monitored and the effects of dredging have not been fully studied.	The scoring of this PI was reviewed and additional rationale added. The effects of dredging are scored in PI's 2.4.1 to 2.4.3. The assessment team reviewed scoring. Sufficient information is available on bycatch, and overlap with key ecosystem elements and the main consequences for the ecosystem can be inferred. The strategy of effort limitation is considered to be implemented successfully, due to effective spatial/temporal limits, and information required by authorities, such as log books, and VMS data.
3.1.1	Yes	Yes	N/A		
3.1.2	Yes	Yes	N/A		
3.1.3	Yes	Yes	N/A		

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
3.1.4	Yes	Yes	N/A	The certifer scored this PI at 100. I agree with the scoring here, but it is worth noting that the discard ban probably doesn't completely remove the incentive to unreport and discard. Processing low value catches / species takes up time and hold space.	Additional rationale was added regarding a system of penalties in place. The discard ban is not the incentive. However, there are no catch quotas in the Faroese Islands, but a system of fishing days, making all catch legal. In addition there are penalties in place for discarding and failing to report.
3.2.1	Yes	Yes	N/A		
3.2.2	Yes	Yes	N/A		
3.2.3	Yes	Yes	N/A		

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	No	N/A	The certifers scored this PI at 80. However, they acknowledge in several places that the lack of a research plan is a weakness of this fishery. I therefore don't see how it can be given a score of 80 at present. Some research has been done and more is planned, but it is limited and needs better co-ordination. An improvement in research should ideally be a condition of certification.	The scoring of this PI was reviewed and additional rationale added. The score was lowered to 75 and a condition was set.
3.2.5	Yes	Yes	N/A		

Any Other Comments

Comments	Conformity Assessment Body Response

For reports using the Risk-Based Framework:

Performance Indicator	Does the report clearly explain how the process used to determine risk using the RBF led to the stated outcome? Yes/No	Are the RBF risk scores well- referenced? Yes/No	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	In general yes	The certifiers gave this PI a PSA of 1.6 and a MSC score of 98.5. I would support most of the scores given here but would recommend adjustment in a few cases. Firstly, in the SICA Firstly, I don't understand why population size was given a consequence score of 1 and not 2 given that some stakeholders scored 2 and the scoring guidelines state "where judgments about risk are uncertain the highest possible consequence score should be given". Secondly, in the PSA there needs to be clarification as to what post-capture mortality actually refers to. In the MSC RBF assessment of Isle of Man queen scallop fishery (Andrews et al., 2011), post-capture mortality was scored at 3 because queen scallops are a retained species. Should that be the case here, or does post-capture mortality refer to that portion of the catch which is discarded (presumably because it is undersized)? If it refers to mortality of discards I would still recommend that post-capture mortality is scored 2 and not 1. As stated earlier, the study by Montgomery (2008) is limited in scope. There is likely to be at least some lethal damage of scallops upon capture and some further post-discard mortality (Jenkins et al., 2001). Depending on clarification of the post capture mortality issue, it should be noted that neither of these adjustments are likely to dramatically alter the overall scores for this PI.	Only one stakeholder had a SICA consequence score of 2 and this was based on the argument that the fishery had an impact on the virgin population. One other stakeholder scored 1-2. Individual scores can be seen in Appendix 5.1 Post capture mortality here refers only to undersized scallops that are returned to the ocean alive. There is observer evidence that small scallops are returned alive to the ocean. GCC2.4.2.6f states "PCM is scored as "high", unless there is information that indicates that animals are released alive." However, it could not be verified that >33% of individuals were release alive. The score was changed to high = 3, resulting in an MSC score of 91.4.

2.1.1	N/A		
2.2.1	N/A		
2.4.1	N/A		
2.5.1	N/A		

Peer Reviewer 2

Overall Opinion

Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?	Yes/ No	Certification Body Response
presented in the assessment report:	No	
 Justification: The outcome of the assessment presented for reviet that the fishery should be MSC certified with no conditions. In my view this outcome is not substane by the information presented in the report. Some conclusions in the report are not supported by evid and some of the evidence in the report does not surits conclusions. Detailed comments on the assessment are presented this report. Some general concerns which apply to areas of the assessment are summarised below:- Long-term and consistently downward trends i indices (CPUE) do not seem to have been adeq considered or investigated, either by the assess team or by the fishery managers. The management system does not seem to me standard expected of an MSC-certified fishery. particular:- a. The system for controlling fishing effort is clearly explained in the report. b. Although there is just one licensed vessel fishery, it does not seem to be subject to more than spatial and seasonal effort controlling the number of licensed vessels d. There is no evidence of a formal harvest contrules and tools. e. There is no evidence of fishery-specific objectives. f. There is no documented research plan. g. There is no evidence that the management system has been subject to internal or extractive. 	ew is tiated of the lence; upport ed in many in stock uately sment eet the in s not in the any ntrols. out for s. control trol	 Scores for the following PIs were lowered: 1.2.2; 1.2.3; 2.2.1; 2.2.2; 2.2.3; 2.4.2; 2.5.2; 3.2.1; 3.2.4; and 3.2.5. The score for 2.4.1 was increased after review. Conditions were generated for PIs 1.2.2; 1.2.3; 3.2.4, and 3.2.5 calling for various issues to be addressed, e.g. the effectiveness and uncertainties regarding the move-on rule, monitoring of the CPUE, a research plan and review of the management strategy for the fishery. CPUE has been investigated and should be looked upon in decades, since this is a relatively short-lived species. CPUE has been declining if we look at the whole period (1992-2012) but has been steady in the last decade at about 2000t/h. Fig 3.5 shows that there is no significant decrease in CPUE from 2002-2012. a. Fishing effort is controlled by the number of licenses and spatial/temporal restrictions are specified in licenses, e.g. restricting number of days or catch. b. Apart from restriction on number of vessels, fishing licenses spell out spatial/seasonal controls. Additionally there are informal measures such as moveon rule, mesh size, and returning juveniles alive to the ocean if caught. c. The number of vessels is restricted by the commercial fisheries act. This was clarified in the text. d. Harvest control strategy was clarified in the text. d. Harvest control strategy was clarified in the text. e. Fishery specific objectives: The objective of maintaining the impact of the fishery is restricted to the number in 1995 and there is also a ban on capacity increase. e. Fishery specific objectives: The objective of maintaining the impact of the fishery is explicitly set out in the Commercial fisheries act, which restricts number of licenses.
		t. The score for PI 3.2.4 (Research plan) was

lowered and a condition set.

- The scoring of the <u>Principle 2</u> components appears to be over-generous in two respects:-
 - Management there is no evidence of a "strategy" for the management of potential impacts on ETP species, habitats or ecosystems. The scoring has failed in my view to correctly apply the distinctions between "measures", "partial strategy" and "comprehensive strategy" in these areas (see MSC CR Guidance at §GCB3.3.1).
 - Information there is clearly very little information available to describe the actual or potential effects of the fishery on ETP species, habitats and ecosystems, and this should have been reflected in the scoring.

 There is no evidence that the client fishery or the management bodies have taken any action to address the management and administrative issues that were identified in the first assessment report. The lack of action removes any justification for awarding higher scores, and provides no evidence of a proactive and responsive approach to the management of the fishery that would be consistent with the MSC Standard. g. The score for PI 3.2.5 was lowered and a condition set.

Principle 2:

ETP species: There are no ETP species caught in the fishery, nor are there any other significant encounters with ETP species. The client confirmed that interactions with marine mammals are restricted to a limited number of sightings a year. Relevant scientists at the Natural History Museum (Bjarni Mikkelsen) confirmed that there have never been any encounters of marine mammals caught in the dredge and that this was highly unlikely. Other vulnerable species such as deep water corals, e.g. Lophelia do not occur in the area fished by the vessel. Coral reefs have been identified and documented in Faroese waters. Three specific areas are closed to all trawling in order to protect these habitats.

Regulations in the Marine Environmental Act are in line with the requirements for the OSPAR Convention for the Protection of the Marine Environment in the North Atlantic (see <u>source</u>). Faroese Islands is party to Nammco (North Atlantic Marine Mammal Commission www.nammco.no).

<u>Habitats/Ecosystem Additional rationales:</u> There is information on habitats/ecosystem through the BIOFAR study and ongoing monitoring by the FMRI. The relevant section in the report was rewritten and hopefully this has been clarified. Actual fishing only covers about 8.5% of the **main** fishing area of scallops. All stakeholders agreed that the scallop is widely distributed beyond the main fishing areas; therefore the percentage covered by fishing is in actual fact even smaller than 8.5%. A study has been undertaken to assess the impact of the dredge on the habitat (Matras 2001).

The EEZ of the Faroe Islands is reported to be 274,000km². The scallop fishery thus covers only 0.01% of ecosystems under Faroese jurisdiction. Habitats and ecosystems have been protected by closed areas in a targeted way in Faroese waters for many years. At certain times of the year, defined areas, in particular spawning areas, are closed to fisheries either partly or entirely. In addition, 60% of the Faroe Plateau at depths of less than 200m is closed to trawling for most of the year. Most of the Faroe Bank is permanently closed to trawling.

Comparison to the previous report: For a failed

Overall, I feel that many of the scores awarded are not	fishery, no mandatory conditions or defined
justified by the information presented in the report. The	actions are specified (CR 27.21.3.1). The Public
fishery assessment requires substantial revision and re-	Certification Report (PCR) is required to outline
scoring.	draft and non-binding conditions for relevant
	Pl's. However, no conditions are found in the
It is not appropriate for a peer reviewer to re-score an	PCR, only in the Public Comment Draft Report.
assessment, so the overall effect of these comments on	However, PCRs of failed fisheries are not to
the outcome of the assessment is not known.	include any agreement from the client to
	address conditions (CR27.21.3.4). Conditions
	generated for PI 1.2.4 are no longer relevant
	and similar conditions are required for PI's
	1.2.2; 1.2.3; 3.2.4 and 3.2.5.

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome	Yes/No	Certification Body Response
within the specified timeframe?	NA	
Justification: The current scoring of the fishery has generated no con	Conditions have now been generated in response to lowering scores of PIs 1.2.2; 1.2.3; 3.2.4, and 3.2.5	

If included:

in moldaed.		
Do you think the client action plan is sufficient to	Yes/No	Certification Body Response
close the conditions raised?		
<u>Justification:</u> There are no conditions and therefore no client action p	blan.	Conditions and client action plans have now been generated in response to lowering scores of PIs 1.2.2; 1.2.3; 3.2.4, and 3.2.5

General Comments on the Assessment Report (optional)

A. Scope of comments

I have concentrated in these comments on the factual content and outcome of the assessment report, and have not concerned myself with any typographic, referencing or grammatical errors that may exist in the peer review draft.

B. Harmonization

This assessment report concludes that the Faroese Scallop fishery should be certified against the MSC standard, with no conditions of certification.

A previous assessment carried out two years ago for the same unit of certification concluded that this fishery did not meet the MSC standard. The reason for this was that the fishery failed to attain the MSC standard for Principle 1. The fishery also failed to attain the unconditional "pass" score of 80 for Performance Indicators 3.2.1, 3.2.4 and 3.2.5.

It is highly unusual for the same fishery to be subjected to a full assessment twice in such a short period of time and for such different assessment outcomes to arise. This report should, therefore, offer a full and complete explanation of what has changed in the fishery and its management or the assessment process to result in this change.

<u>CAB response</u>: The previous assessment of the fishery failed because Principle 1 failed to reach a score of 80, due to the lack of stock assessment. Principles 2 and 3 reached scores of 88.7 and 82.8, respectively, thus passing criteria of the MSC. However, many major non-conformities were found by the MSC for too high scores for Principles 2 and 3. The main difference is the use of the RBF for Principle 1, in particular PI 1.1.1. The use of the RBF infers certain triggers for data deficient fisheries in the absence of biologically based limits for PI 1.2.1 and informal approaches are considered. Similarly, informal approaches are considered for PI 1.2.2.

I have examined the explanation offered in section 4.2 of the current report for evidence of significant changes between the previous assessment and the current assessment that might explain the different outcome. I can find no evidence in the report of significant change in the unit of certification or its management in the past two years. The only explanation offered for the different assessment outcomes is that the current assessment uses the MSC Risk Based Framework (unavailable at the time of the previous assessment), and that the CAB and assessment teams are different.

<u>CAB response</u>: According to the MSC CR v1.2 (1)

- 27.4.7.1: "Fisheries that failed an assessment or had a certificate withdrawn may reenter assessment <u>within</u> two years of the date that the previous Public Certification Report was posted on the MSC website, and may not have to repeat all steps of the certification process (see 27.5.6 and 27.8.4).
- 27.4.7.2 Fisheries seeking to re-enter assessment after two years shall be treated as a new applicant."

There were no significant changes in the fishery. However, the fishery was treated as a new applicant, although it was not two years since its failed application, but the CAB, assessment team and assessment methodology have changed and all steps of an assessment had to be repeated.

I have compared the current assessment report with its predecessor, which is available on the MSC website. The factual basis of the reports seems to be little different, and most of the information presented in this report is identical to the previous assessment (and in fact appear simply to have been pasted into the new report).

There is little change in the assessment report according to fishery and management, however new references have been used and this new team may have other point of view in some cases anyway.

The use of the RBF explains why the scores awarded for PIs 1.1.1, 1.1.2 and 1.2.4 are different from the previous assessment. However no information is presented concerning changes in the management and administration of the fishery that would support the awarding of scores that are in excess of those awarded previously for Performance Indicators.

<u>CAB response</u>: Differences observed for Principle 1 Pl's can be explained by the use of the RBF and the consideration of informal approaches for Pls 1.2.1 and 1.2.2 according to MSC GCRv1.1 (GCB 2.5.7 and 2.6.6).

P2: Information for Principle two is the same and one of the authors of the report is the same. Nevertheless, this section of the report was thoroughly reviewed, rewritten and additional information added.

P3: Scoring for PI's 3.2.1, 3.2.4 and 3.2.5 have been reviewed, the scores lowered and the relevant conditions were generated.

Table 4.1 with comparison of scores was added in section 4.2 "Previous Assessments".

The results of my comparison are summarized in the table overleaf. I note that the previous assessment team awarded similar scores to those awarded in the current assessment in their earlier Public Comment Draft Report (PCDR) and that the scores were revised downwards in later versions of the assessment after comment from the MSC on the PCDR.

The comments that were made by the MSC on the management of this fishery in the previous assessment appear to remain valid, and with no substantial changes apparent in the fishery the same comments are likely to be repeated, with the same outcome.

<u>CAB response:</u> See responses in the table below for each PI.

Scoring for PIs 1.2.2, 1.2.3 and 3.2.4 and PI 3.2.5 regarding the management of the fishery was reviewed and the scores lowered. Conditions were set as appropriate.

Table 1:	Comparison of scores awarded in the current and previous assessment of the fishery for
	Performance Indicators in Principle 1.

Performance Previous		Current	Note	
Indicator	Assessment		Assessment	
	PCDR	PCR	PR	
1.1.1	80	70	100	Difference between previous and current
1.1.2	80	60	80	assessment due to use of RBF.
				<u>CAB response:</u> Agree
1.1.3	-		-	
1.2.1	80	60	85	Scores in previous assessment were reduced
1.2.2	80	60	85	following comments from MSC. No evidence
				of substantial changes to harvest strategy,
				control rules & tools presented in the
				current assessment.
				<u>CAB response:</u> Informal approaches were
				considered for PIs 1.2.1 and 1.2.2 according
				to MSC GCRv1.1 (GCB 2.5.7 and 2.6.6) since
				the RBF was used. PI was reviewed and the
				score lowered to 70
1.2.3	85	80	80	No significant changes.
				CAB response: PI was reviewed, and the
				score lowered to 75
1.2.4	75	60	80	RBF default score of 80 explains difference
				between the previous and current
				assessment.
				<u>CAB response:</u> Agree
Overall	80	65	85	<u>CAB response:</u> No comment

C. Comments on narrative sections of the assessment

I have made a few comments on the narrative of the report. Comments set out here identify some areas where information is lacking, and where there is confusion or inconsistency in the report; further detailed comments on the relationship between the information presented in the narrative and the scoring of the fishery are presented in the table of comments on Performance Indicators later in this report.

Section 3.3 - Principle 1

Some minor comments:-

• The start date – has the fishery operated with just one vessel in the eastern area since 1987 (§3.3.4.4) or since 1988 (§3.2 & §3.3.4.3)?

CAB response:

A single vessel has been in operation since 1988 as reported by Nicolajsen (1997). The relevant section was corrected.

• **Gear specification** – please clarify if the dredges are 12 feet wide (§3.2 & 3.3.4.2 & 3.3.4.3) or 10m wide (footnote 1, page 18).

CAB response:

The footnote stated that it covers an area of <u>about</u> 10m, not that the area is exactly 10m. The dredges are in fact 12 feet or 3.7m wide each, resulting in a total dredge width of 7.4m. The footnote was corrected, resulting in an annually fished area of 34km² or only 8.5% of the main scallop fishing areas.

• Tow duration – is this one hour (footnote 1, page 18), or 40 minutes (§3.3.4.3)?

CAB response:

The calculation in footnote 1, page 18 uses the average <u>number of tows</u> per fishing trip which is 42.5 tows. The footnote makes no mention of tow duration at all. The footnote states that each tow covers about 1 <u>mile</u>. Total tow duration has been confirmed by the client to be around 40 minutes, of which about 20 minutes are active dredging time.

3.3.3 Harvest Control Strategy

The information presented here is not a harvest control strategy. It is a list of harvest control rules and tools.

The term "harvest control strategy" is defined in the MSC Certification Requirements. No evidence is presented here or anywhere else in the narrative that a harvest control strategy which meets the MSC CR specification exists for this fishery.

The absence of a harvest control strategy for a simple fishery of this type (one vessel, one species, one main fishing area, and all under the jurisdiction of a sovereign state) is significant, particularly given that the previous assessment had identified this as a weakness in the fishery.

<u>CAB response</u>: MSC defines a harvest strategy is as follows: "The combination of monitoring, stock assessment, harvest control rules and management actions, which may include an MP (Management plan) or an MP (implicit) and be tested by MSE (Management Strategy Evaluation)."

The general harvest control strategy in this fishery is effort control as is explicitly set out by the commercial fisheries act, supported by various formal/informal rules and tools. PI 1.1.1 was assessed using the RBF methodology since no stock assessments are performed on the fishery. Therefore informal approaches against PI 1.2.1 and PI 1.2.2 were assessed according to GCB2.5.7 and GCB 2.6.6 in the MSC Guidance Certification Requirements.

According to GCB2.5.7: "The RBF infers certain triggers for data-deficient fisheries in the absence of biological based limits. Assessment of data-deficient fisheries against this indicator should consider how elements of the harvest strategy combine to manage impact, such that susceptibility is maintained at or below acceptable levels given the productivity of the species".

According to GCB2.6.6.1 "CABs should assess the extent to which there are management tools and measures in place that are consistent with ensuring that susceptibility of the target species to removal is no higher than that which would cause the risk to the target species to be above an acceptable risk range. Measures could be spatial, temporal, or changes to gear overlap". GCB2.6.6.2 states "Assessments should also consider measures in place to respond to changes in the fishery. For example, by reducing susceptibility of target species when the fishery is not heading in the direction of its objectives".

Elements of the harvest strategy (effort control) includes various tools for limiting impact of the fishery through spatial/temporal restrictions and a cap on increasing the number of licenses and capacity of the vessel. It is these measures that are evaluated here, and they combine to maintain susceptibility of the stock to fishing. Also informal measures such as the move-on rule respond to local reduction in CPUE, and thus respond to the state of the stock, i.e. reduce susceptibility to fishing when local densities drop by moving to other areas.

3.3.4.2 Landings, CPUE and stock status.

<u>CAB response</u>: Some discrepancies in the data became apparent during a re-examination of the CPUE data. For some fishing trips the catch was separated into two entries, however, the entry for time fished was not separated, but reported to be exactly the same. This resulted in a too low CPUE for many fishing trips. The data entries were corrected as appropriate and all figures and numbers were updated and the report changed as appropriate

The assessment of the stock set out in this section is in some parts contrary, and appears to overlook clear trends of increasing catch and declining CPUE over the years. Figure 3.5 in the report shows the CPUE and landings over the period 1992-2011. It is claimed (by reference to Figure 3.3 which covers 2001-2012) that CPUE is stable.

I have reproduced Figure 3.5 below. To me this appears to show a steady decline in CPUE over the period during which one vessel has been prosecuting the fishery.



Figure 1: CPUE and landings from the fishery, 1992-2011. Copied from Figure 3.5 in the report.

I note that similar concerns were raised by one of the Peer Reviewers of the previous assessment, which also included data on CPUE that I have reproduced below, and which is not shown in the current assessment.



Figure 2: CPUE graph copied from the previous assessment report showing a clear downward trend in CPUE (considered in both assessments to be a proxy for stock abundance) over the period 1997-2008.

I note that the data are noisy, and that the correlation coefficient between the trendline and the data was reported by Moody Marine not to be statistically significant.

Be that as it may, it appears that the annual CPUE in the 1990s was on occasion more than 3,000 kg/hr, and that in more recent years it has been closer to 1,500kg/hr. The trend has been steadily downwards. It does not, therefore seem appropriate to state that *"there is no obvious trend"* (§3.3.4.2) when the trend is in fact obvious, nor to state that *"landings are stable"* when plainly they are very variable (and judging from CPUE & landing spikes in 1999 and 2006, the fishery seems to be greatly affected by inter-annual variations in recruitment).

Looking at these graphs, and also linking them to comments in §3.4.1.1 which state that the vessel has "built up detailed sonar records of the seabed....allowing to target areas to a fine degree", it appears that the CPUE decline has occurred despite an improvement in knowledge of the fishing grounds over this time period. There has also, of course, been a huge improvement in navigation and sonar equipment over this period which should also have had the effect of increasing CPUE if the stock was stable.

I note that the skipper aboard the vessel operates a "move on rule" when catches in an area are less than 1,500kg/hr as a contribution to sustainable management of the fishery (§3.5.5.2). Given that the annual average CPUE is now little more than this, it would seem that the fishery is steadily moving towards a CPUE level that by its own admission is unsustainable.

I note that in §3.3.4.3 it is stated that: "2012: additional weight added to the dredge so it can be used when the waves are bigger". This is a significant change, particularly at a time when most fishing fleets are moving towards lighter gear in order to save fuel. Heavier gear fishes better in rough weather because it maintains better contact with the seabed and fishes more efficiently; and it may also allow the vessel to increase the number of sea-days due to better weather tolerance. The net effect is that the heavier gear will have a higher CPUE than lighter gear and could be used on more days of the year. This kind of change to improve the catch efficiency of fishing gear is often indicative of a decline in stock abundance.

The overall picture appears to be one of a CPUE that has steadily fallen over the past 20 years despite improving knowledge of the fishing grounds; that the annual CPUE is now little higher than the "move-on" level; and that the fishing gear has been modified in 2012 to improve its catch efficiency. These are not, in my view, signs of a stable stock, but seem to be symptoms of a steady decline.

For these reasons I would urge the assessment team to re-appraise its view of the stock status, and find out why the CPUE has fallen over the past 20 years.

<u>CAB response</u>: The landings of scallop for the last 20 years fluctuated around 4,000 tonnes annually. The catch in 2011 was slightly higher than the total catch in 1992. There is therefore not a clear upward trend in landings as stated by the peer reviewer. In fact highest landings were observed in 1999 and 2006.

During the 20 year period depicted, the former decade shows fluctuations in CPUE from 3300kg/hr down to 2100kg/hr, whereas the latter decade shows a lower, but more stable CPUE (also see Figures 3.4 to 3.9). CPUE for the last decade has been relatively stable around 2000 kg/hr, with no significant trend (see Fig. 3.5; p (F-statistic) = 0.179). However, CPUE for 2008-2011 has dropped below 2,000t/kg, but increased again in 2012 to 2,400t/hr (new data – see updated fig. 3.4 in the report). Increases in CPUE for the past 2012 season must be interpreted with care, due to changes in dredge weight.

No information on recruitment into the Faroese Scallop stock is available; however, it is highly likely that the fishery is affected by inter-annual variations in recruitment as is the case for other scallop fisheries (Vause et al. 2007; Beukers-Stewart et al. 2009). Although there is limited knowledge on recruitment patterns into the Faroese scallop stock; it is likely that recruitment variability is reflected in fluctuations of the CPUE and landings to some extent, as fishing capacity has remained stable for the past two decades. The main fishing scallop ground has also remained spatially persistent despite the fishery.

Figure 3.5 in the current report is comparable to the figure above (Peer reviewer's Fig.2 reproduced from the previous assessment), but includes data from the last decade. The CPUE series for the last decade (2002-2012) showed no significant trends (p or F-statistic = 0.179). No p-value was reported for the figure from Moody Marine, although the R² reported is very low, it does not provide any statistics on the significance (F-statistic or p-value) of the slope of the trendline. In Fig 3.5 it can be

seen that in the last decade the CPUE was also on occasion more than 4,000 kg/hour, and the average CPUE for the last 12 years was around 2,300kg/hour.

The trends in CPUE were further examined by looking at two different periods for the last 12 years. The former period shows a slightly significant downward trend, and the latter period shows a slightly significant upward trend (see figures 3.6 and 3.7). The former period appears to be relatively stable, whereas the latter period shows more fluctuations in CPUE.

Increasing the weight of the dredge (300 kg) was done to enable fishing in bad weather. The weight increase was added in January 2012. According to the client the improvement in CPUE is seen only during bad weather, but does not affect CPUE during normal conditions. However, no data to this effect was provided and increases in CPUE for 2012 must be interpreted with care.

Biomass

I note several references in the text which suggest that some estimate of biomass could be derived from the catch data and fishing effort. For instance:-

"VMS and GSI data along with CPUE data and the size of the area fished in each tow can provide a biomass estimate of the stock." (§3.3.2 on page 17)

If this is the case, then where is this information? What trends (if any) does it show? There is no point mentioning the existence of such data if it is not presented in support of the assessment outcome.

<u>CAB response</u>: The assessment team simply points out that the data exists and some analysis of the stock could be carried out if the FMRI or the fishery operators wished to do so. However, it is not the role of the assessment team to carry out stock assessments, but simply assess various aspects of the stock's management against MSC principles.

GIS Data

As with the biomass information the report refers to the existence of VMS and GIS data (see above). Again, where is evidence of this data, and what does it show? It should be able to show the distribution of fishing activity, inter- and intra-annual variations, and support some estimate of stock abundance and structure.

<u>CAB response</u>: The assessment team simply points out that the data exists and some analysis of the stock could be carried out if the FMRI or the fishery operators wished to do so.

Reference points

It is said that there are no reference points for this fishery. However I note that in §3.5.2 it is stated that applications for further fishing licenses have been refused "on the precautionary assumption of likely lack of sufficient resources". I am curious to know whether this is an arbitrary decision on the part of Government (in which case it is surely vulnerable to challenge); or whether it is an informed view based on knowledge of the stock and a view on reference points (in which case the management position is more robust). If it is the latter, then where are the reference points?

<u>CAB response</u>: No stock assessment has been carried out in a very long time and therefore there are no reference points available, which is why RBF has been used. In the Faroe Islands, the Commercial Fisheries Act prohibits an increase in the number of licenses in any fishery. It was clarified in the report that this is the main reason for refusing further licenses/entrants into the fishery.

3.4 Principle Two: Ecosystem Impacts

I am aware that my colleague's expertise in this area is considerable, and have limited my comments in the interests of expediency.

3.4.1.2 Fishery impact on habitats

Given that the fishing gear has recently been made heavier, is it still true that the Faroese dredges are 36% lighter than those used in Iceland; and if not, what is the difference and what are the consequences of this?

<u>CAB response</u>: Weight of scallop dredges is generally not given in published papers and reports, only the width. The dredge is now of the same weight as the dredge used in the Icelandic fishery but the width remains the same. According to the client, the increased weight has been shown to improve CPUE in bad weather, but no change during calmer conditions. However, this effect has not been studied in detail.

3.5 Principle Three: Management System Background

This section explains much of the management system clearly, but I am left with some areas of uncertainty which I feel require attention and are listed below.

3.5.3.2 Administration

Effort control – TAC and days at sea

My understanding from this section is that there is no TAC for the scallop fishery. It also seems that whilst the number of days at sea is limited for "various groups of vessels...The single vessel with a license to fish scallops is not included in this number".

Please could you clarify whether this means that the scallop dredging vessel is limited in the number of days at sea it can fish (other than the seasonal restriction that limits fishing in the eastern area to the period between August and March).

Am I correct in understanding that this is a fishery with no TAC and no effort limitation in terms of days at sea? If this is the case, as it seems to be, then much of the information set out here is irrelevant to this fishery and should be omitted.

<u>CAB response</u>: Special fisheries in the Faroese EEZ like the greater silver smelt fishery, gillnet fishing in deep water and the scallop fishery are not included in the fishing days system, but are reviewed separately by the Ministry. Conditions for scallop fishing are set out in the fishing licenses (see section 3.5.1 on p.30). Essentially there are three fishing licenses issued to the same vessel: 1) the main fishing license for the eastern area with restrictions in season and area (effectively limited days in a limited area); (2) an exploratory license for the northern area, where a TAC is specified and restriction of area, and (3) an exploratory license for the Funningsfjord area (Djúpini sound) where the number of fishing days and area are restricted. More details on the restrictions set out in the fishing licenses were added to the report.

Effort control - licensing

It would be more helpful if this section identified the legal, policy and administrative basis for currently restricting the licenses issued in this fishery to just one vessel, particularly since the report mentions (at §3.5.2) that other vessels have been refused licenses "on the presumption of the likely lack of sufficient resources".

As stated above, I am very curious to know whether this is an arbitrary decision on the part of Government (in which case it is surely vulnerable to challenge); or whether it is an informed view based on knowledge of the stock and a view on reference points (in which case the management position is more robust).

Greater clarity is required to provide confidence that there is a rational, robust and formal policy in place to limit the number of scallop fishing licenses issued, particularly given the concerns raised about this issue in the responses to the previous assessment report.

<u>CAB response</u>: During stakeholder consultation, the Faroese authorities expressed clearly that there are no intentions of adding vessels to the fishery. This is reflected <u>formally and explicitly</u> in the policy enshrined in the Commercial Fisheries Act demanding biologically and economically sustainable management of all Faroese fisheries. The commercial fisheries act explicitly restricts the number of licenses in any fishery to the number that was present in 1995. The FV Nordheim, operated by O.C. Joensen, was the only vessel operating in the scallop fishery in 1995 and therefore fishing capacity is restricted to this single vessel. In addition the act puts restrictions on capacity increase on all fishing vessels and requires replacement vessels to be of similar or lesser capacity. These regulations apply to the scallop fishery.

3.5.4 Monitoring, control and surveillance

I note that the fishery is well monitored. The text concerning infringements requires elaboration and / or explanation. The fishery has, to recap, no TAC, no restriction on days at sea, and no MLS, and it is therefore surprising that any infringements, let alone those that may have been "significant" have arisen.

<u>CAB response</u>: All three licenses held by O.C Joensen specify restrictions on the area they are allowed to fish in. The eastern area has further restrictions on season (August to March). The northern area is subject to a TAC, and the Funningsfjord license is subject to restricted days. Further restrictions apply regarding bycatch of commercial fish species and discards. Furthermore, the vessel is required by law to carry a VMS system, to fill out log books and report landings weighed at authorized scales. The vessel also operates in an area where legislation gives precedence to static gear. Controlling the activity of the vessel in this respect is the task of the inspection services. They have not found any infringements.

4. Evaluation Procedure

4.1 & 4.2

I have addressed comments to these sections of the report above.

4.4.1 Site Visits

Table 4.1 only seems to show meetings on the 21st August 2012; Table 4.2 shows meetings on the 22nd August as well. Table 4.1 should be updated.

<u>CAB response:</u> Table 4.1 was updated.

Performance Indicator Review

Performan ce 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.	Certification Body Response
1.1.1	Yes*	No	N/A	The RBF has been used, and comments recorded in the appropriate table below.	Responses to comments are in the appropriate section below.
				In summary, a lower SICA score may be more appropriate, and and the PSA score has been incorrectly calculated.	SICA score remains the same. PSA score was lowered.
				If these comments are accepted, then a lower score (derived from the PSA) should be used here.	
1.1.2	Yes*	Yes	NA	The RBF has been used so the default score of 80 awarded here is appropriate.	
1.1.3	Yes*	Yes	NA	The RBF has been used and a score of more than 80 has been returned by the PSA for PI 1.1.1, so this PI does not have to be scored.	
1.2.1	Yes*	No	NA	Very little information is presented in the report that would amount to a "harvest strategy" in the sense required by the MSC Standard, even allowing for the absence of reference points which has in part led to the	Scoring for this PI was reviewed and additional rationale added. PI 1.1.1 was assessed using the RBF methodology; therefore informal

		use of the RBF for this fishery. Specifically:- SG60 (a) The various control rules and tools and measures cited here do not represent a harvest strategy that is designed to achieve a commonly held objective. The statement that all parties are committed to "sustainability" is meaningless unless it is formalised and articulated in a manner that can form the basis for long term management. (b) The stability of the CPUE is open to question. In the early 1990s, CPUE was as high as 3t/hr, and it has recently been consistently less than 2t/hr. The argument appears less than plausible on the basis of the evidence presented. (c) The monitoring information presented here would be appropriate for monitoring of the havests contorl rule sand tools, but not for a harvest strategy (even in the absence of reference points). SG80 (a) The move on rule does not represent a "strategy", but is an informal "measure" based upon an apparently arbitrary catch rate. There is no formal strategy in place to prevent fishing at lower CPUE rates. The spatial and temporal closures are not part of a strategy that responds to the state of the stock. There is no evidence of integration of different management measures; no evidence of a feedback system by which information is used	 approaches against PI 1.2.1 were assessed according to GCB2.5.7 in the MSC Guidance Certification Requirements. The general harvest strategy in this fishery is <u>effort control</u> as explicitly set out by the commercial fisheries act. It was clarified in the scoring that this is the strategy being scored. Various elements that are part of the strategy of effort control were subsequently considered. PSA analysis concluded that the species is of high productivity and although vertical overlap with the gear is high, areal overlap is low, and selectivity moderate. The strategy and measures in place are all geared towards keeping the impact of the fishery stable. The assessment team agrees that the CPUE has decreased from 1992 until 2011. However, Fig. 3.5 clearly shows that there is no significant decrease in the CPUE for last decade, which reflects the current state of the stock and is the most relevant for the fishery. High MSC scores converted from SICA and PSA analysis further demonstrate that levels of exploitation for this stock are far below full exploitation rate at MSY.
		to guide management. The information	The previous assessment did not

		presented describes an informal and ad-hoc status quo rather than a harvest strategy. (b) The stability of the CPUE is questionable, as previously noted. (c) As noted above, there is no evidence of a harvest strategy in the sense required by the MSC (Glossary, CR v1.2 page A43; CR Guidance §GCB2.5.7).	make use of the RBF, and scoring was against the default PI, and did not assess informal approaches which were triggered by the RBF.
		SG100 (a) As previously noted, the harvest control rules and tools do not amount to a harvest control strategy. Concerns about the harvest strategy (or the lack of one) were raised by the MSC at the last assessment. There is no evidence that any action has been taken to address these concerns by the client ground or the Faroese Government. In the absence of such information, a change to the scoring of this PI from the previous assessment seems to lack an objective basis.	
		In making these comments, it is noted that the use of the RBF renders a management response with respect fo reference points irrelevant. This has been taken into account. It is is noted that this fishery is managed by an independent Government and with a single vessel. Given the simplicity of the fishery and the outcome of the previous assessment, the absence of a formal harvest strategy is a matter of concern.	

				The "harvest strategy" offered here contrasts very starkly with the arrangements described for non-target species and described in PIs 2.1.2 and 2.2.2.	Arrangements in P2 are not assessed using the RBF.
1.2.2	Yes*	No	NA	 Various harvest control rules and tools are presented here. SG60 (a) This SG is met. (c) The notion that catch rate is stable is questionable (it has fluctuated between 3,000 and 6,000t pa); and CPUE seems to have steadily declined (Figure 3.5). The suggestion that catch efficiency has been unchanged is highly debatable in view of the report that the fishery has built up a good understanding of the scallop beds and has recently adopted heaver weight gear to increase fishing effort. SG80 (a) This seems to be met. (b) The rationale does not address the scoring guidepost and is non-sequitur. If uncertainties have not been identified, then the SG cannot be met. (c) See previous comments about CPUE trends, fishing capacity and landings. This rationale is not supported by evidence presented in the report. 	Scoring for this PI was reviewed and additional rationale added. The <u>score</u> <u>was lowered to 70</u> and a condition set. Since the RBF was used in PI 1.1.1, informal approaches are assessed against PI 1.2.2 according to <i>MSC GCR</i> <i>v1.1</i> (<i>GCB 2.6.6</i>). SG60: c) It can be argued the capacity have been stable for the last two decades, apart from the last year, since the same vessel, operated by the same company has been engaged in fishing for scallop. The increase in weight of the dredge only applies to 2012. The same vessel has been operating here since 1988, and sonar has been used for the last 15 years increasing knowledge of the fishing ground. Discrepancies in CPUE data were corrected and the figures updated (see statement at the start of Appendix 2). CPUE from 1992 to 2002 fluctuated between 2100kg/hr and 3300kg/hour. From 2002-2011 the CPUE show no significant trend (Fig

	Again, it is noted that this SG scored 60 in the previous assessment. There is no evidence of changes to the management regime in the past two years that would support a different outcome, despite the use of the RBF in this assessment. Again, the failure to address these issues during the interim period between the assessments highlights concerns about the responsiveness of the managemetn system.	 3.5). CPUE for 2008-2011 fell below 2000kg/hr, but increased to 2400kg/hour in 2012. However, in 2012 the weight of the gear increased. Apart from the change in 2012, catch efficiency is expected stable, since the same vessel has been operating with the same crew, and increase in knowledge is highest at the start of the fishery and certainly not an effect in the last decade. The client has been involved in this fishery since the seventies. For a failed fishery, no mandatory conditions or defined actions are specified (CR 27.21.3.1). The Public Certification Report (PCR) is required to outline draft and non-binding conditions for relevant PI's. However, no conditions are found in the PCR, only in the Public Comment Draft Report. However, PCRs of failed fisheries are not to include any agreement from the client to address conditions (<i>CR27.21.3.4</i>).
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1.2.3	Yes*	No	NA	 The SG60 requirements seem to be met, and the SG80 requirements in part. The score of 80 is not supported by the rationale or the information about the fishery presented in the report. Specifically, at the SG80 level:- (a) This seems to be met. (b) This is not met. The SG requires that both stock abundance and fishery removals are regularly monitored. The fact that both removals and CPUE (a proxy for abundance) are monitored for the northern areas, which are of minor in significance, does not make up for the fact that "Authoritiesdo not "monitor" the CPUE series in the eastern area". The ongoing effective management of a fishery that meets the MSC Standard should to rely on the ad hoc arrangements which are currently in place for the eastern area. (c) This seems to be met. 	Scoring for this PI was reviewed and additional rationale added. The <u>score</u> <u>was lowered to 75</u> and a condition set. The assessment team agrees that authorities should monitor the fishery in the main fishing area as well. The score was lowered to 75 and an appropriate condition was set.
1.2.4	NA	NA	NA	The default RBF score has been awarded here.	
2.1.1	Yes*	Yes	NA	The scoring seems appropriate.	
2.1.2	Yes*	Yes	NA	The scoring seems appropriate.	

2.1.3	Yes*			The scoring seems appropriate.	
2.2.1	Yes*	Yes	NA	The scoring seems appropriate.	
2.2.2	Yes*	Yes	NA	The scoring seems appropriate.	
2.2.3	Yes*	Yes		The scoring seems appropriate.	
2.3.1	No	No	NA	The information presented is not adequate to justify the score. The only information source cited is the previous assessment report. This is inadequate to justify a score of 100, which should at the very least be accompanied by records from fishery-independent observers over a substantial period of time which proves that ETP species are not caught in the fishery. The reference to survey information about the distribution of Lophelia is questionable, since the BIOFAR survey from which this view is derived does not seem to have covered the area of the fishery, on the basis of the information presented in this report. To meet the SG60 requirements the report should include some verifiable information that provides evidence that ETP species are not caught in the fishery. It is not clear that the	Scoring for this PI was reviewed and additional rationale added. Interactions with mammals and seals were addressed during stakeholder consultation. The client was asked to confirm the extent of interaction with marine mammals after this peer reviewer raised concerns. They clearly state that there are no significant interactions apart from a handful of observations per year. A marine mammal expert at the Faroese Natural History museum (Bjarni Mikkelsen) was contacted and confirmed that there had never been any reports of marine mammals being caught in the dredge and that this was highly unlikely. The BIOFAR I and BIOFAR II programs include stations that cover the area of

				fishery even meets that requirement.	scallop fishing (see map of stations here) The fishery operates in areas of 30 to 80m, whereas <i>Lophelia</i> is distributed from 200-1000m. Additional rationale and references were added (Fredricksen 1992; Bruntse & Tendal 2001; Tendal & Dinesen 2005.
2.3.2	Yes*	No	NA	Assuming that evidence of no ETP capture can be provided in PI2.3.1, the SG60 requirements are met by default, because there must be measures in place which avoid problems arising However, there is no evidence presented anywhere in the report of the existense of a management "strategy" for ETP species that would meet the SG80 requirements. Equally, no evidence is presented to suggest that there is a "comprehensive strategy" in place for the fishery that would meet the SG100) requirements. There seems to be no basis for awarding a score of more than 60 here. To do so would require evidence of a strategy (at SG80) or a comprehensive strategy (at SG100), and none is presented. The scoring here should be reviewed in a manner that is consistent with CR Guidance (at §GCB3.3.1).	According to the CR v1.2 "CB3.12.1 When scoring ETP Management strategy PI SGs teams shall refer to the <u>need to minimise mortality</u> ." Since there are no ETP species in the fishery nor potential mortality of ETP species there is no need for a strategy to minimise mortality. However, additional rationale and references were added that refer to general regulations in the Faroese. Closed areas have been used in a targeted way in Faroese waters for many years. Defined areas are closed periodically; in particular spawning areas are closed to fisheries either partly or entirely. In addition, 60% of the Faroe Plateau at depths of less than 200 m is closed to trawling for most of the year. Most of the Faroe Bank is permanently closed to trawling. The waters within the entire 12 nautical mile zone on the Faroe Plateau are also closed to all trawling,

					with the exceptions of summer flatfish fishery and the single scallop vessel. Coral reefs, which provide an important habitat for marine life, have been identified and documented in Faroese waters. Three specific areas are closed to all trawling in order to protect these habitats. The Fisheries Laboratory works in consultation with fishermen to further map the seabed around the Faroese in order to identify additional areas of coral which may be of ecological significance (source: fisk.fo) Regulations in the Marine Environmental Act are in line with the requirements for the OSPAR Convention for the Protection of the Marine Environment in the North Atlantic (see <u>source</u>). Faroese Islands is party to Nammco (North Atlantic
					Marine Mammal Commission (<u>www.nammco.no</u>)
2.3.3	Yes*	No	NA	There is no evidence that there is any information available about ETP interactions from an independent and verifiable source (and indeed no references cited in the rationale for this PI). The absence of any information about interactions with ETP species cannot be interpreted as evidence that there is no	None of the stakeholders expressed any concern regarding significant interaction with marine mammals during stakeholder consultation. A marine mammal expert at the Faroese Natural History museum (Bjarni Mikkelsen) confirmed that there had never been any reports of marine mammals being caught in the dradge

				existence and scale of any interactions is unknown. In the absence of any information it is hard to see how the SG60 requirements are met; and the SG80 and SG100 requirements could only be met if there was independent and verifiable information available which met the criteria associated with these scoring guideposts. Again, there is no convincing evidence presented to suggest that the SG60 requirements are met, and this should be set out in the report.	and that this was highly unlikely.
2.4.1	Yes*	No	NA	The rationale set out is not convincing for any of the scoring guideposts. SG60 The fact that the fishery has taken place for 40 years and is still catching invertebrates does not demonstrate that it is not having an effect on biodiversity. In fact some of the the bycatch species listed under 2.2.1 are scavengers associated with altered benthic habitats following dredging; and other species listed (notably horse mussels) are known to form benthic habitats that are extremely sensitive to dredging. SG80 The comments focus on the area of scallop bed	This PI was reviewed and additional rationale added. SG60: Sea stars, which are scavengers and could accumulate after dredging; is the main bycatch species in the fishery. However, the individuals that are caught and returned to sea seem to be alive and there is some evidence that this species tolerates dredging better than many other macrofauna (Garcia et al. 2006) and has been considered fairly resistant to the effects of dredging (Kaiser and Spencer 1995; Ramsy et al. 1998 Jenkins & Brand 2001; Pranovi et al. 2001). The number of sea stars caught

		that is dredged, and not the area of habitats affected. These are different, and the text should be revised to focus on the SG requirements. SG100 The two references of studies in Iceland seem to be irrelevant to the fishery under assessment. Neither provides any direct evidence or useful analogue which would justify a score of 100.	in each fishing trip through is around 300-500. Rationale referring to invertebrate bycatch was removed and additional rationale referring to the area dredged per annum was added. SG80: The distribution of scallops in the Faroese is much larger than the dredged area which indicates low level of fishing (area dredged vs. habitat of scallop). In fact the scallop
		The reference to the studies in the northern area is relevant, and better use of this information might provide better justification for the score for this PI than all of the other information offered here.	115hery 15 estimated to cover only 34km ² seasonally which is only 0.02% of the area up to 200m depth, where scallops are reported to be common. Additional rationale was added.
		Overall, there is no convincing evidence presented here that the fishery meets the SG60 standard. This evidence is required.	SG100: The study by Matras (2001) is considered to be evidence, and since the fishery is conducted on similar bottom type in the east; it is directly applicable. Additional rationale was added referring to the area of the
		recently adopted the use of heavier gear (see §3.3.4.3). The effect of this gear on the seabed does not seem to have been studied.	habitat that remains unfished and additional measures taken by fishermen to avoid hard structures and biogenic habitats in the area such as horse mussel beds.
			The score was lowered to 95 since the impact of the heavier dredge has not been studied.

2.4.2	Yes*	No	NA	There is no evidence presented in the report that there is a strategy in place specifically for the protection of marine habitats in the Faroes from the fishery, which is the SG100 requirement. There is, however, evidence of a partial strategy in the form of restrictions on fishing activity. These restrictions are long-standing and have had a beneficial (though not predetermined) effect on marine habitats. A score of 80 would seem more appropriate for this PI in the absence of evidence of a strategy for managing habitat impacts (again the review of scoring should consider the criteria set out in CR Guidance §GCB3.3.1).	This PI was reviewed and additional rationale added. Limiting the scallop fishery to one vessel, restricted areas and an eight month season result in a restricted area covered by the fishery. The annual coverage is only 34km ² per annum, which is 0.02% of the area where scallops are reported to occur. Additional rationale was added to clarify general strategy of the Faroese towards habitat protection: Closed areas have been used in a targeted way in Faroese waters for many years. Defined areas are periodically closed; in particular, spawning areas are closed to fisheries either partly or entirely. In addition, 60% of the Faroe Plateau at depths of less than 200 m is closed to trawling for most of the year. Most of the Faroe Bank is permanently closed to trawling. The waters within the entire 12 nautical mile zone on the Faroe Plateau are also closed to all trawling, except for a period in summer when limited trawling for flat fish by smaller vessels is permitted. Coral reefs, which provide an

					important habitat for marine life, have been identified and documented in Faroese waters. Three specific areas are closed to all trawling in order to protect these habitats. The Fisheries Laboratory works in consultation with fishermen to further map the seabed around the Faroese in order to identify additional areas of coral which may be of ecological significance (source: fisk.fo) Regulations in the Marine Environmental Act are in line with the requirements for the OSPAR Convention for the Protection of the Marine Environment in the North Atlantic (see <u>source</u>).
2.4.3	Νο	Νο	NA	The information presented in the report about the BIOFAR project is in the form of a map of habitat distribution which does not seem to cover the area of the fishery. Because of this, the requirements of SG60(a), SG80(a), and SG 100(a) do not seem to be met. They can only be met with information about the distribution of habitats on the actual fishing grounds, and this is not presented in this report. The studies cited at SG60(b) relate to fishing gear and areas that are not remotely compatible with the fishery under assessment, and their use in this context does not mean	This PI was reviewed and additional rationale added. Distribution of the scallop beds in the Faroese has been related to bottom type and currents (Ursin 1956). The map in Fig 3.11 (BIOFAR, Bruntse & Tendal 2001) indicates the main habitat types in the Faroe Islands. The area of the fishery was sampled according to a map of stations in the BIOFAR project (see map here). The map shows the distribution of various bottom types and bottom dwelling species off the Faroese. According to this paper sensitive species as corals

		that the fishery under assessment meets the SG requirements here. The rationale for the SG80 scoring guideposts is inadequate. The SG80(a) deficiencies are noted above. At SG80(b), there is no information about the interaction between the gear and habitat because no information about the distribution of habitats in the fishing area where the gear is used is presented in the report. At SG80(c), the limited study in the northern area does not provide any ongoing data for the main area of fishing in the east. Similar comments apply to the SG100 rationale; there is no evidence presented here to provide a convincing argument that these requirements are met.	(Lophena) and sponges (Garcia et al. 2006) are absent in the main fishing areas of scallops. A. opercularis and M. modiolus are the only dominating species and the main M. modiolus beds are not in the scallop dredging areas. Additional references were added in particular the in-depth study of biogenic structures by Tendal & Dinesen (2005). These studies are considered to contain sufficient details on habitat types, and particularly vulnerable habitat types such as sponges and corals.		
		needs to be presented to provide a convincing argument that the SG60 requirements are met, let alone the higher standards of SG80 and SG100. Furthermore, it is noted that the fishery has recently adopted the use of heavier gear (see §3.3.4.3). The effect of this gear on the seabed does not seem to have been studied.	The effect of this heavier gear has not been studied but the skipper states that the CPUE is unchanged under usual weather conditions but the added weight makes it possible to fish in bad weather, making the dredge reach the bottom. This is considered in PI 2.4.1 and the score of 2.4.1 lowered to 95.		
2.5.1	Νο	Νο	NA	There is simply insufficient information presented in this report to justify the score awarded here. The information presented from the BIOFAR habitat survey, as already noted, does not appear to extend into the fishery area and therefore does not provide any basis for the SG60 score. If there was accurate and verifiable information presented elsewhere in the report which indicated that ETP and habitat impacts were slight, then a score of SG80 would be appropriate here. The score of SG100 would require clear evidence about the effect of the fishery on marine ecosystems, and on the basis of this report that information does not exist and such a score is unattainable. Further information is therefore required to meet the SG60 requirements here.	This PI was reviewed and additional rationale added. The information from the BIOFAR habitat survey does extend into the fishery area. This has now been more clearly defined in the report. See the BIOFAR paper (Bruntse & Tendall 2001) and a map of stations (see map here). Additional references to the Faroese Ecosystem were added. The effect of the fishery on the key elements of the marine ecosystem is not considered to be high according to the habitat and impact of dredges and interaction with ETP species is considered to be non-significant. Furthermore the fishery coverage is only 0.01% Faroese EEZ. Additional rationale was added to SG80 and SG100.
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2.5.2	No	No	NA	The information sources cited here do not appear directly relevant, and relevant sources referred to in the text has not been used. It would appear that the SG60 and SG80	This PI was reviewed and additional rationale added. The score was lowered to 90.
				requirements are met by the measures and partial strategy that is in place.	a) The general strategy for the Faroese Islands, of which the scallop
				At the SG100 level:-	Additional rationale for the scallop fishery was added.
				(a) The management measures presented are	

				 not a strategy or coherent plan for managing this fishery. Some of them are irrelevant to this fishery (such as legislation setting minimum fish sizes). The information presented here is not convincing. (b) This is not met – there is no evidence presented in the report that there is a plan which contains measures to address all of the main impacts of the scallop fishery. (c) The stability of the CPUE is questionable and certainly no basis for asserting no ecosystem effect, since these effects could arise independent of changes to the size of the scallop stock. (d) This appears to be met. Again, the scoring of this PI should have regard to the requirements of CR Guidance §GCB3.3.1. 	 b) Agree this is not met, additional rationale added. c) References to CPUE excluded. Additional rationale added on evaluations of the Faroese fisheries management system. This is not met.
2.5.3	Yes*	No	NA	 Once again, the assessment rests on the BIOFAR report which does not, on the basis of the information presented in the report, seem to cover the fishing area. The relevance of the MRI data to the ecosystem impacts of the scallop fishery is not clear. SG60 (a) The information presented does not meet these requirements. (b) The northern area study is relevant here, and provides some information about potential 	The map in Fig 3.11 indicates the main habitat types in the Faroe Islands. The fishing area was sampled according to a map of stations in the BIOFAR project (see map here). SG60: a) Additional references/rationale added (Tendal & Dinesen 2005; ICES 2008 and links to FAMRI's website with information on ecosystem information and research.

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	habitat impacts.	b) Agree
	SG80	SG80:
	(a) This requirement does not seem to be met by the information presented.	a) Additional references/rationale added and refer to additions in
	(b) It is not clear from this text or from the	SG100C.
	(5) it is not clear from this text of from the narrative (§3.4.1.2) that impacts have been	b) Additional rationale added on
	studied in detail.	spatial impacts of the fishery.
	(c) The relevance of the Zeller & Reinert work	
	should be explained in greater detail here or in	c) Zeller & Reinert (2004) use an
	the narrative of the report to justify this claim.	ECOSIM model, demonstrating that information on the ecosystem exists.
	(d) The evidence presented here and for other	However, the reference was removed
	Pls is not adequate to meet this requirement.	and additional references added (under SG100C) demonstrating
	(e) No evidence of ongoing monitoring of	extensive and ongoing research on the
	ecosysem effects is presented. The suggestion	Faroese ecosystem.
	that there has been no change in the gear is incorrect, since it has recently been made	d) Additional rationale was added to
	heavier (see §3.3.4.3).	address the fishery's impact on
		e.g. the spatial scale of the fishery and
		the role of scallops in the ecosystem.
		e) Additional rationale added. This SG
		refers to data being collected on the
		monitoring of the ecosystem
		(rationale in SG80c and SG100c
		contains references to ongoing
		impact of the fishery is monitored and
		known.

3.1.1	Yes*	Yes	NA	The scoring seems appropriate.	
3.1.2	Yes*	Yes	NA	The scoring seems appropriate. Part of the figure included in SG80(a) is illegible, although it is presumed to be the same as the one shown in SG100(c) of PI 3.1.1.	It is the same figure. The size of the figure in PI 3.1.2 was increased.
3.1.3	Yes*	Yes	NA	The scoring seems appropriate.	
3.1.4	Yes*	No	NA	The score is not justified. Specifically:- SG60 According to the narrative of the report, the days at sea system is not used for the scallop fishery (§3.5.3.2) and all of the information set out here is therefore irrelevant. SG80 The inference here is that the fishery was subject to subsidies until the recent financial crisis, and this should be clarified. Again, the commentary makes reference to fishing days, which are apparently not used for the scallop fishery. The assertion that the absence of other vessels means there is no incentive to fish unsustainably is speculative and not adequate or robust. Competition between vessels is just one of many incentives to increase fishing effort. Other incentives could include, inter	 SG60: Article 2 in the Commercial Fishery Act clearly states that <u>all fisheries</u> by Faroese vessels have to meet the requirements. This also goes for the Scallop Fishery even if the tools used to acquire this are different from the fisheries where full analytical assessments are available. Additional rationale added on system of penalties for non-compliance. SG80: See above. Seasonal and areal restrictions apply as set out in fishing licenses. The scallop fishery has never been a subject to subsidies The main concern is to deliver regularly to developed markets with a stable fishery over the years. The

	 alia, the loss of subsidies; a poor export market; competition with exporters from other countries; unfavourable exchange rates; and rising fuel prices. Each of these are relevant to this fishery an could lead to unsustainable fishing in a single-vessel fishery. Ordinarily, the SG80 level would be met in a fishery that has clearly defined input or output controls that are enforced to ensure that fishing does not adversely affect either the target stock or the marine environment. There is presently inadequate evidence here, or elsewhere in the assessment, to make this case. SG100 There is, again, reference to days at sea which the report suggests elsewhere is not relevant to the scallop fishery. Despite these comments, it should be a straightforward matter to revise the scoring rationale here to justify a favourable score for the fishery. 	company will have all incentives for long term sustainable production. The input control overseen by the authorities with seasonal and area closures is easily enforceable and a firm policy based on the Commercial Fishery Act not to allow new entrants to the fishery. Under the commercial fisheries act, the number of licenses in any particular fishery cannot be increased from number of licenses in 1995, although they can be substituted by vessels with the same or less capacity. Pls 3.1.1 to 3.1.4 deals with the governance and policies under which the fishery operates and therefore considers the broader management system in the Faroe Islands. Although the days at sea system is not used for the scallop fishery directly, they are nevertheless restricted to a specific fishing season in the main fishing area. In the Funningsfjord area the fishery is also restricted to a number of days. It is only in the northern experimental area where the season is not restricted, but here a TAC applies. Additional rationale was added regarding penalties that are applicable. SG100:
		seasonal and areal restrictions apply

					as set out in fishing licenses. Additional rationale was added regarding penalties that are applicable.
3.2.1	Yes*	No	NA	 There is no evidence presented here or elsewhere in the report of clear short and long term management objectives that specifically apply to the scallop fishery fishery. The scoring is therefore inappropriate at anything higher than the SG60 level. At the SG80 level, there should be some indication of a short or long term management objective for the fishery that has been adopted by the fishery managers (such as maintenance of the CPUE above a certain level). There is no evidence that this exists. At the SG100 level, the MSC expect these objectives to be measurable. There is no evidence presented to suggest that there are any objectives in place for this fishery that can be measured. On the basis of the information presented, a score no higher than 60 should be awarded here. 	SG80: Additional rationale added. The objective of maintaining the low level of effort in the fishery is explicitly set out in the Commercial Fishery Act applies to this fishery. Further effort restrictions are explicitly set out in annual fishing licenses. FMRI also provides advice on the exploratory areas, adopted in the licenses issued by the Ministry. The client also has an informal objective of maintaining CPUE above a certain level through the move-on rule. SG100 Additional rationale added. There is monitoring in place by inspection services to ensure that effort control through spatial and temporal restriction are maintained. FMRI monitors CPUE in the exploratory areas and can be used as a measure for objectives of sustainability. However, CPUE is not monitored in

					the main eastern fishing area. A partial score was awarded and the score lowered to 95.
3.2.2	Yes*	Yes	NA	The score seems appropriate.	
3.2.3	Yes*	Yes	NA	The score seems appropriate. Some of the text in SG100(b) is rather baffling, and requires attention. It would also be useful to indicate if the fishing licence has ever been withdrawn for the scallop fishing vessel in this fishery, and if so, for what reason.	The text in PI 100b was clarified. There are examples of penalties being applied in <u>other fisheries</u> , demonstrating an effective system. The scallop fishing license has never been withdrawn.
3.2.4	Yes*	No	NA	It is not clear that the SG80 requirement for the existence of a research plan (i.e. a written document that includes a specific research plan for this fishery is met (MSC CRv1.2 at §CB4.10.3). In the absence of a research plan a score of 60 would be more appropriate. The lack of a research plan for this fishery was identified in the previous assessment. It should have been a very simple matter to have addressed this deficiency in the interim.	Additional plans for a research survey were added to rationale in SG80a. Research results are public and available to any interested party, which fulfill SG80b. The score was lowered to 75 and a condition set.
3.2.5	Yes*	No	NA	The scoring comments suggest that the purpose of this PI has not been correctly understood. The purpose of this PI is to review the	Scoring for this PI was reviewed and additional rationale added. The score was lowered to 75 and a

performance of the management system; i as the scoring comments suggest, to review fishign licences or stock status. It is clear from the narrative of the report t the Commercial Fisheries Act was introduc	not, w chat red in
1994, and reviewed to make it more effect in 1996, which rather suggests that at that there were procedures in place for reviewi the performance of management and mak changes if and where necessary. Further evidence of this nature would be relevant this PI.	time ng ing to
The information presented does not even the SG60 requirements. It seems probable such information exists; however the SG80 SG100 requirements include the need for external review, and no information is set anywhere in the report to indicated that th has ever occurred.	meet that and out his
The scoring and commentary for this PI sho be re-evaluated.	buld

* In answering "Yes", I indicate that all of the information presented in the report has been utilized, and that other information that I am aware of has been used. There may be other information that is not presented in the report and that I am unaware of that is relevant and has not been used in the report.

Any Other Comments

Comments	Certification Body Response
Comments have been submitted on the narrative of the report in the earlier	
part of this document.	

For reports using the Risk-Based Framework:

Performance Indicator	Does the report clearly explain how the process used to determine risk using the RBF led to the stated outcome? Yes/No	Are the RBF risk scores well- referenced? Yes/No	Justification: Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Certification Body Response:
1.1.1	Yes	Yes	The score awarded for this PI seems to be too high. A SICA consequence score of 2 would seem more appropriate, and the wrong Post Capture Mortality score has been used in the PSA Analysis. The background for these views is set out below. 1. SICA Score. It appears from the information presented in the report about the evaluation procedure (section 4.4) that the stakeholders who contributed to the SICA analysis were the client and fisheries scientists involved in the management of the fishery (Table 4.2). The responses of these stakeholders are set out in Table A3.1. It seems significant that 2 of the 3 stakeholders who carry out research into the fishery felt that the score should be higher than 1. I note that all of the stakeholders agreed that the intensity score for the fishery should be 3, which equates to "moderate detection of activity at broader spatial scale, or obvious but local detection". In this case, it would appear that the effect detected was one of the fishing activity on population size. The decision to use the higher score of 1 when the	The scores provided in Table A5.1 (previously A3.1) are answers from individual stakeholders. Apart from the client and scientists; representatives from the Ministry of Fisheries and Fisheries Inspection also participated in the RBF. The views of all six stakeholders are considered in the SICA analysis. Only one stakeholder reported a consequence score of 2, the reason being that fishing had an effect on the virgin population. This stakeholder is connected to the Kaldbak Laboratory, which is not directly involved in fisheries advice. All other stakeholders reported a consequence score of 1, except for one stakeholder, clearly stating a score of 1 to 2.

scientists interviewed in the site visit were indicating that a higher score would be more appropriate is questionable in the light of the CPUE data set out in the report, the history of this fishery, and the consensus view of the intensity score that was appropriate.	
This view is supported by reference to certain parts of the report below.	
In §3.3.4.1, it is noted that 6 boats initially pursued the fishery and this led to <i>"locally overfished beds"</i> (citing Nicolajsen 1997); apparently the fishery has been prosecuted by just one vessel since 1988 (§3.2). Figure 3.2 shows that landings in 1988 were about 2,000t, and that the previous high had been less than 2,500t (during the period when there had apparently been local overfishing). Figure 3.5 shows landings over the period 1992-2011, during which landings have been in the range of 3,100-6,000t and CPUE has gradually fallen. Elsewhere in the report it is noted that the skipper of the vessel employs a "move on" rule, triggered when the catch rate falls below 1,500 kg/hr (section 3.5.5.2).	Local overfishing was caused by many vessels targeting the same limited area. Currently one vessel target a larger area, which avoids local overfishing by employing a move-on rule. This effectively rests fishing beds and allows for recovery before returning to the same area. CPUE has been relatively stable during the last decade. Fig 3.5 has been updated with the corrected and updated data, which confirms the stability of the CPUE.
From an impartial perspective, the evidence presented in the report indicates several things:-	a) Historically, more vessels competed in a limited area, which caused overfishing of local scallop beds.
 a. Historical sources indicate that the Faroese queen scallop fishery has the capacity to adversely affect population size. b. Landings are currently higher than during the period when adverse effects were noted. 	b) Landings are higher, and have been between 3,000 to 5,000t for the last two decades. As stated above adverse effects were caused by many vessels pursuing the same local scallop beds.
c. The CPUE has fallen during the period 1992-2011.d. Two out of the three fishery scientists interviewed felt	c) CPUE has decreased between decades; however, it has been stable during the last decade.
that the SICA score should be higher than 1. e. All of the stakeholders agreed that the intensity effects	d) The views of all stakeholders were considered during SICA scoring. Only one of the scientists

			of the fishery were detectable. Under these circumstances, it does not seem appropriate to award a SICA score of 1 (<i>"Unlikely to be detectable"</i>) and more appropriate instead to award a score of 2 for the effect of the fishery on population size. This change would have no effect on the outcome of the assessment, but would be consistent with the facts and views presented in the report.	reported a consequence score of 2, the reason being that fishing had an effect on the virgin population, whereas the other one clearly stated a score of 1 to 2. e) The SICA score of 1 is based on scores from all stakeholders.
			2. PSA Score. The incorrect score has been used for Post Capture Mortality. This should be scored as "high" (3) for all retained species (MSC CR Guidance v1.1 at §GCC2.4.2.6(b)).	There is observer evidence that small scallops are returned alive to the ocean. GCC2.4.6f states "PCM is scored as "high", unless there is information that indicates that animals are released alive." However, it could not be verified that >33% of individuals were release alive. The score was changed to high = 3, resulting in an
				MSC score of 91.4.
2.1.1	NA	NA	NA	
2.2.1	NA	NA	NA	
2.4.1	NA	NA	NA	
2.5.1	NA	NA	NA	

Appendix 3: Stakeholder Submissions

Appendix 3.1: A summary of stakeholder SICA scores

Table A3.1.1: A summary of SICA scores obtained from stakeholders for the Faroe Islands scallop fishery						
Stakeholder	Spatial scale score	Temporal Score*	Intensity scale score	P1 Consequence score		
Client (O.C. Joensen)	1-15% = 2	100-150 days = 4	Moderate = 3, 1 boat, limited days/area	Population size = 1,		
Ministry of Fisheries	No answer	100-150 days = 4	Moderate = 3	Population size = 1		
Fisheries Inspection	No answer	100-150 days = 4	Minor = 2	Population size = 1		
FAMRI 1	No answer	Refer to logbooks	Moderate = 3	Population size = 1		
FAMRI 2	No answer	Refer to logbooks	Moderate = 3, Stability of CPUE and catch	Population size = 1 to 2		
Kaldbak	No answer	Refer to logbooks	Moderate = 3	Population size = 2		
* Exact nr. Of days can be established.						

Comments on SICA scoring

Spatial scale score:

Information on spatial scale of the fishery proved to be difficult to obtain. The main reason for this being that the present total distribution of the scallop population is not well known. However, all stakeholders agreed that scallops are distributed all around the islands in pockets of suitable habitat. Thus it is clear that scallops occur outside the main fishing grounds as well. FAMRI mentioned in particular an area northwest of the islands, closed for scallop fishing, but which they believe is a recruitment area for the fishery.

Previous studies from Nicolajsen (1997) reported the area of scallop fishing area distribution to be ca. 400km². However, this report only refers to the two main fishing areas, but evidence suggests a larger area of distribution.

Rationale provided for the P1 consequence score

O.C. Joensen (Client):

Population size: No detectable change in population structure or geographic range. Fishing is variable mostly due to weather rather than stock size. Recent changes in yield (due to soft flesh) are most likely due to environmental changes (temperature) rather than population size.

Kaldbak Marine Laboratory:

Population size: Consequence category 2 chosen as a measure of precaution.

Appendix 3.2: Stakeholder Submissions during Site Visit and Stakeholder Meetings

Meginfelag Útróðrarmanna

A stakeholder meeting was requested by Meginfelag Útróðrarmanna (MÚ, the Association of Small Fishing Vessel owners and Fishermen), represented by its chairman, Mr. Auðunn Konráðsson (AK). Mr. Konráðsson confirmed that MÚ has no direct interest regarding this fishery. However he noted that some of MÚ's members share fishing areas with the scallop fishery and claimed that the scallop fishery is intruding "their fishing grounds".

MÚ are particularly concerned about the ecosystem impacts of the scallop fishery might have on the haddock habitats and fishing grounds as the scallop fishing overlaps partially some of the haddock fishing grounds. These concerns applied mainly to the northern areas, where the scallop fishery holds two exploratory licenses.

MÚ expressed discontent with the criteria used by the MSC regarding habitats/environment. The main concern was that the scallop fishery damages habitats and that the dredge may have drastic effect on the seabed as well as potential feeding grounds of certain species. Stationary gear is used for fishing of haddock and there is a concern that gear may also be affected. Reference was made to the experience of the large industrial trawler that was fishing from 1989-1991 and the case of the Svalbard/Bjarnoya fishery. MÚ's policy is that a precautionary approach should take precedence in the management of the fishery. MÚ raised concerns when licenses were issued. According to MÚ, these concerns have been raised directly with the authorities.

In response to the stakeholder's comments, FAMRI, the Ministry and Inspection services were consulted on the matter during stakeholder consultation. Stomach contents of predators are regularly monitored by the FAMRI, and scallops are not considered as a main or important prey species in Faroese waters (stakeholder consultation, pers. comm. Reinert & Gaard). Studies show that important commercial fish species such as cod, haddock and saithe prey on fish and benthic animals. However, fish is the main prey item and sandeels are the preferred prey item when abundant (ICES 2008). The scallop fishermen also avoid dense aggregations of horse mussel, which is considered to be important nursery areas for various fish species (Tendal & Dinesen 2005). Studies conducted by Matras (2001) on typical scallop fishing ground in the north showed that average size and numbers of animals in dredged areas were reduced, and in some cases the effect was a reduced rate of increase. The study concluded that of the 124 species/groups considered there was no overall effect on biodiversity. The scallop fishery covers a limited area annually or an estimated 8.5% of the 400km² main fishing grounds for scallops, leaving more than 90% of the habitat untouched. Apart from limited coverage, mobile gear in the area takes precedence over the scallop dredge.

Response by Vottunarstofan Tún to Meginfelag Útróðrarmanna

Submitted to stakeholder by letter 13 March 2013

Vottunarstofan Tún is currently finalising report of its assessment of the above fishery for public comment (Public Comment Draft Report). Tún appreciates the contribution of Meginfelag Útróðrarmanna to the stakeholder consultation process, in particular verbal submission by its representative Mr Auðunn Konráðsson during a stakeholder consultation meeting in Tórshavn.

Referring to open stakeholder meeting held by the assessment team in Tórshavn, Faroe Islands, on 21 August 2012, the following points and concerns were raised by Mr Auðunn Konráðsson on behalf of Meginfelag Útróðrarmanna (MÚ) (Faroese Association of small fishing vessels owners and seamen):

- While the MÚ has no direct interest in the assessed fishery, some of its members share fishing areas with the scallop fishery.
- MÚ are particularly concerned about the ecosystem impacts of the scallop fishery, e.g. on the haddock habitats and fishing grounds; scallop fishing overlaps partially with some of the haddock fishing grounds; this applies to the northern areas.
- Concerns were expressed regarding potential damage to habitats by the scallop fishery; the dredge may negatively affect habitats, i.e. the seabed as well as potential feeding grounds of certain species. Stationary gear is used for fishing of haddock and there is a concern that gear may also be affected.
- Reference was made to the experience of the large industrial trawler used temporarily in 1989-1991. The Svalbard/Bjarnoya fishery was mentioned as a case in point. MÚ's policy is that if the consequences of fishery management decisions are uncertain, its membership should enjoy the benefit of doubt.
- At the time of the issuing of the pilot/trial licenses for scallop fishing in the northern areas, a delegation from the MÚ met with the Chief Secretary of the Fiskimálaráðið (Ministry of Fisheries), to raise its concerns.

The assessment team has considered MÚ's concerns and these were also raised during stakeholder consultations with management and research bodies. The assessment team recognizes that there is a partial overlap between the northern scallop fishing area and haddock fishing. The potential impact of dredging on habitats is dealt with in PIs 2.4.1 (Habitat Outcome) and 2.5.1 (Ecosystem Outcome) and is not considered not to cause serious or irreversible harm to the regional habitat structure and/or key elements of the ecosystem structure and function. The large factory vessel referred to that was used for fishing scallops in 1989-1991 bears little resemblance – in terms of capacity – to the vessel currently used (Nordheim). The Svalbard/Bjarnoya fishery in the 1980s is an example of how an overcapacity being used ultimately led to catastrophic decline of the scallop stock.

With regard to effect of dredging on feeding grounds of other commercial species, it should be pointed out that stomach contents of predators are regularly monitored by the FMRI and scallops are not considered as a main or important prey species in Faroese waters (stakeholder consultation; personal communication with R. Reinert and E. Gaard). Studies show that important commercial fish species such as cod, haddock and saithe prey on benthic animals such as juvenile scallops in addition to fish. However, fish is the main prey item and sandeels are the preferred pray item when abundant (ICES 2008). Another important prey species is Norway pout. Furthermore, the scallop fishermen avoid dense aggregations of horse mussel, which are considered to be an important biogenic habitat and possibly a nursery area for various fish species (Tendal & Dinesen 2005). The scallop fishery only partially overlaps with areas of dense horse mussel aggregations, and the majority of horse mussel aggregations are found outside of the scallop fishing areas.

A study conducted by Matras (2001) on typical scallop fishing ground in the north showed that average size and numbers of animals in dredged areas were reduced, and in some cases the effect was a reduced rate of increase. The study concluded that of the 124 species/groups considered there was no overall effect on biodiversity. Dredging takes place on soft sandy bottoms in areas of strong currents, which are considered to be less sensitive than habitats with hard structures. The scallop fishery covers a limited area annually or an estimated 8.5% of the 400 km² main fishing grounds for scallops, leaving over 90% of the habitat untouched. The number of fishing trips to the north has been limited, e.g. 10 trips in 2011 and 29 in 2012. The increase in fishing trips in 2012 includes a survey conducted by FMRI (Havstovan) in cooperation with the client.

Apart from limited coverage, the maritime convention assumes that static gear in the area takes precedence over mobile gear such as the scallop dredge. Concerns that mobile gears are negatively affected by the scallop dredges have not been supported by evidence.

During consultation, it was confirmed that MÚ's concerns were known to representatives of public management and research bodies confirmed their awareness of MÚ's concerns, while limited evidence had been brought forward to support those concerns.

The assessment team is aware of the potential impact that scallop dredging can have on habitats. However, the impact of the dredging in this fishery is not considered to be detrimental to the Faroese ecosystem or to local habitats on the fishing grounds. Dredging takes place on sandy bottoms, studies show

that there is not a detrimental effect on biodiversity, important biogenic habitats (horse mussel beds) are avoided and the area covered by the fishery – as a proportion of the licenced scallop fishing area – is small, leaving more that 90% of the habitat untouched.

Appendix 3.3: Stakeholder Submissions on Public Comment Draft Report

MSC Review and Report on Compliance with the Scheme requirements

Tún's Response to MSC Review



Marine House 1 Snow Hill London EC1A 2DH United Kingdom Tel: +44 (0)20 7246 8900 Fax: +44 (0)20 7246 8901

SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Gunnar A Gunnarsson

Please find below the results of our partial review of compliance with scheme requirements.

CAB	Vottunarstofan Tún ehf
Lead Auditor	Gunnar A Gunnarsson
Fishery Name	Faroe Islands queen scallop
Document Reviewed	Public Comment Draft Report Posted

Ref	Туре	Page	Requirement	Reference	Details	PI
3759	Major	66 - 92	CR-27.10.6.1	Rationale shall be presented to support the team's conclusion	PI 2.1.3 SG 100 is asking for accurate, verifiable, quantitative information for both catches and stock status of ALL retained species together with a monitoring in sufficient detail. Although it seems to be available some information, rationale states that "consequences for the status of affected populations cannot be directly determined" and is not guaranteed any monitoring to assess on-going mortalities to all retained species. As in PI 2.1.1 SG 100, PI 2.1.3 SG100 should also be scored at the basis of ALL retained species.	2.4.2, 2.4.3, 2.5.2, 2.5.3, 2.1.3, 2.2.1, 2.2.2, 2.2.3, 2.4.1
					"no discards are allowed in any fishery in the Faroe Islands". At the same time, rationale states that non- comercial bycatch - starfish, whelks, horse mussels and/or urchins- are discarded alive. MSC understands that "no-	
MSC –	the best	environme	ntal choice In seaf	ood		
Compa	ny Reg. 33	22023 Limit	ed by guarantee. Re	gistered Office: 1 Snow Hill London FC1A 2DH Register	ed Charity No. 1066806	Page 1 of 7

www.m	www.msc.org Marine Stewardship Council						
3759	Major	CR-27.10.6.1	discard" rules in this fishery applies to commercial species only. According to MSC, all organisms that have been taken incidentally and are not retained, should be considered as by-catch and therefore are to be assessed within PI 2.2.1 (and subsequently 2.2.2 and 2.2.3). See also finding in 3768. In PI 2.4.1 100a, no evidence exists that the fishery is unlikely to reduce habitat structure and function, as the study in the impact provided (Matras 2001) is referred only to the northern area of the fishery and the impact of the new heavier dredge has not been studied. Peer review 1 mentions that although it is high unlikely that the fishery is reducing habitat structure and function, there is very little evidence for this. In the other hand, peer review 2 states that "the fact that the fishery has taken place for 40 years and is still catching invertebrates does not demonstrate that is not having effect in biodiversity. In fact some of the bycatch species listed under 2.2.1 are scavengers associated with altered benthic habitats following dredging []" In PI 2.4.2 rationale repeatedly refers to measures not related to this fishery (banning of trawling within 12 miles, less that 200m, exceptions for flat fish fisheries, etc.) or international conventions (OSPAR / MARPOL) not specifically directed to the impact to habitat of the fishery. The rationale shall only include relevant information making direct reference to every scoring issue, assessing whether or not this fisher does not pose a risk of serious harm to habitat types.				
MSC – t	he best en	vironmental choice In seafoo					

www.i	msc.org				Marine Steward	ship Council			
3759	Major		CR-27.10.6.1		information is collected information to detect any increase in risk to habitat. No information is reported on the impact of the impact to habitat of the gear used in this fishery. In PI 2.5.2 SG 100 rationale refers to measures not related to this fishery (separation fishing methods between areas, sorting grids to minimize unwanted by-catch, etc.) or international conventions (OSPAR / MARPOL) not specifically directed to assess the impact to environment of the fishery. The rationale shall only include relevant information making direct reference to every scoring issue, assessing whether or not this fishery does not pose a risk of serious harm to ecosystem structure and function. PI 2.5.3 aims to assess the whether or not there is adequate knowledge of the impact of the fishery on the components of the ecosystem. However, no quantitative or detailed qualitative information exist on the different components / impacts on the components: by-catch (discards) species, retained species (information seems to be available but no mention of reports or at least effective monitoring on catches/species/lengths/temporal trends, etc.), impact of the new gear on habitats, studies in the East (main) area of the fishery, etc.				
3761	Major	88	CR-27.10.5.3	If all of the SG80 scoring issues are met, the PI must achieve at least an 80 score and the team shall assess each of the scoring issues at the SG100 level. a. If not all of the SG100 scoring issues are met the PI shall be given an intermediate score (85, 90 or 95) reflecting overall performance against the different SG100 scoring issues.	In PI 2.5.1 SG 100, 2 out of 3 relevant scoring issues are not met, and yet a score of 90 is assigned				

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www.	ww.msc.org Marine Stewardship Council							
3764	Major	56,57	CR-27.10.6.1	Rationale shall be presented to support the team's conclusion	In PI 121 100a, states that move-on rule used by the skipper (move when CPUE goes below 1,5/t) is responsive to the state of the stock. However, is not clear on which criteria this specific trigger is based on, nor on how this may achieve outcomes, as compared to limiting localized impacts. In PI122 SG60a no information is given on how HCR act to reduce the explotation rate as limit reference points are approached. In SG60c Assessment Team states that "CPUE and landing have been maintained at stable level the last decade, indicating a sustainable fishery, given that catchability has remained constant (e.g substantial increase of weight in dredge in last years, potential improvements in echo sounder technology) and, as discussed by peer reviewers, the CPUE trend has shown a statistically significant decrease when using the whole series of data available	1.2.1, 1.2.2		
3768	Major	70	CR-CB3.8.2	The team shall determine and justify which bycatch species are considered 'main' and which are not for SG60 and SG80.	No information is given on which bycatch species - both commercial and non-commercial species - are considerd "main"	2.2.1		

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3758	Guidance	CR-27.8.8	The CAB shall use the criteria in Table AC2 to make a decision on whether a fishery may or may not be data-deficient with respect to one Performance Indicator or more.	Many high scores are given in principle 2. In order to meet these high scores, the information should be reliable and complete for all major points of interaction between the fishery and component, to a level of detail appropriate to the scale and intensity of the fishery. As shown in TO comment 3759, there seems to be lack of the quantitative / qualitative information required to score many the Performance Indicators of Principle 2 components. The CB shall use the criteria in Table AC2 to make a decision on whether a particular Scoring Element may or may not be data-deficient. If the decision is taken that a fishery is data-deficient with respect to one or more Performance Indicators the team should investigate the use of the RBF following requirements in Annex CC. This should have been done at the time of the tree consultation.				
3762	Guidance 43	N/A		Definition of Retained and by-catch species quoted in section 4.4.3 Evaluation techniques, are not exactly equivalent to those expresed in the MSC - Certification Requirements. Note that although many different definitions are valid, compoments of principle two are to be scored folowing the the definition proposed by MSC. MSC suggest to replace definitions in the report for those in Guidance section GCB3.1: "Retained species are those retained by the fishery (usually because they are commercially valuable or because they are required to be retained by management rules)" and "Bycatch species are those organisms that have been taken incidentally and are not retained (usually because they have no commercial value)". Both definitions are set regardless of whether they are commercial species or not, or whether they are dead or alive.				

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3763	Guidance	57, 132	N/A		In rationale for PI 121 60b and in the response to peer review 1, assessment team states that "High MSC scores converted from SICA and PSA analysis further demonstrate that levels of exploitation for this stock are below / far below full exploitation rate at MSY". No information in the report supports this statement. Although RBF is used to assess risk in data deficient fisheries, as is the case, the outcome cannot be related to MSY (also note that no MSY has been determined for this species)	1.2.1			
3765	Guidance	45	CR-27.12.1	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 traceability section does not fully detail the risks to mixing with non-MSC species. Although it can be assumed only Queen scallops are caught, and all Queen scallops are covered by the Unit of Certification, the report mentions that there is "hardly any" risks of mixing with non- certified sources, but does not give details of this risk or how it is mitigated.				
3766	Guidance	45	CR-27.6.1.2	Any date prior to the certification of the fishery up to a maximum of six months prior to the publication of the most recent Public Comment Draft Report.	No rationale for the Target Eligibility Date being before certification is given.				

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www.r	nsc.org			Marine Stev	vardship Council
3767	Guidance 57, 117	CR-CC2.4.2.2.5a	Scoring Post capture mortality (PCM). A. The team shall use their knowledge of species biology and fishing practice together with Independent field observations to assess: i. Biological factors that may limit the potential of a species to be captured alive. Ii. Handling practices of the fishery (ies) being considered. Iii. The time taken to clear discards from the deck. Iv. The probability that if a species is captured it would be released in condition that would permit subsequent survival.	The team scored high risk (3) in Post Capture Mortality reasonably. However, the conclusion only allows for the PCM of the discarded (undersized) scallops, but should also consider the full mortality of the retained larger-sized scallops (target). As mentioned in peer review 1, "[] you state incidental mortality is negligible. Montgomery is an unpublished MSc thesis that only assessed post-capture mortality over a short period of time in artificial conditions (aquaria) whereas the published paper here (Allison and Brand 1995) suggests it is a significant issue on the actual fishing grounds". Although the assessment team agrees that "the Montgomery (2008) study is not comparable to wild scallop populations and references to this study were excluded here" rationale is still used elsewhere in the report.	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 Sergio Cansado +44 (0)207 246 8937 for more information.

Daund Horrall

Best regards, Dan Hoggarth Fisheries Oversight Director Marine Stewardship Council

cc: Accreditation Services International

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2013-07-08

O.C. Joensen – Faroe Islands Queen Scallop Fishery Marine Stewardship Council Fishery Standards Conformity Assessment Body: Vottunarstofan Tún ehf.

Response to Comments on the Public Comment Draft Report

Comments from:	Marine Stewardship Council.
Represented by:	Dan Hoggarth and Sergio Cansado.
Ref.:	MSC Review and Report on Compliance with the scheme Requirements,
	submitted to Tún in an e-mail on 14 June 2013.

Dear Dan and Sergio,

Please find enclosed Tún's response to MSC's comments on the Public Comment Draft Report for the assessment of the above fishery.

Best wishes, Burnes Abumanon

Gunnar Á. Gunnarsson Email: tun@tun.is Tel.: +354 511 1330

CAB Response to MSC Technical Oversight

Subject: CAB Response to MSC Review and Report on Compliance with Scheme Requirements

re. the Public Comment Draft Report of the above fishery

Ref	Туре	Page	Requirement	Reference	Details	PI	
3759	Major	66 - 92	CR-27.10.6.1	Rationale shall be presented to support the	See "MSC comment"	2.4.2, 2.4.3, 2.5.2, 2.5.3,	
				team's conclusion	reprinted below	2.1.3, 2.2.1, 2.2.2, 2.2.3,	
						2.4.1	
PI 2.1.3							

MSC comment:

PI 2.1.3 SG 100 is asking for accurate, verifiable, quantitative information for both catches and stock status of ALL retained species together with a monitoring in sufficient detail. Although it seems to be available some information, rationale states that "consequences for the status of affected populations cannot be directly determined" and is not guaranteed any monitoring to assess on-going mortalities to all retained species. As in PI 2.1.1 SG 100, PI 2.1.3 SG100 should also be scored at the basis of ALL retained species.

CAB Response:

PI 2.1.3 SG100a and b are not met, resulting in a lowered score of 90.

PI 2.2.1 / 2.2.2 / 2.2.3

MSC comment:

In PIs 2.2.1 / 2.2.2 / 2.2.3. Assessment Team states that "no discards are allowed in any fishery in the Faroe Islands". At the same time, rationale states that non-commercial bycatch - starfish, whelks, horse mussels and/or urchins- are discarded alive. MSC understands that "no-rules" in this fishery applies to commercial species only. According to MSC, all organisms that have been taken incidentally and are not retained, should be considered as by-catch and therefore are to be assessed within PI 2.2.1 (and subsequently 2.2.2 and 2.2.3). See also finding in 3768.

CAB Response:

Bycatch in the fishery consists mostly of starfish, and it is estimated that around 300-500 starfish are caught in one fishing trip. The weight of starfish is estimated to be 150-200g, therefore a total of 75-100kg per fishing trip. The average catch per fishing trip for 2011 to 2012 e.g. is 2,240 kg. Starfish, which is the largest component of the bycatch thus comprises at most from 3.3%- to 4.4% of the catch. Therefore there are no main bycatch species in this

fishery. The rationale was added to PIs 2.2.1, 2.2.2, and 2.2.3.

PI 2.4.1

MSC comment:

In PI 2.4.1 100a, no evidence exists that the fishery is unlikely to reduce habitat structure and function, as the study in the impact provided (Matras 2001) is referred only to the northern area of the fishery and the impact of the new heavier dredge has not been studied. Peer review 1 mentions that although it is high unlikely that the fishery is reducing habitat structure and function, there is very little evidence for this. In the other hand, peer review 2 states that "the fact that the fishery has taken place for 40 years and is still catching invertebrates does not demonstrate that is not having effect in biodiversity. In fact some of the bycatch species listed under 2.2.1 are scavengers associated with altered benthic habitats following dredging [...]"

CAB Response:

The Matras (2001) study was on similar bottom type as is being fished on in the eastern area, therefore impacts in the eastern area can be inferred to be similar in the north and the east. In addition, fishermen avoid hard structures and/or dense horse mussel aggregations through maps and acquired knowledge. Scallops are common in waters up to 200m in the Faroe Islands and annual fishing only covers 0.02% of this habitat. The study by Matras provides <u>some evidence</u> that dredging on sandy bottoms do not cause serious or irreversible harm, in addition to over 90% of the habitat not being dredged and avoidance of hard structures. Bycatch in the fishery has always been minimal and there have been no indications of increase or decreases in the types of bycatch. Fishermen report that the heavier dredge result only in better fishing during bad weather. A <u>partial score</u> was initially awarded since effects of the heavier dredge have not been studied. The score was lowered to 80.

PI 2.4.2

MSC comment:

In PI 2.4.2 rationale repeatedly refers to measures not related to this fishery (banning of trawling within 12 miles, less than 200m, exceptions for flat fish fisheries, etc.) or international conventions (OSPAR / MARPOL) not specifically directed to the impact to habitat of the fishery. The rationale shall only include relevant information making direct reference to every scoring issue, assessing whether or not this fishery does not pose a risk of serious harm to habitat types.

CAB Response:

The ban on trawling within 12 miles is directly relevant to the scallop habitat and therefore the fishery. Scallops occur commonly between 50 and 200m depth and closing a large part of the scallop habitat completely for most of the year to bottom dragged gear (except for the single scallop vessel and small summer fishery) is directly relevant to protecting scallop habitat and other biogenic habitats to the impact of other bottom gear. Other measures such as

international conventions are included here to demonstrate commitment of the Faroe Islands to international standards in management and protection of the marine environment and it applies to all fisheries in the Faroe Islands including scallops. Text in the rationale at SG100 regarding these other measures was simplified/summarised.

PI 2.4.3

MSC comment:

In PI 2.4.3 80b it is argued that the impact of dredging has been studied, but this was done in the northern area, in 2001, before the new dredge (300 kg heavier) was in use. This score specifically aims to assess whether or not it information is collected information to detect any increase in risk to habitat. No information is reported on the impact of the impact to habitat of the gear used in this fishery.

CAB Response:

The Matras (2001) study was on similar bottom type as is being fished on in the eastern area, therefore impacts in the eastern area can be expected to be similar in the north and the east. This study was conducted on the same vessel and using the same gear as is used in the fishery and on similar bottom type, therefore results from the study are considered to be representative for the fishery in general. Fishermen report higher CPUE with the new heavier gear only during bad weather conditions.

The main emphasis is on the fact that the fishery impacts only about 0.02% of the scallop habitat. Full information is available on areas fished through logbooks and VMS that is monitored. Therefore any potential increase in fishing area and thus spatial impact on the habitat can be monitored and the information is collected on an on-going basis. The use of heavier gear is unlikely to impact spatial distribution of the fishery significantly, still leaving more than 90% of the main scallop fishing areas and >98% of total scallop habitat unfished. In 2012, the number of fishing days increased by only 11 days compared to 2011, and the estimated area covered by fishing for 2012 is thus 37km², compared to 34km² in 2011, thus still impacting less than 10% of the main fishing areas for queen scallop. The increase in fishing days were accounted for by increased effort in the northern experimental area, including a survey and a reduction in the main eastern fishing area.

PI 2.5.2

MSC comment:

In PI 2.5.2 SG 100 rationale refers to measures not related to this fishery (separation fishing methods between areas, sorting grids to minimize unwanted by-catch, etc.) or international conventions (OSPAR / MARPOL) not specifically directed to assess the impact to environment of the fishery. The rationale shall only include relevant information making direct reference to every scoring issue, assessing whether or not this fishery does not pose a risk of serious harm to ecosystem structure and function.

CAB Response:

The ban on trawling within 12 miles is directly relevant to the scallop habitat and therefore the fishery. Scallops occur commonly between 50 and 200m depth and closing a large part of the scallop habitat is directly relevant to protecting scallop habitat and other biogenic habitats to the impact of other bottom gear. Other measures such as international conventions and the Marine Environment Act are included here to demonstrate commitment of the Faroe Islands to international standards in management and protection of the marine environment and <u>it applies to all fisheries in the Faroe Islands including the scallop fishery.</u>

The rationale was rearranged to place emphasis on measures present in the scallop fishery first and some clarification in text was made.

PI 2.5.3

MSC comment:

PI 2.5.3 aims to assess the whether or not there is adequate knowledge of the impact of the fishery on the components of the ecosystem. However, no quantitative or detailed qualitative information exist on the different components / impacts on the components: by-catch (discards) species, retained species (information seems to be available but no mention of reports or at least effective monitoring on catches /species /lengths/ temporal trends, etc.), impact of the new gear on habitats, studies in the East (main) area of the fishery, etc.

CAB Response:

The following additional rationale was added to SG80b: "In addition, there are no main retained- or bycatch species and there are no ETP species in the fishery. Important and/or vulnerable habitats do not overlap with the fishery, except for partial overlap of horse mussel beds, which fishermen avoid". Additional rationale was added in SG100 on limited information of various elements such as state of bycatch species etc. The score was lowered to 85.

Ref	Туре	Page	Requirement	Reference	Details	PI
3761	Major	88	CR-27.10.5.3	If all of the SG80 scoring issues are met, the PI	See "MSC comment"	2.5.1
				must achieve at least an 80 score and the	reprinted below	
				team shall assess each of the scoring issues at		
				the SG100 level. a. If not all of the SG100		
				scoring issues are met the PI shall be given an		
				intermediate score (85, 90 or 95) reflecting		
				overall performance against the different		
				SG100 scoring issues.		

PI 2.5.1

MSC comment:

In PI 2.5.1 SG 100, 2 out of 3 relevant scoring issues are not met, and yet a score of 90 is assigned

CAB Response:

It is assumed that this issue refers to PI 2.4.3 (now on p.88-89), and not PI2.5.1, which has only one scoring issue for each SG. The score for PI 2.4.3 was corrected to 85.

Ref	Туре	Page	Requirement	Reference	Details	PI
3764	Major	56,57	CR-27.10.6.1	Rationale shall be presented to support the	See "MSC comment"	1.2.1, 1.2.2
				team's conclusion	reprinted below	

PI 1.2.1

MSC comment:

In PI 121 100a, states that move-on rule used by the skipper (move when CPUE goes below 1, 5/t) is responsive to the state of the stock. However, is not clear on which criteria this specific trigger is based on, nor on how this may achieve outcomes, as compared to limiting localized impacts.

CAB Response:

A condition was set in PI 1.2.2 to determine whether this level is effective. The move-on rule is set by the client and there is no direct biological basis for this particular cut-off point. The reason for the 1.5t limit is based on an internal estimate by the client that this is the minimum limit for economic profitability and biological sustainability. The client has been fishing scallops for more than 4 decades with much attention on keeping the fishery sustainable and at the same time profitable. When the limit is reached in a particular area, fishing is stopped there and some areas can be untouched for 2-3 years. However, regular samples are also taken in such areas to check on recovery. In some cases the scallops return relatively quickly, and this may be related to changes in weather and/or ocean currents.

PI 1.2.2

MSC comment:

In PI122 SG60a no information is given on how HCR act to reduce the exploitation rate as limit reference points are approached. In SG60c Assessment Team states that "CPUE and landing have been maintained at stable level the last decade, indicating a sustainable fishery, given that catchability has not

increased". However, it is unclear that catchability has remained constant (e.g. substantial increase of weight in dredge in last years, potential improvements in echo sounder technology) and, as discussed by peer reviewers, the CPUE trend has shown a statistically significant decrease when using the whole series of data available.

CAB Response:

The weight increase of the dredge only applies to the last year (2012), therefore catchability remained similar up to 2011. However, the only response to a lowered CPUE is practised by fishermen in the scallop fishery in the form of the move-on rule – i.e. fishermen move to other areas if the CPUE falls below a certain point. An additional condition was set for PI 1.2.2, requiring setting a limit reference point or proxy thereof and a response as the LRP is approached. The score was lowered to 60.

Ref	Туре	Page	Requirement	Reference	Details	PI	
3768	Major	70	CR-CB3.8.2	The team shall determine and justify which bycatch species are considered 'main' and which are not for SG60 and SG80.	See "MSC comment" reprinted below	2.2.1	
PI 2.2.	1						
MSC co	omment:						
No info	ormation is §	given on wh	ich bycatch spec	cies – both commercial and non-commercial spec	ies - are considered "main"		
CAB Re	esponse:						
Bycatch in the fishery consists mostly of starfish, and it is estimated that around 300-500 starfish are caught in one fishing trip. The weight of starfish is estimated to be 150-200g, therefore a total of 75-100kg per fishing trip. The average catch per fishing trip for 2011 to 2012 e.g. is 2,240 kg. Starfish, which is the largest component of the bycatch thus comprises at most from 3.3%- to 4.4% of the catch. Therefore there are <u>no main bycatch species</u> in this fishery. The rationale was added to PI 2.2.1. Irrelevant rationale regarding "rusk" etc., was removed in order to clarify text.							
Ref	Туре	Page	Requirement	Reference	Details	PI	
3758	Guidance		CR-27.8.8	The CAB shall use the criteria in Table AC2 to make a decision on whether a fishery may or may not be data-deficient with respect to one Performance Indicator or more.	See "MSC comment" reprinted below		

MSC comment:

Many high scores are given in principle 2. In order to meet these high scores, the information should be reliable and complete for all major points of interaction between the fishery and component, to a level of detail appropriate to the scale and intensity of the fishery. As shown in TO comment 3759, there seems to be lack of the quantitative / qualitative information required to score many the Performance Indicators of Principle 2 components. The CB shall use the criteria in Table AC2 to make a decision on whether a particular Scoring Element may or may not be data-deficient. If the decision is taken that a fishery is data-deficient with respect to one or more Performance Indicators the team should investigate the use of the RBF following requirements in Annex CC. This should have been done at the time of the tree consultation.

CAB Response:

Scores for 2.1.3 and 2.5.3 was lowered In response to TO comment 3759, and additional rationale was added to various SG's in order to clarify issues, e.g. bycatch definitions and some points of interaction with the habitat and ecosystem. The assessment team considered that sufficient information was available for evaluating P2 using the default assessment tree.

There is very limited retained-, and by catch species and no interactions with ETP species, in addition to limited or no overlap with important or vulnerable biogenic habitats. The spatial distribution of the fishery is severely limited by allowing only one boat in the fishery resulting in less than 0.02% of scallop habitat being impacted and less that 0.01% of the Faroese EEZ. Full information on the spatial impact of the fishery is available.

Ref	Туре	Page	Requirement	Reference	Details	PI
3762	Guidance	43	N/A		See "MSC comment"	
					reprinted below	

MSC comment:

Definition of Retained and by-catch species quoted in section 4.4.3 Evaluation techniques, are not exactly equivalent to those expressed in the MSC – Certification Requirements. Note that although many different definitions are valid, components of principle two are to be scored following the definition proposed by MSC. MSC suggest to replace definitions in the report for those in Guidance section GCB3.1: "Retained species are those retained by the fishery (usually because they are commercially valuable or because they are required to be retained by management rules)" and "Bycatch species are those organisms that have been taken incidentally and are not retained (usually because they have no commercial value)". Both definitions are set regardless of whether they are commercial species or not, or whether they are dead or alive.

CAB Response:

Rationale for PI's 2.2.1, 2.2.2, and 2.2.3 was modified in order to clarify definitions of bycatch. Explanations of rusk and its components were removed from scoring and added to section 3.4.2 in the report along with further explanations of bycatch definition. Bycatch species (unutilized invertebrates) are

discarded alive at sea after sorting. Retained species are fish species that are landed as there is no discards allowed in these species.								
Ref	Туре	Page	Requirement	Reference	Details	PI		
3763	Guidance	57, 132	N/A		See "MSC comment" reprinted below	1.2.1		
MSC c	omment:							
furthe statem been c CAB R This st which 80 SG added	further demonstrate that levels of exploitation for this stock are below / far below full exploitation rate at MSY". No information in the report supports this statement. Although RBF is used to assess risk in data deficient fisheries, as is the case, the outcome cannot be related to MSY (also note that no MSY has been determined for this species). CAB Response: This statement refers directly to GCC3.2.2 which states that: <i>"Note there is an extra level of precaution in the RBF in this context, as it is a SICA score of 3 which actually corresponds to <u>"full exploitation rate" (i.e. MSY fishing)</u>—the 80 SG within the default tree. The RBF however uses a SICA score of 2 as the 80 SG equivalent as an extra measure of precaution, and to always encourage the use of stock status data where available". A reference to GCC3.2.2 was</i>							
Ref	Туре	Page	Requirement	Reference	Details	PI		
3765	Guidance	45	CR-27.12.1	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.	See "MSC comment" reprinted below			

MSC comment:

The traceability section does not fully detail the risks to mixing with non-MSC species. Although it can be assumed only Queen scallops are caught, and all Queen scallops are covered by the Unit of Certification, the report mentions that there is "hardly any" risks of mixing with noncertified sources, but does not give details of this risk or how it is mitigated.

CAB Response:

The team agrees that the quoted wording may indicate some risk. The team reviewed the flow of product and logging from catch to marketing during site visit and client interviews, including at landing and during primary processing of landed catch. There was no indication of risk to the integrity of the product chain of custody, such as from non-certified scallop or other seafood. The traceability section (5.2) has been revised to clarify that there is no risk considered to the mixing of scallop under assessment with other (non-certified) scallop or fish.

Ref	Туре	Page	Requirement	Reference	Details	PI
3766	Guidance	45	CR-27.6.1.2	Any date prior to the certification of the	See "MSC comment"	
				fishery up to a maximum of six months prior	reprinted below	
				to the publication of the most recent Public		
				Comment Draft Report.		

MSC comment:

No rationale for the Target Eligibility Date being before certification is given.

CAB Response:

The Target Eligibility Date (TED) was originally set at 15.08.2012 which marks the beginning of the season in the main fishing area (Eastern region). Given the delay in the issuing of the PCDR the TED had to be revised. Provided an efficient system of traceability to date of landing is in place, it is logical to allow for the earliest possible TED, taking into account the publication of the PCDR. As stated in section 5.1 there is already an efficient and reliable system in place that enables the tracing of products from the fishery back to the date of landing. Taking this into account a delay of product eligibility until date of potential certification would be unjustified and illogical. It might also be considered unfair to the client fishery since by 15.11.2012 – the amended TED – over half of the licenced season for the Eastern area and 45 days for the Northern area are still left for fishing efforts.

The amended TED was announced by public notification on 2013-05-14 which among other things noted that "The target eligibility date for products from the assessed fishery (if and when certified), to carry the MSC logo, has been reviewed and revised to account for the development of the assessment, taking into account the logistics and the wishes of the client fishery as well as the requirement that the target eligibility date may be up to a maximum of six months prior to the publication of the most recent Public Comment Draft Report."

The eligibility date section (5.1) of the report has been revised to outline in further detail why the TED, originally set for 15.08.2012, was moved forward.

Ref	Туре	Page	Requirement	Reference	Details	PI
3767	Guidance	57, 117	CR-	Scoring Post capture mortality (PCM). A. The	See "MSC comment"	
			CC2.4.2.2.5a	team shall use their knowledge of species	reprinted below	
				biology and fishing practice together with		

		1
	Independent field observations to assess: i.	
	Biological factors that may limit the potential	
	of a species to be captured alive. ii. Handling	
	practices of the fishery (ies) being considered.	
	iii. The time taken to clear discards from the	
	deck. Iv. The probability that if a species is	
	captured it would be released in condition	
	that would permit subsequent survival.	

MSC comment:

The team scored high risk (3) in Post Capture Mortality reasonably. However, the conclusion only allows for the PCM of the discarded (undersized) scallops, but should also consider the full mortality of the retained larger-sized scallops (target). As mentioned in peer review 1, "[...] you state incidental mortality is negligible. Montgomery is an unpublished MSc thesis that only assessed post-capture mortality over a short period of time in artificial conditions (aquaria) whereas the published paper here (Allison and Brand 1995) suggests it is a significant issue on the actual fishing grounds". Although the assessment team agrees that "the Montgomery (2008) study is not comparable to wild scallop populations and references to this study were excluded here" rationale is still used elsewhere in the report.

CAB Response:

Adult scallops are alive when landed and thus survive being caught by the dredge, however, survival rates have not been quantified for adults nor small scallops. Therefore PCM score remains 3 and rationale was modified to include larger retained scallops. Other references to Montgomery were removed from the report.
Additional CAB responses to the MSC's Technical Oversight (TO)

Additional response from CAB to MSC's Technical Oversight following consultation with MSC on 17.7.2013.

Table A5.2 Page numbers of orig	inal revisions and additional revisions made on 17.7.2013.
PI 2.1.3	Scores revised on pp.70-71
PI 2.1.2/2.2.2/2.2.3	Rationale revised on pp. 68; 73-76
2.4.1	Score revised on p. 83
2.4.2	Additional revision on 17.7.13: Rationale revised on p. 84
2.4.3	Additional revision on 17.7.13:
	 Score and outcome for SG80b revised on p. 88-89; An additional condition was set in Appendix 1.3; p. 123 Other references to Conditions revised on pp. 9 & 48
2.5.2	Rationale revised on pp. 91-92
	Additional revision on 17.7.13
2.5.3	Rationale for SG80b revised on pp. 95
2.5.1	Refers to PI 2.4.3, scoring corrected on p. 88-89
1.2.1	No changes to the report
1.2.2	Scoring and rationale for SG80a revised pp. 62-63;
	Client Action plan revised in Appendix 1.3; p. 122
	Other references to Condition 1 revised on pp. 9 & 48
2.2.1	Rationale revised on pp 71-72
Guidance 3758	
Guidance 3762	Clarification of text on p. 29
Guidance 3763	Additional revision on 17.7.13: Revised rationale on p. 58
Guidance 3765	Revised in report on pp. 45-46
Guidance 3766	Revised in report on pp. 45-46
Guidance 3767	Rationale revised on p. 119

Appendix 4. Surveillance Frequency

Appendix 4.1	Rationale for	Determining	Surveillance	Score

Table A4.1 Criteria to Determine Surveillance Score	Surveilland Score	ce	Score for Faroe Islands Queen scallop Fishery
1 Default Assessment Tree used			
Yes	0		0
No	2		
2 Number of conditions			
Zero conditions	0		
Between 1-5 conditions	1		1
More than 5	2		
3 Principle level scores			
Greater than or equal to 85	0		
Less than 85	2		2
4 Conditions on outcome PIs			
Yes	2		
No	0		0
		TOTAL	3

The Faroe Islands Queen Scallop fishery scores above 2 on MSC's criteria for determining the level of surveillance.

The fishery will be subject to normal surveillance level of **annual on-site surveillance audits**, see Table A4.2 below.

Table A4.2 Surveillance	Level for the Faroe	e Islands Queen S	callop Fishery		
Score from Table A4.1	Surveillance Category	Year 1	Year 2	Year 3	Year 4
2 or more	Normal Surveillance	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit	On-site surveillance audit & recertification site visit

Appendix 5: Client Agreement

The client of this assessment has reviewed the Public Certification Report and has approved the report and agrees with the terms and conditions set for the certification outlined in the report, including Client Action Plan and plan of surveillance (see letter below).

	0.0		ENSE		Р. О. Вох 40 FO-450 Oyri Faroe Island Геl +298 422256 Fax +298 422393 E-mail: ocj@ocj.fo
To: Vottunarstof	an Tún ehf.				
Þarabakki 3					
IS-109 Reykja Icceland	ivik				
01-09-2013					
Fishery We, as the cl Certification of	lient, have reviewed of the Faroe Islands Q	and will herby forma lueen Scallop Fishery	ally approve the Pub written by Vottunar	lic Certificatio stofan Tún el	on Report on MSC
We agree to Plan and plan	the terms and conditi of surveillance.	ions set for the certif	ication outlined in th	e report, inclu	uding Client Action
On behalf of	the Client (O.C. Joens	en)			
Hans	Ahr	~			
Hans Andrias	Joensen, CEO.				
Name & Posit	tion of repsonsible pe	rson			

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