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MSC SUSTAINABLE FISHERIES CERTIFICATION

On-Site Surveillance Visit - Report for Shetland & Scottish Mainland Rope Grown Mussel Enhanced Fishery



3rd Annual Surveillance Report

July 2015

Prepared For: The Scottish Shellfish Marketing Group Ltd (SSMG) & Seafood Shetland



By: Acoura Marine Ltd.



Assessment Data Sheet

Certified Fishery		Shetland & Scottish Mainland Rope Grown Mussel Enhanced Fishery
Fishery Management Agen	су	Shetland Island Council and a number of Scottish mainland councils including Argyll & Bute Council and Highland Council
Species		Blue Mussel
Fishing Method		Rope Grown
Certificate Code		F-FCI-0026
Certification Date		26.06.2012
Certification Expiration Dat	e	25.06.2017
Certification Body		Acoura Marine Ltd. 6 Redheughs Rigg Edinburgh EH12 9DQ, Scotland, UK
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Surveillance Stage: Surveillance Date:		3rd Annual Surveillance Report 26.06.15



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1. Introduction

The purpose of the annual Surveillance Report is fourfold:

- **1.** to establish and report on whether or not there have been any material changes to the circumstances and practices affecting the original complying assessment of the fishery;
- 2. to monitor the progress made to improve those practices that have been scored as below "good practice" (a score of 80 or above) but above "minimum acceptable practice" (a score of 60 or above) as captured in any "conditions" raised and described in the Public Report and in the corresponding Action Plan drawn up by the client;
- **3.** to monitor any actions taken in response to any (non-binding) "recommendations" made in the Public Report;
- **4.** to re-score any Performance Indicators (PIs) where practice or circumstances have materially changed during the intervening year, focusing on those PIs that form the basis of any "conditions" raised.

Please note: The primary focus of this surveillance audit is to assess changes made in the previous year. For a complete picture, this report should be read in conjunction with the Public Certification Report for this fishery assessment and the 1st and 2nd annual Surveillance Report.



2. General Information

2.1 Certificate Holder details

Certificate holder:	The Scottish Shellfish Marketing Group Ltd (SSMG) & Seafood Shetland		
Address:	The Scottish Shellfish Marketing Group Ltd (SSMG)		
	Unit 8, Block 22		
	The Motherwell Food Park		
	Bellshill, ML4 3NP		
	Seafood Shetland		
	Stewart Building		
	Lerwick		
	Shetland, ZE1 0LL		
Contact Name:	Ruth Henderson		
Tel:	+44(0) 1595 693 644		
Email:	ruth@fishuk.net		

2.2 General Background about the fishery

2.2.1 Area Under Evaluation

The fishery takes place in the Shetland Islands and Scottish coastal waters ranging from Argyll to Sutherland.

2.2.2 Fishery Ownership & Organisational Structure

While establishing the Zetland County Council (ZCC) Act of 1974, Viscount Gormoyle intimated to then ZCC Chief Executive, Ian Clark, that Shetland would be an ideal location to develop an aquaculture industry. This was encouraged in 1975-76. The Highlands and Islands Development Board had also seen the potential for aquaculture in Shetland's waters and several experimental mussel rafts were deployed at sites including Ronas Voe and Skeld.

In 1980/81 and 82, a grant scheme was developed which offered 50% towards the construction of rafts and in the region of 40 were built. A growers' association was established in 1984/85. The Association bought bags and ice and P. & O. provided a carcass container to transport the product.

Seafood Shetland was formed in 2003 following the merger of Shetland Fish Processors' Association and Shetland Shellfish Growers' Association and represents the interests of Shetland's fish processing and shellfish growing companies. It comprises a fish processors' sub-committee and a shellfish growers' sub-committee, both with Chairman and Vice-Chairman. Seafood Shetland employs two staff and operates from an office in the Shetland Seafood Centre, Stewart Building in Lerwick, Shetland.

Scottish Shellfish Marketing Group Ltd (SSMG) was incorporated as an Industrial & Provident Society in 1992. SSMG is the marketing and processing arm of a cooperative group of mussel and oyster farmers, supplying shellfish products to a range of customers including UK supermarket retailers, Food Service and Export.

2.2.3 History of the Fishery

Mussel production has grown significantly since 1986. Shetland mussel harvesting began in 1991 and now forms the majority of Scottish mussel production. In 2013 the proportion from Shetland dipped due to the closure of areas for DSP and more production had to be sourced from mainland Scotland. As a





result of this, even more of the 2014 harvest came from Shetland as areas re-opened and product became available.

Table 1 shows trends in mussel production for Scotland and the proportion that is harvested from the Shetland Islands.

Table 1 -	Mussel production (for	consumption) in Sc	otland and Shetla	ind's contribution to	Scottish total
landings					

Year	Scottish Tonnage	Shetland's Contribution to Scottish Total	Percent of production from Shetland
1986	262	*	
1987	271	*	
1988	384	*	
1989	346	*	
1990	462	*	
1991	1,024	6	0.6
1992	923	10	1.1
1993	708	2	0.3
1994	716	19	2.7
1995	882	21	2.4
1996	1,072	10	0.9
1997	1,307	96	7.3
1998	1,355	175	12.9
1999	1,400	196	14
2000	2,003	372	18.6
2001	2,988	822	27.5
2002	3,236	1,246	38.5
2003	3,632	1,552	42.7
2004	4,223	2,188	51.8
2005	4,135	2,150	52
2006	4,219	2,284	54.1
2007	4,806	2,605	54.2
2008	5,869	3,506	59.7
2009	6,302	3,698	58.7
2010	7,199	3,840	53.3
2011	6,996	4,567	65.3
2012	6,277	4,340	69.1
2013	6,757	4,337	64.2
2014	7,683	5,919	77.0

Source: Client



3. Assessment Process

3.1 Scope & History of the Assessment

The Performance of the fishery in relation to MSC Principles 1, 2 and 3 at time of original assessment is summarized in Tables 2 and 3.

Table 2- Allocation of weighted scores at Sub-criteria, Criteria and Principle levels

	Fisheries Performance		
MSC Principle	Scottish Mainland	Shetlands	
Principle 1: Sustainability of Exploited Stock	84.7	84.7	
Principle 2: Maintenance of Ecosystem	81.7	81.7	
Principle 3: Effective Management System	84.8	84.8	

(Sourced from original assessment)

Table 3 - Allocation of weighted scores at Criteria and Performance Indicator levels at original assessment

Principle 1 – Stock Status / Harvest Control Rules		Scottish Mainland	Shetland	
1.1.1		Stock status	98.9	98.9
1.1.2	Outcome (status)	Reference Points	80	80
1.1.3		Stock Rebuilding	NA	NA
1.2.1	Management	Harvest Strategy	80	80
1.2.2		Harvest control rules & tools	80	80
1.2.3		Information & monitoring	80	80
1.2.4		Assessment of stock status	80	80

Principle 2 – Wider Ecosystem Impacts		Scottish Mainland	Shetland	
2.1.1		Outcome (status)	100	100
2.1.2	Retained Species	Management	100	100
2.1.3		Information	80	80
2.2.1		Outcome (status)	80	80
2.2.2	Bycatch	Management	80	80
2.2.3		Information	80	80
2.3.1		Outcome (status)	80	80
2.3.2	ETP Species	Management	80	80
2.3.3		Information	70	70
2.4.1		Outcome (status)	80	80
2.4.2	Habitats	Management	80	80
2.4.3		Information	75	75
2.5.1		Outcome (status)	80	80
2.5.2	Ecosystem	Management	80	80
2.5.3		Information	80	80



Principle 3 – Management / Governance			Scottish Mainland	Shetland
3.1.1		Legal & customary framework	95	95
3.1.2	Governance & Policy	Consultation, roles & responsibilities	95	95
3.1.3	Governance & Foncy	Long term objectives	100	100
3.1.4		Incentives for sustainable fishing	80	80
3.2.1		Fishery specific objectives	80	80
3.2.2	Fishery-specific Management System	Decision making processes	70	70
3.2.3		Compliance & enforcement	95	95
3.2.4		Research plan	70	70
3.2.5		Management performance evaluation	70	70

(Sourced from original assessment)

As a result of the assessment, 5 conditions of certification were raised by the assessment team, and maintenance of the MSC certificate is contingent on the Shetland & Scottish Mainland Rope Grown Mussel Enhanced Fishery moving to comply with these conditions within the time-scales set at the time the certificate was issued. These conditions are detailed in **Section 4.2.1** of this report. No recommendations were made for this fishery during the assessment process.

Date certified

26.06.2012

Certificate expiry

25.06.2017

Number of previous audits

The 1st surveillance audit involved a site visit to Shetland on 7th May 2013; the 1st Surveillance Report was published in June 2014. As a result of the 1st surveillance audit, all conditions remained open for the fishery.

The 2nd surveillance audit involved a site visit to Bellshill, Glasgow on 17th June 2014. The 2nd surveillance report was published in July 2014. Due to the progress made by the fishery two conditions could be closed as a result of the 2nd surveillance audit. Three conditions remained open.

This is the 3rd surveillance audit that was conducted remotely through a Skype meeting on 26th June 2015. There was also subsequent correspondence with the client and with SNH Shetland and mainland Scotland representatives with regard to condition 1.

3.2 Details of 3rd Surveillance Audit Process

3.2.1 Determination of surveillance level

Please see Appendix 2

3.2.2 Surveillance team details

The original assessment team for this fishery assessment comprised of Antonio Hervàs, who acted as team leader and Principle 1 specialist; Bert Keus who was responsible for evaluation of Principle 2 and Rod Cappell who was responsible for evaluation of Principle 3. Paul Macintyre was responsible for traceability / chain of custody considerations.

The 1st surveillance audit was carried out by Antonio Hervàs (P1), Tim Huntington (P2) with Rod Cappell (P3) contributing remotely.

The 2nd on-site surveillance visit was carried out by Bert Keus (P3 and Team Leader) and Fiona Nimmo (P2), with Julian Addison (P1) contributing remotely.

This 3rd off-site surveillance visit was carried out by Bert Keus (P2) and Rod Cappell (P3 and Team Leader).

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3.2.3 Date & Location of surveillance audit

The third surveillance audit was conducted remotely on 26th June 2015.

3.2.4 Stakeholder consultation & meetings

Acoura Marine have actively sought the views of client and stakeholders (including managers, scientists, industry and environmental NGOs) with regards to this fishery and its performance in relation to its sustainability certification and issues relevant to the MSC's Principles and Criteria for Sustainable Fishing.

In addition all key milestones in the fishery surveillance process have been announced on the MSC website. This 3rd surveillance audit was announced on the MSC website on 9th June 2015. Direct email notifications were sent to stakeholders that had previously been identified for this fishery, inviting interested parties to contact the assessment team. A total of 45 stakeholder organisations and individuals having relevant interest in the assessment were identified and consulted during this surveillance audit. The interest of others not appearing on this list was solicited through the postings on the MSC website.

All stakeholders were given the opportunity to request a meeting with the team if necessary. No such requests were received and no verbal or written stakeholder submissions were received other than from the client in support of the surveillance audit process.

Documents referred to

See Appendix 3.

3.3 Surveillance Standards

3.3.1 MSC Standards, Requirements and Guidance used

This surveillance audit was carried out according to the MSC Fisheries Certification Requirements v2.0. The MSC fisheries standard used during the assessment and remaining under consideration here is v1.3.

3.3.2 Confirmation that destructive fishing practices or controversial unilateral exemptions have not been introduced

» No indication was given or suggested during the surveillance audit to suggest that either of these practices is in evidence for this fishery.

3.3.3 Enhancement Activities

The following criteria are met by the fishery under assessment and therefore the fishery is within scope in relation to enhanced fisheries (*CR paragraph 27.4.12*):

- » The system relies upon the capture of fish (finfish or shellfish) from the wild environment (in this case wild mussel seed).
- » The species are native to the geographic region of the fishery and the natural production areas from which the fishery's catch originates.
- » There are natural reproductive components of the stock from which the fishery's catch originates that maintain themselves without having to be restocked every year.
- » The production system operates without augmentation of food supply.
- » The production during the captive phase does not require disease prevention involving chemicals or compounds with medicinal prophylactic properties.
- » There are no irreversible modifications to the habitat that cause serious or irreversible harm to the natural ecosystem's structure and function.

The team assessed the fishery against the above criteria from the start of the evaluation process through the information gathering phase of the assessment. In particular the site visit and stakeholder consultation provided the team with the information needed to assess the fishery in relation to the enhanced fisheries criteria required under the MSC CR 27.4.12.



4. Results, Conclusions and Recommendations

4.1 Discussion of Findings

4.1.1 Changes in fleet structure or operation

There have been no changes to the manner in which farms operate. There have been some changes in operation of the fishery in that two mussel sites have become operational since the last surveillance audit. These have been subject to the normal planning process for establishing a new mussel site or extending an existing site. Each new or extended site requires planning permission from the relevant Local Authority and each planning application submitted is subject to review by a range of statutory consultees (including SNH, SEPA etc). Through the mechanism of permitted development rights some changes to existing mussel farms are possible without planning permission, but these are limited in scale (i.e. size/area and/or tonnage).

Irish spat continues to be collected and used within some sites, however this remains outside the MSC certificate. The use of Irish spat on growing lines is marked and given unique colour-coded identifiers to ensure traceability and inform chain of custody. Enquires have been made with MSC regarding including this within the Unit of Certification (UoC), but the process was not considered economically viable and so the client has decided not to pursue extending the UoC to include Irish spat at any point in the future.

4.1.2 Changes in stock status and exploitation patterns

There are no changes in the stock status of Shetland and Scottish mainland rope grown mussels. It is noted by the assessment team that the original assessment was undertaken using the Risk Based Framework (RBF) and that this score was carried forward in the 1st surveillance audit. Enhanced fisheries no longer require Principle 1 to be scored as part of full MSC assessments.

4.1.3 Changes in ecosystem interaction or management

There have been no changes in ecosystem interaction or management within mussel farming since the 1st surveillance audit. Further information has been provided and monitoring systems are being implemented in relation to eider ducks in Shetland (see Condition 1 for details). Furthermore, sediment analysis has been undertaken within sites in Shetland and mainland Scotland as part of a research programme to investigate risk to habitats over time (see Condition 2 for details).

It is noted that the planning permission procedure requires information to be considered on environmental aspects, including carrying capacity and habitat and ETP interactions; the latter is largely informed by the site's proximity to Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), as well as other environmental designations. So while a formal Environmental Impact Assessment is not required for mussel farming, environmental parameters are still considered within the planning process and consulted on with the relevant statutory environmental organizations. This planning process is consistent for sites in Shetland and mainland Scotland.

No other significant changes in scientific knowledge relating to the fishery (other than accounted for above) are known to the client group's knowledge.

4.1.4 Changes in management

There have been no infringements, complaints, issues or actions against the client group.

There have been no changes in the management system (e.g. regulations, legislation, key scientific or management personnel), other than the decision to utilize the already established Ministerial Working Groups for Sustainable Aquaculture as a forum to discuss information and future management decisions with key stakeholders and decision makers.

The Ministerial Group for Sustainable Aquaculture (MGSA) was established in May 2013 to replace the Ministerial Group on Aquaculture (MGA). Its aim is to support Scotland's aquaculture industry to achieve sustainable growth targets by 2020, with due regard to the marine environment, while also ensuring the implementation of: A Fresh Start - the renewed Strategic Framework for Scotlish Aquaculture. The MGSA includes four working groups of particular relevance to mussel farming: Shellfish, Capacity, Interactions and Science & Research. Ruth Henderson (Seafood Shetland) chairs the Shellfish Working Group, on which SSMG are also members. Both Seafood Shetland and SSMG are members on the other aforementioned Working Groups. All relevant stakeholders sit on the groups including:



- The Scottish Government Minister for Environment and Climate Change;
- Marine Scotland;
- Scottish Association for Marine Science (SAMS);
- Scottish Aquaculture Research Forum (SARF);
- Scottish Environmental Protection Agency (SEPA);
- Scottish Natural Heritage (SNH);
- Scottish Water;
- Food Standards Agency;
- The Crown Estate;
- CoSLA;
- Seafish;
- Shellfish industry; and
- Shellfish processors.

Other stakeholders, such as RSPB are invited to join specific meetings should their input on particular agenda items be required. The first MGSA meeting on Shellfish took place on 5 June 2013 and was therefore not taken into consideration within the 1st annual surveillance audit. The group required some reinvigoration and as a consequence it was considered inappropriate to add to its workload at this time. A meeting will be convened in September and the group's input on the MSC actions sought. The client group continues to consider the group as the best mechanism for disseminating information, liaising with relevant stakeholders and informing future management decisions.

Further details on the groups are available on the Scottish Government website, in particular:

http://www.scotland.gov.uk/Topics/marine/Fish-Shellfish/MGSA

http://www.scotland.gov.uk/Topics/marine/Fish-Shellfish/MGSA/Shellfishwg

4.1.5 Catch data

Production of mussels (tonnes) for 2014 is provided for Scotland as a whole, Shetland and mainland Scotland. See **Section 5** for these statistics.

4.2 Reporting on Conditions & Recommendations

4.2.1 Condition 1

Condition 1	Principle 2: ETP Species	
Performance Indicators:	 2.3.3 – Information / monitoring Relevant information is collected to support the management of fishery impacts on ETP species, including: information for the development of the management strategy; information to assess the effectiveness of the management strategy; and Information to determine the outcome status of ETP species. 	
Summary of issues	The information available is not sufficient to quantitatively estimate the impact of the fishery on the eider duck populations. (SG 80-2 is not met).	
Suggested Action	Client is advised to liaise with scientific institutions and NGO's in order to initiate a study on the impact of the mussel culture on eider duck populations.	
Milestones	Years 1-2: Proof of discussion with scientists and representatives of NGO's. Resulting score: 70 Year 3: Clear proof that the information shortcomings on this issue have been addressed. Resulting score: 80 Years 4-5: No further action required	



Progress against interim milestones

Seafood Shetland recently held a meeting with Scottish National Heritage (SNH), the Royal Society for the Protection of Birds (RSPB) and Sullom Voe Oil Terminal Environmental Action Group (SOTEAG) to follow up discussions on the eider duck population on Shetland and their interaction with mussel farming. A record sheet has been developed for mussel farmers to log eider duck numbers, observations and any deterring activity that has taken place. This is being implemented across Shetland mussel farms and forms are being updated to include further information, such as effectiveness of anti-predator nets and any damage sustained at sites as a result of eider duck presence. The environmental organizations were extremely satisfied with the data and information being generated by these forms. They also highlighted that it was unlikely that mussel farming was significantly contributing to the decline in eider duck numbers, due to the range of varying factors at play.

A suite of scientific papers are available on eider duck predation of mussel farms around Scotland, the resultant loss to mussel stock and the financial cost for farmers. Focus is placed on efficient anti predatory measures (such as nets). It is noted that in 2000 eider numbers were increasing around Scotland, while decreasing numbers were noted in Shetland (Ross and Furness, 2000).

A meeting in June 2015 was held between Seafood Shetland, SOTEAG and RSPB where it was reported that the 3 yearly Shetland ornithological census would be undertaken in August, 2015. Assistance (as discussed at the meeting in 2014) with the survey particularly in the locales of Vaila Sound, Gruting and Selivoe, and also in the Ronas Voe to Uyea area was sought from farmers based in and around these areas by supplying boats and manpower. The birds' winter movements remained something of a mystery and consequently assistance by mussel farmers to monitor sites in these months would be helpful. Representatives also asked that some monitoring could be carried out by farmers in the areas of Olnafirth to Weathersta/Swarbacks Minn. Seafood Shetland were open to continuing to provide such reporting and assistance.

The Scottish mainland eider duck population was reported to be declining, but until the forthcoming August survey planned for Shetland was completed, the position for the isles is unclear.

The Scottish Shellfish Marketing Group (SSMG) sought to establish whether interaction with eider ducks is an issue of concern for eider duck populations on the Scottish mainland before implementing a recording protocol. Some reporting sheets were provided showing no interactions being reported. It is noted that eider interactions with mussel farms were not specifically been raised as an issue by environmental organisations in relation to Scottish mainland sites. This was confirmed in an email from a representative of SNH who stated that they are not aware of any detrimental effects of mussel farming on Eider duck populations. SNH also confirmed that the since 2012 no licenses have been issued to shoot eider ducks and that the licenses issued in 2011 and 2012 had a combined total bag limit of 15 birds. SNH states that it is clear that these low levels of lethal control could not have resulted in population impacts.

Given the above, the team has concluded that the condition can be closed for the Scottish mainland UoC.

The year 3 milestone requires evidence that the information shortcomings are being addressed. This is evidenced by the production of eider reporting sheets by Shetland sites, which have been shared at a meeting with RSPB in Shetland. Enquiries were also made with mainland Scotland mussel farms; these reported no significant eider interactions.

Based on the information provided the team concludes that sufficient information is now available to estimate the impact of mussel farming in both Shetland Islands and Scottish mainland on Eider duck populations. However, discussions with SNH representatives do indicate ongoing uncertainty over the reason for the decline in Shetland populations and the redistribution away from traditional sites. While direct disturbance through scaring activities has certainly decreased as direct interactions decline, there are interactions with eider. This has the potential to be positive (through the provision of food and structures providing sheltered water) and negative (if there disturbance at breeding locations). Even though it is not fully understood why populations are declining, the reporting by Shetland UoC member farms does now provide the information necessary to inform fishery and wildlife managers of this interaction. The Shetland UoC should therefore continue with its eider observation reporting and the Scottish mainland UoC should re-introduce this reporting if warranted by the increased presence of eider at mainland Scotland mussel farms.



Since it has already been concluded that impact on marine mammals is zero it can now be concluded that sufficient data are available to quantitatively estimate fishery related mortality and the impact of fishing and thus that the second SG80 guidepost is met. Therefore the condition is now closed and the performance indicator rescored below.

Remedial actions

None.

Changes to condition

None.

Updated status

Shetland UoC closed

Scottish mainland UoC closed

Rescoring of Performance Indicator

	Criteria	60 Guideposts	80 Guideposts	100 Guideposts
2.3.3	Information / monitoring Relevant information is collected to	Information is <u>adequate</u> to <u>broadly understand</u> the impact of the fishery on ETP species.	Information is <u>sufficient</u> to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a <u>full</u> <u>strategy</u> to manage impacts.	Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a high degree of certainty.
	support the management of fishery impacts on ETP species, including: - information for	Information is adequate to support <u>measures</u> to manage the impacts on ETP species	Sufficient data are available to allow fishery related mortality and the impact of fishing to be <u>quantitatively</u> estimated for ETP species.	Information is adequate to support a <u>comprehensive</u> <u>strategy</u> to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
	the development of the management strategy;	Information is sufficient to <u>gualitatively</u> estimate the fishery related mortality of ETP species.		Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
	 information to assess the effectiveness of the management strategy; and 			
	 information to determine the outcome status of ETP species. 			
	Score: 80			



Justification

Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts.

From Scotland and Shetland no cases of entanglement of whales or dolphins are known. Were this to happen this information would be available immediately and measures could be taken.

Concerning seals, under the Conservation of Seals Act 1970 and the Marine (Scotland) Act 2010 the Natural Environmental Research Council (NERC) has a duty to provide information on the number and distribution of seals in the UK. Annual grey seal pup counts have been made since 1960 and counts of mounting common seals since 1988 (SMRU, 2010). NERC has appointed a Special Committee on Seals (SCOS) to formulate scientific advice on the management of seal populations.

In the UK the number of eider ducks is monitored under the Wetland Bird Survey (Webs). WeBS are a joint scheme of the British Trust for Ornithology (BTO), Royal Society for the Protection of Birds (RSPB) and Joint Nature Conservation Committee (JNCC), in association with Wildfowl & Wetlands Trust (WWT), to monitor non-breeding waterbirds in the UK. The principal aims of the scheme are to identify population sizes, determine trends in numbers and distribution, and identify important sites for water birds. The 2010 report (Holt, 2011) presents total numbers counted in the most recent year in Great Britain and Northern Ireland. The overall British trend over the course of the last twenty years has shown a slow, yet consistent, decline in numbers of Eiders. However the eider duck population of western Scotland showed an increase (J. Brown, pers. comm.).

In the WeBs report eiders in Shetland are listed as a separate population from those elsewhere in Britain. Relatively few Eiders are counted at the small number of sites on Shetland, which are monitored routinely through WeBS. Therefore the report mentions the results of the seabird monitoring programme by the Shetland Oil Terminal Environmental Advisory Group (SOTEAG). The SOTEAG seabird monitoring programme has been carried out full-time since 1978 and has surveyed seabird populations throughout Shetland. A full survey of the moulting population undertaken by SOTEAG in July-August 2009 generated a total of 6,040 birds in Shetland (Heubeck & Mellor 2011), thereby yielding a five year-mean of 5,500 pairs. Eider numbers in Shetland are believed to have declined markedly over the last thirty or so years (Pennington et al., 2004), although, over a similar time period, climate change is considered to have benefited Eiders in Iceland (of the subspecies faroeensis) as a consequence of an advancement in laying dates. The 3 yearly Shetland ornithological census is to be undertaken in August, 2015.

Information on interactions with marine mammals and the development of bird populations is considered sufficient to determine that mussel culture is not a threat to protection and recovery of the ETP species.

Sufficient data is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.

Concerning marine mammals sufficient data are available to allow for the conclusion that there are no interactions and mortality is therefore zero.

On the impact on the eider duck population information was provided to the team that 37 eider ducks have died as a result of entanglement in predator nets in 3 years on the Shetlands (J. Brown, pers. Comm.). There is therefore some information to estimate fishery related mortality of eider ducks quantitatively. The information available is however not sufficient to quantitatively estimate the impact of the fishery on the eider duck populations.

The client group has developed eider observation sheets and farms were supplied with eider observation records to provide data on interactions at farms. These results have been provided to the audit team at the second and the third surveillance audit. The information provided shows that small groups of eider ducks have been sighted at mussel farms in both Shetland Islands and the Scottish west coast. The team has also been informed that direct impact by deliberate scaring, drowning in protector nets of shooting has been minimal in recent years. Since the numbers of eider ducks sighted at mussel farms are low no deliberate scaring or shooting takes place. This conclusion was confirmed independently by a representative of SNH who stated that they are not aware of any detrimental effects of mussel farming on Eider duck populations. SNH also confirmed that the since 2012 no licenses have been issued to shoot eider ducks and that the licenses issued in 2011 and 2012 had a combined total bag limit of 15 birds. SNH states that it is clear that these low levels of lethal control could not have resulted in population impacts.

Based on the new information provided (which is in addition to the eider surveys and farm location and production information) the team concludes that sufficient data are now available to estimate the impact of mussel farming in both Shetland Islands and Scottish mainland on Eider duck populations. While more research may be required to determine the reasons for population decline, there is sufficient data from the fishery to inform this.

Since it has already been concluded that impact on marine mammals is zero, it can now be concluded that sufficient data are available to quantitatively estimate fishery related mortality and the impact of fishing and thus that the second SG80 guidepost is met and a score of 80 is given.





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Condition 2	Principle 2: Habitats	
Performance Indicators:	 2.4.3 – Information / monitoring 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 	
Summary of issues	The policy for mussel culture in Scotland includes an objective to double the mussel production. This development could result in an increased risk to bottom habitats. Currently it is unclear whether the information collected and available at scientific institutions is regularly updated and disseminated to inform the marine planning process. (SG 80-3 is not met).	
Suggested Action	Client is advised to liaise with local planning authorities and scientific institutions to develop procedures for the regular update and exchange of information on habitats.	
Milestones	Years 1-2: Proof of discussions with scientific institutions on procedures on the specification, collection and exchange of information on habitats. Resulting score: 75 Year 3: Clear proof of the establishment of clear procedures on the provision of information on habitats to the marine planning process. Resulting score: 80 Years 4-5: No further action required	

4.2.2 Condition 2

Progress against interim milestones

SSMG provided an outline of the benthic survey undertaken in June 2013 (Williamson, 2013), which collated sediment samples from three mussel sites (two in Shetland and one in Scottish mainland). Organic matter was found to be relatively low at all sites (Williamson, 2013). This survey was repeated 18 months later to monitor any changes over time at these sites. SSMG note that these surveys are a specific requirement of their Friends of the Sea certification, but also inform the MSC habitat condition. It is intended to disseminate the report to the MGSA Shellfish Working Group.

It is noted that the planning permission procedure requires consideration of carrying capacity and site location in proximity to environmental designations. The planning process involves consultation with a wide range of statutory consultees, dependent upon the local authority within which the application lies. It is also noted that mussel farm production is logged for each specific site and that the Scottish Government annual Shellfish Aquaculture Production Survey includes the location of active shellfish sites. Analysis across production surveys allows identification of any increase of risk based on the number and location of active sites. In addition this information is available as part of an interactive map database available on Scotland's Aquaculture website developed by the Crown Estate, Marine Scotland, SEPA and the Food Standards Agency: http://aquaculture.scotland.gov.uk/map/map.aspx

The year 3 milestone requires evidence that procedures are in place to ensure information on habitats is available to and, where appropriate, informing the marine planning process. The MGSA Shellfish



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Working Group provides a procedure by which such habitat evidence is shared with all relevant stakeholders and can inform the planning process accordingly. The evidence produced via the surveys show that habitat impacts at these mussel farm sites are limited. This, together with the knowledge that the planning procedure for new mussel farms or expansion of existing sites considers habitat and ecosystem carrying capacity, and that new sites are recorded as part of the Scottish Government annual Shellfish Aquaculture Production Survey, is sufficient to close the condition.

Remedial actions

None.

Changes to condition

None.

Updated status

Shetland UoC condition closed.

Scottish mainland UoC condition closed.

	Criteria	60 Guideposts	80 Guideposts	100 Guideposts
2.4.3	Information / monitoring Information is adequate to	There is a basic understanding of the types and distribution of main habitats in the area of the fishery.	The nature, distribution and vulnerability of all main habitat types in the fishery area are known at a level of detail relevant to the scale and intensity of the fishery.	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.
	determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts	Information is adequate to broadly understand the main impacts of gear use on the main habitats, including spatial extent of interaction.	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, timing and location of use of the fishing gear.	Changes in habitat distributions over time are measured.
	on habitat types.		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 physical impacts of the gear on the habitat types have been quantified fully.
	Score: 80			



Justification

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

The Marine (Scotland) Act 2010 and the Marine and Coastal Access Act provide for marine planning of Scottish waters out to 200 nautical miles and give new marine conservation responsibilities. The Marine Atlas has been made as a key step in the development of a national marine plan for Scotland. The Marine Atlas presents data to ensure that policies developed in the national marine plan are informed by the fullest data possible. These maps provide a fairly good understanding were sensitive or protected habitats are located. For Shetland also a Marine Atlas has been made as part of the marine spatial plan for the Shetland islands. As a result of these developments for both Scotland as Shetland advanced maps of the marine seabed of lochs (called 'voes' is Shetland) exist. However the full extent of all marine habitats may not be known and SG100 is not met.

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, timing and location of use of the fishing gear.

All mussel farming takes place on the basis of a license of the Crown Estate and local marine planning. Therefore the locations and the spatial extent of the mussel farms are exactly known. The locations of (sensitive) habitats in the lochs and voes are known as a result of seabed mapping. The sensitivity of habitats is known from scientific research (Huntington, 2006). No mussel culture activities are allowed over sensitive habitats. Muddy and sandy habitats are considered the least sensitive to the impacts of mussel culture. Sufficient scientific information is available to identify the nature of the possible impacts on these habitats (Weise, 2009; Keeley, 2009; Angus, 2010; Chamberlain, 2001; Hatcher, 1994). Therefore there is sufficient information available to identify the effects of mussel culture on habitats types. SG80 is therefore met, but it is not evident that changes in habitat distribution over time are measured and SG100 is not met.

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 policy for mussel culture in Scotland includes an objective to double the mussel production as is laid down in the draft of the Marine Plan. This development could result in an increase of risk to bottom habitats. In this situation it is important that the information collected and available at scientific institutions is regularly updated and disseminated so it can be used in an appropriate way in the marine planning process. Under the current situation the team therefore considers that the last SG 80 issue is not met. The level of data on farms that is collated and made available has improved with the development of Scotland's Aquaculture website (http://aquaculture.scotland.gov.uk/data/site_details.aspx), which details the location and activity for all mussel farms in Shetland and the Scottish mainland.

As part of the condition set for the fishery, benthic surveys were undertaken at Shetland and mainland Scotland mussel farming sites to explore the change in benthos over time. No significant changes were determined and this information was made available to relevant stakeholders via the Shellfish Working Group. Those same stakeholders are consulted in relation to new farm applications (expansion of existing sites or new sites). As data on the habitat; the impact of the mussel farms on habitat; and the location of mussel farms (to inform potential cumulative effects) continue to be collected, this is sufficient to detect any increased risk to habitat (SG80 is met).

However the physical impacts of the gear on the habitat are not quantified fully (e.g. via an EIA being required for each site that is then collated) and SG100 is not met.

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4.2.3 Condition 5

Condition 5	Decision-making processes
Performance	3.2.5 – Monitoring and management performance evaluation
Indicators:	There is a system for 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: 70
Summary of issues	Different aspects of management are administered by different agencies it is not evident that all <u>key</u> parts of the management system are subject to regular internal review and occasional external review. SG-80 is therefore partially met.
Suggested Action	A management plan to be developed in line with condition 3 should be subject to regular internal review and subject to occasional external review.
Milestones	Year 1: Management plan contains review procedures
	Resulting score: 75
	Year 2: Evidence of internal review
	Resulting score: 75
	Year 3: Evidence of external review
	Resulting score: 80
	Years 4-5: No further action required

Progress against interim milestones

In the 1st surveillance audit it was concluded that the management plan did not clearly detail how the performance of the fishery specific management system is evaluated against its objectives. Seafood Shetland and SSMG have since updated the management plan to include the procedure of evaluating the fishery specific management system against its objectives, which is organized within the MGSA and its sub working groups. Evidence was also provided that the fishery management plan and the research plan have been reviewed internally through the provision of minutes from a meeting held on 14th February 2014. The year 2 milestone was therefore met and the condition on target.

At year 3 surveillance the client group reported that its intention to disseminate the management plan and research plan to the Shellfish Working Group remains, but is yet to occur due to the delays in convening and progressing the Shellfish WG. Since SNH and other external organizations are seated in MGSA it can be concluded that external review of the performance of the management system will take place regularly. The September 2015 meeting is now the target for external review of the management plan. Evidence that this external review has taken place (i.e. via minutes of the Shellfish WG meeting) will allow the condition to be closed. This must be provided at the 4th surveillance audit to enable the condition to be closed.

Remedial actions

None.

Changes to condition

None.

Updated status

Shetland UoC behind target.

Scottish mainland UoC behind target.

4.3 New Conditions & Recommendations

Recommendation 1: 2.3.3: Continuation & improvement of eider reporting.

While the condition for 2.3.3 can be closed, the reporting developed under this condition should continue. Environmental managers are appreciative of the new information being provided on eider duck interactions at Shetland mussel farms and this is important in informing the management of Shetland eider populations. Efforts should be made to improve the consistency of detail in reports by



members. They should also be reminded of the importance of nil returns. Regular reporting throughout the year is essential, with a particular need for information during key periods such as eider breeding season.

4.4 Conclusions

Table 4 presents a summary of progress against conditions and recommendations.

Table 4: Summary of progress on conditions/recommendations

Binding Conditions / Recommendations	Descriptions	Status of Progress
Condition 1	Proof of discussion with scientists and representatives of NGO's regarding eider duck interactions	Condition closed.
Condition 2	Clear proof of the establishment of clear procedures on the provision of information on habitats to the marine planning process	Condition closed
Condition 3	Develop management plan	Condition closed
Condition 4	Develop research plan	Condition closed
Condition 5	Management plan contains review procedures	Behind target
Recommendation 1	Continuation & improvement of eider reporting	New

4.5 Status of Certification

Certified.



5. Catch Data

Table 5 - Catch Data (for 2014)

Total Scottish mussel production for most recent fishing year (2014):	7,683 tonnes	
Unit of Certification share of the total Scottish mussel production established for the fishery in most recent fishing year		
Shetlands Islands	UoC 1	5,919 tonnes
Scottish coastal waters ranging from Argyll to Sutherland	UoC 2	766 tonnes
Client share of the total Scottish mussel production in most recent fish	6,685 tonnes (87%)	
Total greenweight catch taken by the client group in the two most rece years:	5,542 tonnes (2013) 6,685 tonnes (2014)	

* To be added into MSC database for each Unit of Certification

(Source: Fishery client)



Appendix 1 – Written Submissions from Stakeholders

None.



Appendix 2 - Surveillance Plan

Table A2.1: Fishery Surveillance Plan

Score from CR Table C3	Surveillance Category	Year 1	Year 2	Year 3	Year 4
5	Normal Surveillance	COMPLETED	COMPLETED	COMPLETED	On-site surveillance (with re-assessment)

Appendix 2.1 Rationale for determining surveillance score

The rationale for determining the surveillance score is detailed in table A2.2.

Table A2.2. Surveillance score rationale.

Criteria	Fishery under Assessment	Score
Use of Default Assessment tree	Use of the RBF	2
Number of open conditions	1	1
Principle level score	P1 = 84.7, P2 = 82.3, P3 = 87.3 (for both UoCs)	2
Conditions on outcome PIs	None	0
Overal	5	



Appendix 3 – References

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