

MSC SUSTAINABLE FISHERIES CERTIFICATION

Off-Site Surveillance Visit - Report for Swedish West Coast Rope Grown Mussel Fishery



3rd Surveillance stage

March 2017

Certificate CodeF-ACO-090Prepared For:Swedish Shellfish Producer OrganisationPrepared By:Acoura MarineAuthors:Rod Cappell, John Hambrey



Assessment Data Sheet

Fishery name	SSPO Swedish West Coast Rope Grown Mussel Fishery		
Species and Stock	Blue Mussel (Mytilus edulis) - Swedish Skagerrak & Kattegat Mussels		
CAB name	Acoura Marine		
CAB contact details	Address 6 Redheughs Rigg Edinburgh EH12 9DQ		
	Phone/Fax	0131 335 6662	
	Email	fisheries@acoura.com	
	Contact name(s)	Billy Hynes	
Client contact details	Address	Swedish Shellfish Producer Organisation, Fiskebacks hamn 4, SE 42658 Vastra Frolunda, Sweden	
	Phone/Fax	+46762655216	
	Email	andrea.giesecke@gmail.com	
	Contact name(s)	Andrea Giesecke	



Contents

1	Intro	duction	3				
	1.1	Scope of Surveillance	3				
	1.2	Aims of the Surveillance	3				
	1.3	Certificate Holder Details	3				
2	Surv	eillance Process	5				
	2.1	Findings of the original assessment	5				
	2.2	Surveillance Activity	5				
	2.2.1	Surveillance team details	5				
	2.2.2	Date & Location of surveillance audit	5				
	2.2.3	Stakeholder consultation & meetings	5				
	2.2.4	What was inspected	5				
	2.2.5	Stakeholder Consultation	5				
	2.3	Surveillance Standards	5				
	2.3.1	MSC Standards, Requirements and Guidance used	5				
	2.3.2 have	Confirmation that destructive fishing practices or controversial unilateral exemption not been introduced					
3	Upda	ated Fishery Background	6				
	3.1	Changes in the management system	6				
	3.2	Changes in relevant regulations	6				
	3.3	Changes to personnel involved in science, management or industry	6				
	3.4	Changes to scientific base of information including stock assessments	6				
	3.5	Changes and updates on Ecosystem issues	6				
	3.6	Updates on enhanced fishery's position in relation to scope criteria	6				
	3.7 segrega	Any developments or changes within the fishery which impact traceability or the ability tate					
	3.8	TAC and catch data	7				
	3.9	Summary of Assessment Conditions	7				
4	Resu	llts	8				
	4.1	Condition 4	8				
	4.2	Condition 5	9				
	4.3	Condition 61	1				
5	Cond	lusion1	2				
	5.1	Summary of findings1	2				
6	Refe	rences1	2				
	Append	ix 1 – Re-scoring evaluation tables (if necessary)1	4				
	Append	ix 2 - Stakeholder submissions (if any)1	4				
	Append	ix 3 - Surveillance audit information (if necessary)1	4				
		Appendix 4 - Additional detail on conditions/ actions/ results (if necessary)					
	Append	Appendix 5 - Revised Surveillance Program (if necessary)14					



1 Introduction

1.1 Scope of Surveillance

This report outlines the findings of the 3rd Annual Surveillance of the SSPO Swedish West Coast Rope Grown mussel fishery. The scope of the certified fishery and therefore of this surveillance is specified in the Unit of Certification set out below:

UoC 1

Species:	Blue Mussel (Mytilus edulis)
Stock:	Swedish Skagerrak & Kattegat Mussels
Geographical area:	Skagerrak & Kattegat, ICES subdivision IIIa – Swedish territorial waters.
Harvest method:	Ropes
Client Group:	All Swedish Shellfish Producers Organisation (SSPO) members harvesting Blue mussels using ropes in ICES Division IIIa
Other Eligible Fishers:	None

1.2 Aims of the Surveillance

The purpose of the annual Surveillance Report is fourfold:

- **1.** to establish and report on whether 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 assessing 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 which can be found here:

https://fisheries.msc.org/en/fisheries/sspo-swedish-west-coast-rope-grown-mussel/@@assessments

1.3 Certificate Holder Details

The client for this certification is Swedish Shellfish Producer Organisation (SSPO), founded in 2007 to represent Swedish mussel producers. The certified fishery consists of 8 shellfish grower companies active on the Swedish west coast. Each company owns its own farms and they work together in the producer organisation with overarching purposes such as representing the industry towards authorities. The Swedish Shellfish Producer Organisation (SSPO) consists of 8 member companies:

Scanfjord Mollösund AB Västkustmusslor HB

Nis Nordiska AB

Ostrea Aquaculture AB

Saltea Seafood AB

Ekomusslor p.a.c AB

Karingo





Ocean Adventures Sweden AB

Six of these companies farm mussels (with two only farming oysters) and Scanfjord remains by far the largest. This situation has not changed since the previous surveillance.

Blue mussels have been farmed in Sweden for about 40 years and the production level has been quite stable over time, with a maximum production of 2,500 tonnes. The harvest of farmed mussels in 2016 grew to 1,924t (from 1,496t in 2015) with Scanfjord accounting for around 95% of production volume.

All farms are situated at the Swedish west coast, from Strömstad in the North to Västra Frölunda in the South. The area under evaluation is the sea areas Skagerrak and Kattegat, situated within ICES subarea IIIa.



2 Surveillance Process

2.1 Findings of the original assessment

The assessment resulted in a number of conditions of certification and maintenance of the MSC certificate is contingent on the Fishery Name fishery moving to comply with these conditions within the time-scales set at the time the certificate was issued. In addition, 2 recommendations were made which, whilst not obligatory, the client is encouraged to act upon within the spirit of the certification.

2.2 Surveillance Activity

2.2.1 Surveillance team details

For this off-site surveillance Rod Cappell, a member of the original assessment team and previous surveillance teams, was team leader and P3 expert. Dr. John Hambrey was P2 expert.

2.2.2 Date & Location of surveillance audit

The off-site surveillance was conducted on 16th March 2017

2.2.3 Stakeholder consultation & meetings

The surveillance consisted of a teleconference with Andrea Gieseke of the SSPO (the client) and Fredrik Larsson of the County Administrative Board (the agency tasked with licensing and monitoring the mussel fisheries).

2.2.4 What was inspected

Documents provided by the client and the County Administrative Board were inspected.

2.2.5 Stakeholder Consultation

A total of 46 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.

https://fisheries.msc.org/en/fisheries/sspo-swedish-west-coast-rope-grown-mussel/@@assessments

Documents referred to

See Appendix 4.

2.3 Surveillance Standards

2.3.1 MSC Standards, Requirements and Guidance used

This surveillance audit was carried out according to the MSC Fisheries Certification Requirements FAM v2.0.

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

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



3 Updated Fishery Background

There have been very few changes to the certified fishery since the last surveillance. Total production increased from around 1,496t in 2015 to 1,924t in 2016. The increase in production is attributable to the largest producer, Scanfjord.

3.1 Changes in the management system

No changes to management or production operations are reported. It is expected that the mussel management plan is to be published this year (2017).

3.2 Changes in relevant regulations

The only change in regulation relates to the introduction of a new traceability system, in line with EU traceability requirements.

3.3 Changes to personnel involved in science, management or industry

There have been no changes to personnel involved in the fishery

3.4 Changes to scientific base of information including stock assessments

No changes to scientific information reported this year.

During the spring of 2017 a new project will be launched (OPTIMUS, a BONUS financed project that is coordinated by the Danish shellfish Centre). Within this project a team of researchers (including Gothenberg University) will study the issue of eider predation as well as methods to limit the nutrient pressure beneath the farms with help from organisms that eat sediments (as reported in the research plan in year 2).

3.5 Changes and updates on Ecosystem issues

No updates on ecosystem issues. Once again, no licences were issued to mussel farmers for shooting eider ducks. Alternative non-lethal measures continue to be the chosen solution.

3.6 Updates on enhanced fishery's position in relation to scope criteria

The cultivation of mussels is defined as an enhanced catch-and-grow (CAG) bivalve fishery.

The MSC certification requirements for CAG bivalve fisheries determine that Principle 1 does not need to be included in the assessment in those cases where translocation of seed is not involved in the cultivation system. Seed translocation is defined here as movement of seed which pose a risk to the genetic diversity of the wild population (CR Annex CK and GCR Annex GCK).

The main method for the collection of seed in this fishery in this fishery is understood to be using rope collectors. Seed collected in this way is only relocated a small distance, within the same water body/ecosystem, with distances between locations being less 50 km. Hence, it is determined that the fishery does not pose a risk to the genetic diversity of the wild population and the fishery is defined as enhanced catch-and-grow (CAG) bivalve fishery **without translocation**. Also the cultivation of mussels does not pose a risk to the productivity of the wild population and therefore according the MSC assessment methodology (MSC Certification Requirements version 1.2, Annex CK) principle 1 is not scored.

The Blue mussel (*Mytilus edulis*) is native to Sweden and therefore requirements in relation to ISBF do not apply to this assessment.

3.7 Any developments or changes within the fishery which impact traceability or the ability to segregate

The client reported that the Gothenberg fish auction has been piloting a new traceability system for fish and shellfish (that will include mussels) where each sales unit (e.g. fish box or bag or mussels) carries a unique identifier that is reported from production site through to end consumer, better ensuring full traceability. The system is to be rolled out across Sweden in 2017.



3.8 TAC and catch data

Table 3.8-1 TAC and Catch Data

TAC	Year	n/a	Amount	n/a
UoA share of TAC	Year	2016	Amount	100%
UoC share of TAC	Year	2016	Amount	100%
Total green weight catch by UoC	Year (most recent)	2016	Amount	1,924t
	Year (second most recent)	2015	Amount	1,496t

3.9 Summary of Assessment Conditions

Table 3.9-1 Summary of Assessment Conditions as of this audit

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
Condition 1	2.3.3	Closed at SA2	75	80
Condition 2	2.4.2	Closed at SA2	75	80
Condition 3	3.2.1	Closed at SA2	70	80
Condition 4	3.2.3	On target	75	Not revised
Condition 5	3.2.4	On target	70	Not revised
Condition 6	3.2.5	On target	70	Not revised
Recommendation 1	N/A	Closed	n/a	n/a
Recommendation 2	N/A	Closed	n/a	n/a



4 Results

4.1 Condition 4

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score	
Performance Indicator(s) & Score(s)	3.2.3	Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.	75	
Condition	Implement an MCS system management measures, sti	that can demonstrate the ability to enformate gies and/or rules.	orce relevant	
Milestones	Year 1 – develop an approp Year 2 – implement the MC Year 3 – report on MCS sys	S system		
Client action plan	SSPO will develop and imp	lement an appropriate MCS-system to ve a significant part of these issues and		
Progress on Condition [Year 1]	The surveillance team has seen some communication between the client and the County Administrative Board and understands that better progress is expected in the future. However, there was no evidence provided indicating that the requirements of the condition had been discussed or progressed with all relevant parties over the previous 12 months. Remedial actions			
	The client should engage with the relevant management and control agencies to Evidence of this timely engagement and progress in developing and implementing the MCS system must be provided for the year 2 audit.			
	The County Administrative Board began a monitoring programme in 2014. They have carried out control efforts on a large proportion of mussel farms. In their 2015 annual report they state that they will continue the monitoring program. Prior to 2014 there was no monitoring of mussel farms but the plan is now to have control visits every third year.			
Progress on Condition [Year	The control is focusing on the conditions that are tied to the licenses. These conditions are that the farms are within the right positions, that they are marked correctly, have the right equipment that is consistent with the license, that they are farming the right species and that they are handled in a way so that they do not contribute to spread of infections.			
2]	Again since 2014, the Board of Agriculture, under its public health remit in relation to aquaculture animals, conducts additional monitoring. Control activities at aquaculture production sites are carried out every second year.			
	No sanctions towards members were given in 2015.			
	The above illustrates that the MCS system is being implemented.			
Year 3 will require evidence of the performance of these various aspect MCS system, i.e. County Administrative Board and Board of Aquacultur on their control activities and levels of compliance.				
Progress on Condition [Year 3]	The County Administrative Board (CAB) representative for the County of Västra Götaland, who is responsible for licensing and monitoring mussel farms, reported on the MCS activities associated with the mussel farms. The system started in			



	 2014 with a large surveillance of around 60% of farms (56 sites visited were in 2014) and another 25 in 2015. No additional surveillance was conducted in 2016. The CAB states that from this year (2017) and on they will do a more formalised surveillance following a standardised electronic check list, instead of handwritten notes, and visit approx. 30 permit-sites per yr., i.e. 30%). This creates a 3-year monitoring cycle over which time all sites are monitored. The CAB surveillance of farms checks position of structures, species being grown, and navigational markers as per licenses - for active as well as inactive sites. There is no monitoring of seabed or water body impacts. The CAB representative noted that no major violations were identified, only slight variations in the true period to represent to more at the true period.
	variations in the true positioning of structures compared to maps. These were still over soft-bottom sediment types (a requirement of licensing) and away from seagrass beds. Several farmers were required to take corrective action in the marking of structures. No formal reporting was provided, rather example notes for individual site audits.
Status of condition	There was a verbal report from the CAB representative on MCS performance and therefore the condition can be deemed to be 'on target'. However, to close the condition, some form of routine reporting on MCS activities should be established and provided at year 4 surveillance.

4.2 Condition 5

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score	
Performance Indicator(s) & Score(s)	3.2.4	There is a system for monitoring and evaluating the performance of the fisheryspecific management system against its objectives. There is effective and timely review of the fisheryspecific management system.		
Condition	approach to research and	nat provides the management system v reliable and timely information sufficier vith MSC's Principles 1 and 2.		
Milestones	Year 1 – develop research plan Year 2 – implement research plan Year 4 – evidence of management system taking research findings into account			
Client action plan	SSPO will together with "Vattenbrukscentrum Väst" develop a research plan for the musselsector.			
	The Aquaculture Centre West is undertaking a range of research projects on mussel farming.			
Progress on Condition [Year 1]	It is suggested the institute's research plan in relation to mussels could be expected to contribute to the overall management plan for the sector. However, the intention of a research plan is to ensure management makes decisions based on sound science. The research plan should respond to the information and data needs of the sector, which should be outlined in the management plan. Without a management plan informing the research component, this could be disjointed.			
	Remedial actions			
	The client should engage with the Management Authorities and appropriate research capacity (which may be Aquaculture Centre West) to develop and show the adoption of that research plan by year 2 surveillance.			



	The Mussel PO is in regular contact with the key science partner, Aquaculture Centre West of Gothenberg University. The client provided the assessment team with a document by Lindegarth, S. et al:
	RESEARCH PLAN FOR BLUE MUSSEL AQUACULTURE ON THE SWEDISH WEST COAST
	The plan address 4 research areas:
	1. Modeling and predicting the growth of the mussel, <i>Mytilus edulis</i> : implications for planning of aquaculture and eutrophication mitigation
Progress on	2. Monitoring recruitment patterns of mussels and fouling tunicates in
Condition [Year 2]	3. The potential of polychaete worms as remediation of sediments affected by mussel farming
	4. Mitigating the impact of eider duck predation on mussel farms
	A coastal zone management initiative is in progress and monies under this initiative are being used to fund the above research. This indicates that the research plan is being implemented and therefore Yr2 milestone is met.
	While the timing of outcomes from this research are not known, the work described should be delivered in time for the Year 4 milestone requiring evidence of the management system taking these research findings into account.
	PhD research on benthic impact of mussel farming has been completed and showed that impacts are very localized in nature.
	The researchers involved in Swedish mussel research report on a new research project, OptiMus, in collaboration with Danish and German researchers.
	"The ambition of OptiMus is to provide robust evidence-based documentation (ecological, social, and economic) on ecosystem goods and services as well as environmental impact of mussel farming to support its future expansion."
	The overall goal of OptiMus to provide scientific documentation for the potential and impact on the coastal environment of mussel aquaculture will be met through a number of specific objectives:
Progress on	• Document ecosystem goods and services provided by mussel farming in the Baltic.
Condition [Year 3]	 Assess impact and mitigation methods of mussel bio-deposition underneath mussel farms.
	• Provide multi-criteria tool for optimal site selection of mussel farming in relation to marine spatial planning in the Baltic.
	• Optimize production capacity, security and cost efficiency of mussel farming through development of new methods and tech transfer from the Western to the Central Baltic.
	Develop cost-efficient techniques for processing mussels into fish feed.
	 Test mussel meal as a marine protein ingredient in fish feed.
	• Explore the socio-economic barriers, solutions and perspectives in using mussel farming as a mitigation tool in relation to eutrophication.
	There is no milestone at year 3.
Status of condition	The condition can therefore be deemed to be 'on target'. The year 4 milestone should be noted with 'evidence of management taking research findings into account'. This may be a challenge given the 3-year timescale for the research proposed. However, there are work packages to be delivered earlier in the project and evidence of ongoing communication between the researchers and



the managers (CAB) could be used to show research findings are being taken into account in advance of results being published.

4.3 Condition 6

	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
Performance Indicator(s) & Score(s)	3.2.5	There is a system for monitoring and evaluating the performance of the fisheryspecific management system against its objectives. There is effective and timely review of the fisheryspecific management system.	
Condition	Ensure the fishery-specific and occasional external re	management system is subject to reg	ular internal
Milestones		nent plan review process gement plan review process agement plan taking review process fin	dings into
Client action plan		n the National Action Plan which will be "Jordbruksverket". It will then be impler y.	
Progress on Condition [Year 1]	The lack of progress on the management plan prevents any evidence of progress against this condition.The client did present information showing how the Swedish Board of Agriculture undertakes reviews and evaluations of strategies, suggesting a mussel management plan would be subject to similar arrangements in keeping with the scale of the plan.		
Progress on Condition [Year 2]	The strategy developed in 2015 includes a review process. There is a convening organisation for each measure in the plan. That organisation initiates communication with other parties involved in the measure and is responsible for reporting on progress to the national aquaculture council (agencies, science and other stakeholder organisations), which meets at least two times a year. The council will then decide if additional or amended actions are necessary to deliver the stated measures. A report is planned for 2017 to report on the work that has been done within the management action plan. It will identify which measures that requires further intervention in order to be implemented. Full review and final reporting is planned for 2021. The county administrative board is responsible for gathering and communication of reports and evaluation to the Swedish Mussel PO. The 2017 interim report should be in time for the Year 4 surveillance (in 2018) to assess how the management plan has taken the findings from the review		
Progress on Condition [Year 3]	 process into account. The year 3 milestone is to implement the management plan review process. There is currently a Swedish aquaculture strategy published (Jordbruksverket. 2015) for the 2012-2020 period, which includes a review process. As noted in year 2, the interim review of this strategy is to be undertaken in 2017, which is consistent with the year 3 milestone and should inform the year 4 surveillance. An Aquaculture Plan Västra Götaland (Bergström & Larson, 2017) is soon to be published, which includes the mussel production area. A draft of the plan was provided to the assessment team. There is no indication that the plan is time- 		



Page 11 of 15



	bound and involves a review process. However, as stated in year 1, review is a standard procedure for Swedish public agencies. It is suggested that in year 4 the client and CAB confirm how review of this plan is to be undertaken.
	There is furthermore routine internal review of the aquaculture permitting process through consultations with planning, nature protection and other departments of the County Administration.
Status of condition	On target.

5 Conclusion

5.1 Summary of findings

The conditions are summarized as follows:

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
Condition 1	2.3.3	Closed at SA2	75	80
Condition 2	2.4.2	Closed at SA2	75	80
Condition 3	3.2.1	Closed at SA2	70	80
Condition 4	3.2.3	On target	75	Not revised
Condition 5	3.2.4	On target	70	Not revised
Condition 6	3.2.5	On target	70	Not revised
Recommendation 1	N/A	Closed	n/a	n/a
Recommendation 2	N/A	Closed	n/a	n/a

In conclusion it is proposed that the SSPO Swedish West Coast rope-grown mussel fishery remains certified. An on-site surveillance, expected to be in conjunction with re-assessment, is proposed for next year on a similar date.

At year 4 it is expected that the following will be available:

- reporting on MCS activities and findings;
- evidence of discussions on research findings held between management and research bodies; and
- the management plan and illustration of the review process for this plan.

6 References

OptiMus, 2015 Optimization of mussel mitigation cultures for fish feed in the Baltic Sea. BONUS call, 2015. Research proposal

Jordbruksverket, 2015. Handlingsplan för utveckling av svenskt vattenbruk. Konkretisering av strategi 2012-2020. RA 15:1 http://www.jordbruksverket.se/download/18.68b583e414c2ed8431768fa3/1426758525685/H andlingsplan+fo%CC%88r+svenskt+vattenbruk_w.pdf

Bergström & Larson, 2017 (DRAFT) Vattenbruksplan Västra Götaland Marint Vattenbruk. Per Bergström och Fredrik Larson, Länsstyrelsen Västra Götalands län. Rapportansvarig: Fredrik Larson, Enheten för fiskförvaltning, Vattenavdelningen



Appendix 1 – Re-scoring evaluation tables (if necessary)

None

Appendix 2 - Stakeholder submissions (if any)

Responses from Gothenberg University researchers and the County Administrative Board are described in the main report.

Appendix 3 - Surveillance audit information (if necessary)

n/a

Appendix 4 - Additional detail on conditions/ actions/ results (if necessary)

n/a

Appendix 5 - Revised Surveillance Program (if necessary)

Table 5.1 : Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
4	2 On-site audit 2 off-site	1 auditor onsite 1 auditor remote	Three conditions remain open and therefore the fourth surveillance audit should be onsite if in conjunction with a re-assessment visit.

Table 5.2: Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
4	e.g. February 2014	e.g. February 2018	In line with certificate anniversary

Table 5.3: Fishery Surveillance Program Revised

Surveillance Level	Year 1	Year 2	Year 3	Year 4
Level 4	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit & re- certification site visit.

