



Marine Stewardship Council fisheries assessments

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Shetland and Scottish mainland rope grown mussel enhanced fishery



Surveillance Report

Conformity Assessment Body (CAB)	LRQA
Assessment team	Bert Keus and Rod Cappell
Fishery client	The Scottish Shellfish Marketing Group & Seafood Shetland
Assessment type	Fourth Surveillance
Date	May 2022

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1 Assessment Data Sheet

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2 Executive summary

The executive summary shall include:

- A description of the surveillance or expedited audit process.
- A brief history of assessments.
- A summary of surveillance or expedited audit findings.
- A statement confirming the status of certification (e.g. certified, suspended, etc.)

Reference(s): FCP v2.2 Section(s) 7.28

This 4th surveillance audit for the Shetland and Scottish Mainland Rope-grown mussel enhanced fishery was conducted on site in Shetland between 9th-13th May 2022 in association with the 3rd re-assessment of the fishery.

No significant changes to management systems, regulations or personnel were noted.

This is an enhanced catch and grow (CAG) fishery that does not operate under a Total Allowable Catch (TAC) management. The greatest regional contribution to mussel production was from Shetland, which according to the Marine Scotland production survey, accounted for 4,427 tonnes or 78% of Scotland's total (Marine Scotland, 2021). Highland region, Strathclyde and Western Isles are the regions accounting for most other producing sites. Maps of SSMG member sites in Shetland and Scotlish mainland are at: https://www.scotlishshellfish.co.uk/our-farms/

There have been no changes in membership of Seafood Shetland or SSMG. Some consolidation in the operation of sites continues in Shetland with the largest producers applying their resources to the management and harvesting of other operators sites.

There were no reports of infringements, complaints, issues or actions against the client group.

Marine planning authorities, including Shetland Islands Council (SIC) have adopted the use of Marine Scotland's carrying capacity model to inform its pre-application discussions and decision-making. The model, based on water volume and water movement per carrying capacity 'pod', determines the biomass (tonnes) of shellfish production that water bodies can sustain, using a precautionary 75% of the total as the point at which carrying capacity is reached.

The draft Shetland Islands Marine Plan, the first regional marine plan in Scotland, is with the Scottish Government awaiting approval.

There are no open conditions for the fishery and no further recommendations are made for this fishery. The surveillance team commends NatureScot's intention to further analyse the eider data provided by mussel producers and to share the findings with them.

No changes to the Client Action Plan are required.

The fishery continues to be in scope and operates in a manner consistent with the MSC standard.

The fishery should continue to be MSC certified.

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3 Report details

3.1 Surveillance information

Table 1. Surveillance information

1	Fishery name				
	Shetland and Scottish mainland rope grown mussel enhanced fishery				
2	Unit(s) of Assessment (UoA)				
	UoA 1:				
	Species:	Blue Mussel (<i>Mytulis spp.</i>)			
	Stock:	Blue Mussel (spp.) wild stock of the Shetland Islands			
	Geographical area:	The Shetland Islands, North-east Atlantic, within FAO Statistical Area 27 and ICES area IVa.			
	Harvest method:	Rope			
	Client Group:	Seafood Shetland (incorporating Shetland Fish Processors and Shellfish Growers) members harvesting rope grown mussels in the Shetland Islands.			
	Other Eligible Fishers:	None			
	UoA 2:				
	Species:	Blue Mussel (Mytulis spp.)			
	Stock:	Blue Mussel (spp.) wild stock in Scottish waters			
	Geographical area:	Scottish coastal waters ranging from Argyll to Sutherland, within FAO Statistical Area 27 and ICES area VIa			
	Harvest method:	Rope			
	Client Group:	Scottish Shellfish Marketing Group (SSMG) members harvesting rope grown mussels in Scottish coastal waters.			
	Other Eligible Fishers:	None			
3	Date certified		Date of expiry		
	26 Jun 2012		25 Dec 2022		
4	Surveillance level and type				
	4 th Surveillance – Offsite (Level 1)				
5	Surveillance number				
	4th Surveillance		X		
6	Surveillance team leader				

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	Rod Cappell – Team lead and Principle 3 expert Rod Cappell is Team Leader with responsibilities for Principle 3. He holds a degree in Marine Biology, a Masters in Marine Resource Development & Protection and a post-graduate qualification in Environmental Economics. He has been a director of the specialist fisheries consultancy, Poseidon, for over ten years providing fisheries management and policy research services after working for several years as an environmental consultant. Rod has been involved in more than twenty MSC full assessments and re-assessments throughout Europe, Iceland, Greenland & Chile as well as undertaking numerous surveillance audits and pre-assessments. These have included assessments of demersal, pelagic and shellfish species and complex multi-species and multi-gear assessments. In recent years Rod has supported Fishery Improvement Projects in the UK, China and France. Rod has passed MSC training and has no Conflict of Interest in relation to this fishery. Full CV available upon request.			
Team Leader Experience	Rod has completed a number of MSC assessment as TL and meets all Fishery TL Qualification and Competency Criteria under MSC FCP v2.2 Table PC1 and MSC GCR v2.4.1 Table 1.			
7	Surveillance team members			
	Bert Keus – Principle 2 expert Bert Keus is an independent fisheries consultant based in Leiden, the Netherlands. He holds degrees in biology and law, and has previously held the position of Head of the Environmental Division of the Dutch Fish Product Board, and research fellow with the Netherlands Research Institute for Fishery Investigation (RIVO-DLO) and the fisheries division of the Agricultural Economics Research Institute of Holland (LEI-DLO). Between the years 1998 and 2003 he was a Member of the European Sustainable Use Specialist Group (SUSG), Fisheries Working Group of IUCN. Over the years 2003 and 2004 he managed fishing and processing companies in the Gambian handling fish from industrial and artisanal fisheries, and he maintains his contacts with the Gambian seafood industry. In addition, however, he has long association with the shellfish fisheries of the Wadden Sea and neighbouring areas of northwest Europe, and he has been involved in efforts to achieve MSC certification of the North Sea brown shrimp fishery – acting as technical advisor to this international multi-stakeholder initiative, and sitting on the project's management board. Through this work and several other MSC certifications he has become particularly familiar with the MSC certification process. Currently a major part of his work as a fisheries consultant is the drafting of appropriate assessments of fishing activities in Dutch Natura 2000 sites. Bert has passed MSC training and has no Conflict of Interest in relation to this fishery. Full CV available upon request.			
Local Context	Both Rod and Bert have had assignments in the region in the last 10 years.			
Traceability	Rod and Bert have completed the MSC traceability module in the last 3 years			
RBF	Bert has completed the RBF training.			
8	Audit/review time and location			
	On site surveillance audit in Lerwick Shetland W/C 9 th May 2022			
9	Assessment and review activities			

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All relevant information

3.2 Background

3.2.1 Management systems

There have been no changes in membership of Seafood Shetland or SSMG. Some consolidation in the operation of sites continues in Shetland with the largest producers applying their resources to the management and harvesting of other operators sites.

There were no reports of infringements, complaints, issues or actions against the client group.

Marine planning authorities, including Shetland Islands Council (SIC) have adopted the use of Marine Scotland's carrying capacity model to inform its pre-application discussions and decision-making. The model, based on water volume and water movement per carrying capacity 'pod', determines the biomass (tonnes) of shellfish production that water bodies can sustain, using a precautionary 75% of the total as the point at which carrying capacity is reached.

The draft Shetland Islands Marine Plan, the first regional marine plan in Scotland, is with the Scottish Government awaiting approval.

3.2.2 Relevant regulations

Producers are now required to inform SIC of an intention to use anti-predator nets on farm sites. However, all parties report that no producers are using the nets.

There are no other changes to relevant regulations stated.

The Scottish Government has launched a Blue Economy Vision for Scotland (Scottish Government, 2022), which commits to developing a Blue Economy Action Plan¹. This is expected to support the continued sustainable development of the Scottish mussel sector.

3.2.3 Personnel

The surveillance team was not told of any notable changes to personnel.

3.2.4 Scientific base of information

a. Production

Mussel production for the table decreased by 15% in 2020 (see figure 1) to 5,661 tonnes. The impact of Covid-19 on markets continued with SSMG placing a greater emphasis on added-value products sold through supermarkets as the live market faced reduced demand from hotels and restaurants. Harvesting was somewhat reduced with producers choosing to keep some stock in the water, but producers stated production was not reduced to the extent suggested by figure 1.

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¹ https://www.gov.scot/publications/blue-economy-vision-scotland/documents/ YOUR FUTURE. OUR FOCUS.



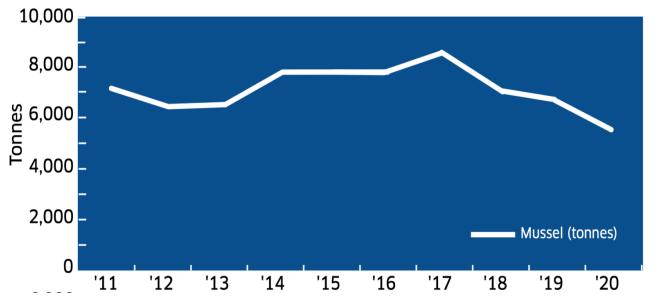


Figure 1 Scottish mussel production 2011-2020 (source: Marine Scotland)

The greatest regional contribution to mussel production was from Shetland, which according to the Marine Scotland production survey, accounted for 4,427 tonnes or 78% of Scotland's total (Marine Scotland, 2021). Table 2 shows that Highland region, Strathclyde and Western Isles are the regions accounting for most other producing sites. Maps of SSMG member sites in Shetland and Scottish mainland are at: https://www.scottishshellfish.co.uk/our-farms/

Table 2 Active and Producing shellfish farm sites by region, 2020

Region						
	Highland	Orkney	Shetland	Strathclyde	Western Isles	All Scotland
Sites						
Active	69	5	137	55	47	313
Producing	29	3	100	23	12	167

Source: Marine Scotland, 2021

b. Other scientific information

Seabird monitoring

The Shetland Oil Terminal Environmental Advisory Group (SOTEAG) continues its regular monitoring of seabirds, which 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 August 2019. The total census count was 3639 birds, 20.9% lower than the total of 4,599 individuals in 2015, the year of the most recent previous census. As in previous recent censuses, in 2019, flocks of Eiders were found around mussel and salmon farms as well as at natural sites with no nearby aquaculture. In total, 1,171 individuals were located at salmon farms (32.2%), 1,407 were located at mussel farms (38.7%) and 1,061 were located at natural sites (29.2%) (SOTEAG, 2019)².

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² https://www.soteag.org.uk/environmental-monitoring/monitoring-reports/ YOUR FUTURE. OUR FOCUS.

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The reason for reduced eider numbers is unknown, but it is speculated that a number of factors may be at play including (in no order of significance):

- Land-based disturbance when nesting
- The presence of avian flu in the eider population, resulting in some deaths of eider as well as other sea birds
- The impact of toxic algae on birds;
- · Orca predation on eiders (recently reported, but frequency unknown)

The presence of mussel farms provide eider with a readily available food source and so if anything is considered to have a positive impact on populations.

Additional data on frequency of eiders at farm sites provided by the mussel producers is helping NatureScot (formerly Scottish Natural Heritage) to identify bird distribution patterns. This may in turn help farmers in mitigation measures to address eider feeding on mussels as no anti-predator nets are used and many farmers no longer attempt to chase away birds from lines. NatureScot intends to propose a meeting with producers to share analysis of their data.

Other research

As part of the PRIMROSE project on harmful algal blooms³, the University of Highlands and Islands Scalloway College (formerly NAFC Marine Centre) is hosting research on toxic plankton identification with a FlowCytoBots unit which monitors sea water that is passed through the system in a lab. The machine is sampling 5ml at a time, a teaspoon of water, and analyses it every 25/30 minutes, running 24 hours a day, 7 days a week. The plan is to install a second unit in situ within a voe.

There is ongoing research on the role of shellfish production in carbon sequestration. Decarbonisation is also driving *Project ORION* and the **Neptune project** in Shetland. The NEPTUNE project, funded by the Department for Transport and delivered in partnership with Innovate UK, will develop a desk-based decision modelling and support system (DEMOSS) tool that will help to analyse, scope and develop plans for supporting the transition. "It is being led by the University of Strathclyde in partnership with Ricardo UK, Babcock International and Shetland Islands Council and aligns with the archipelago's 2030 net zero target. "Strathclyde is a partner in Project ORION, which will see onshore and offshore wind energy harnessed to power platforms, homes and businesses and produce green hydrogen at scale, replacing fossil fuels by providing affordable renewable energy. "ORION will also see port facilities, including Sullom Voe, powered by wind energy and redeveloped to support the offshore wind sector and for the export of green hydrogen to the UK mainland. The NEPTUNE Project, which aligns with Project Orion, was set up in April 2020 and aims to help turn Shetland into an international clean energy hub under ambitious plans that will see major oil and gas fields become net zero by 2030.

3.2.5 Position in relation to scope criteria

The fishery remains an enhanced catch & grow fishery that does not involve translocation.

3.2.6 Traceability

No changes to the fishery are noted that could impact upon existing traceability systems.

3.3 Version details

3

https://www.researchgate.net/publication/359966182_Novel_Methodologies_for_Providing_In_Situ_Data_to_HAB_Early_Warning_ Systems_in_the_European_Atlantic_Area_The_PRIMROSE_Experience/figures?lo=1 YOUR FUTURE. OUR FOCUS.

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Table 3. Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	Version 2.2
MSC Fisheries Standard	Version 1.3*
MSC General Certification Requirements	Version 2.4.1
MSC Surveillance Reporting Template	Version 2.1

^{*} default assessment tree (modified for Enhanced Bivalves (MSC Standard v2.01 Annex SB))



4 Results

4.1 Surveillance results overview

4.1.1 Total Allowable Catch (TAC) and catch data

This is an enhanced catch and grow (CAG) fishery that does not operate under a Total Allowable Catch (TAC) management. Recent production figures are shown in the figure above with Shetland producing 4,427 tonnes in 2020 and mainland Scotland 973 tonnes.

4.1.2 Recommendations

No further recommendations are made for this fishery. The surveillance team commends NatureScot's intention to further analyse the eider data provided by mussel producers and to share the findings with them.

4.2 Conditions

There are no open conditions for the fishery

4.3 Client Action Plan

No changes to the Client Action Plan are required.

5 Conclusion

There were no material changes to the operation of the fishery over the past 12 months.

There are no conditions or recommendations formulated for this fishery.

The fishery continues to be in scope and operates in a manner consistent with the MSC standard.

The fishery should continue to be MSC certified.



6 Appendices

6.1 Evaluation processes and techniques

6.1.1 Site visits

This surveillance report was informed by a site visit to Shetland 9th-13th May in association with the 3rd re-assessment of this fishery.

6.1.2 Stakeholder participation

No written stakeholder input was received.

6.2 References

Marine Scotland Science (2021) Scottish Shellfish Production Survey 2020. L. Munro, Marine Scotland Science. https://www.gov.scot/publications/scottish-shellfish-farm-production-survey-2020/

Scottish Government (2022) A Blue Economy Vision for Scotland. https://www.gov.scot/publications/blue-economy-vision-scotland/

SOTEAG (2019) Ornithological Monitoring Programme in Shetland, 2019. A report to the Shetland Oil Terminal Environmental Advisory Group by University of St Andrews. https://www.soteag.org.uk/files/2020/02/2019-SOTEAG-Bird-Report.pdf



7 Template information and copyright

This document was drafted using the 'MSC Surveillance Reporting Template v2.1'.

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Template version control Version Date of publication Description of amendment 1.0 08 October 2014 Date of issue 2.0 17 December 2018 Release alongside Fisheries Certification Process v2.1 28 March 2019 2.01 Minor document change for usability 2.1 25 March 2020 Minor document change for usability

A controlled document list of MSC program documents is available on the MSC website (msc.org).

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