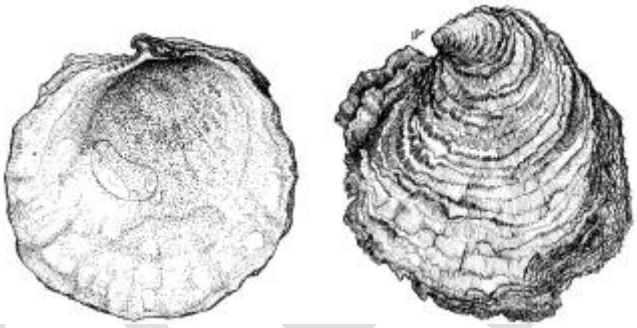
Fisheries Department
6 Redheughs Rigg
South Gyle
Edinburgh, EH12 9DQ

T: 0131 335 6662
E: fisheries@acoura.com

MSC SUSTAINABLE FISHERIES CERTIFICATION

On-Site Surveillance Visit - Report for Limfjord Oyster Dredge Fishery



4th Surveillance Audit

June 2016

Certificate Code	F-ACO-0066
Prepared For:	**Danmarks Fiskeriforening Producent Organisation**
Prepared By:	**Acoura Marine**
Authors:	Jim Andrews, Marie Maar, Andrew Brand

Assessment Data Sheet

Certified Fishery	Limfjord Oyster Dredge
Fishery Management Agency	MFAF, NaturErhvervstyrelsen
Species	**European flat oyster (*Ostrea edulis*)**
Fishing Method	**Oyster dredge**
Certificate Code	F-ACO-0066
Certification Date	3rd May 2016
Certification Expiration Date	2nd May 2017
Certification Body	**Acoura Marine Ltd** 6 Redheughs Rigg Edinburgh EH12 9DQ, Scotland, UK
	Tel: +44(0)131 335 6601
	MSC Fisheries Department
	Email: fisheries@Acoura.com
	Web: www.Acoura.com

Surveillance Stage:	4th Surveillance Audit
Surveillance Date:	5th-7th April 2016

Contents

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.

2 General Information

2.1 Certificate Holder details

Fishery name	Limfjord Oyster Dredge		
Unit(s) of assessment	Limfjord Oysters		
Date certified	3rd May 2012	Date of expiry	2nd May 2017
Surveillance level and type	Surveillance level 6, Onsite audit.		
Date of surveillance audit	5th-7th April 2016		
Surveillance stage (tick one)	1st Surveillance		
	2nd Surveillance		
	3rd Surveillance		
	4th Surveillance	✓	
	Other (expedited etc.)		
Surveillance team	Lead assessor: Jim Andrews Assessor(s): Marie Maar, Andrew Brand		
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)	Polly Burns	
Client contact details	Address	Nordensvej 3 Taulov 7000 Fredericia Denmark	
	Phone/Fax	0045 761 096 53	
	Email	jbj@dkfisk.dk	
	Contact name(s)	Jonathan Jacobson	

3 Background

3.1 Description of the fishery

Historical records show that the European flat oyster, *Ostrea edulis*, has been exploited in the Limfjord for centuries, but the history is marked by enormous fluctuations in the stocks and the success of the fishery, including periods, often of a decade or more, when the fishery has been closed due to the lack of oysters. In recent times the fishery closed in the late 1970s and only resumed again in the 1990s. Cold winter temperatures, damage caused to the seabed and to young oysters by dredging, and overexploitation, have all been considered to be contributing factors but the major factor affecting population fluctuations is the large variation in annual recruitment. In some cases, no spat settlement has occurred for periods of up to 20 years. Limfjord is near to the temperature limit for spawning of *Ostrea edulis* and good spatfalls are confined to warm summers. Restrictions on the introduction of shellfish into the Limfjord mean that the relaying of spat or young oysters brought in from elsewhere is not a management option for this fishery, although this was done on a large scale in the mid-1900s. The future of this fishery therefore seems likely to be based upon occasional strong recruitments of wild stock, which will result in a cyclical fluctuation of fishing activity in line with stock status.

From the beginning of the commercial fishery in Limfjord, management has been under government control. Since 1919 this has been a dredge fishery. There are presently 103 licences issued for oyster fishing in the Limfjord, but only 38 of the licensed operators are presently fishing for oysters. [SEE TABLE]

The oyster fishery in the Limfjord in recent years has been limited to the western end of the fjord, in shellfish production areas 1, 2, 3, 4, 6, 7 and 9. After a long period of very low abundance, oyster stocks and catches increased from 2001 to a maximum catch of 1,489t in 2008, but have since declined rapidly as the stock has dwindled, following the historical patterns of cyclical fluctuation of both stock and fishery. In the past two years the TAC has been limited to 150t of oysters.

Most of the oysters landed from the Limfjord are exported, with the main market in Spain. There is a minimum landing size of 80g for oysters taken within the Nissum Bredning Natura 2000 site (production areas 1-4), and 60g elsewhere.

The Limfjord oyster dredge fishery was first certified against the MSC Standard in May 2012.

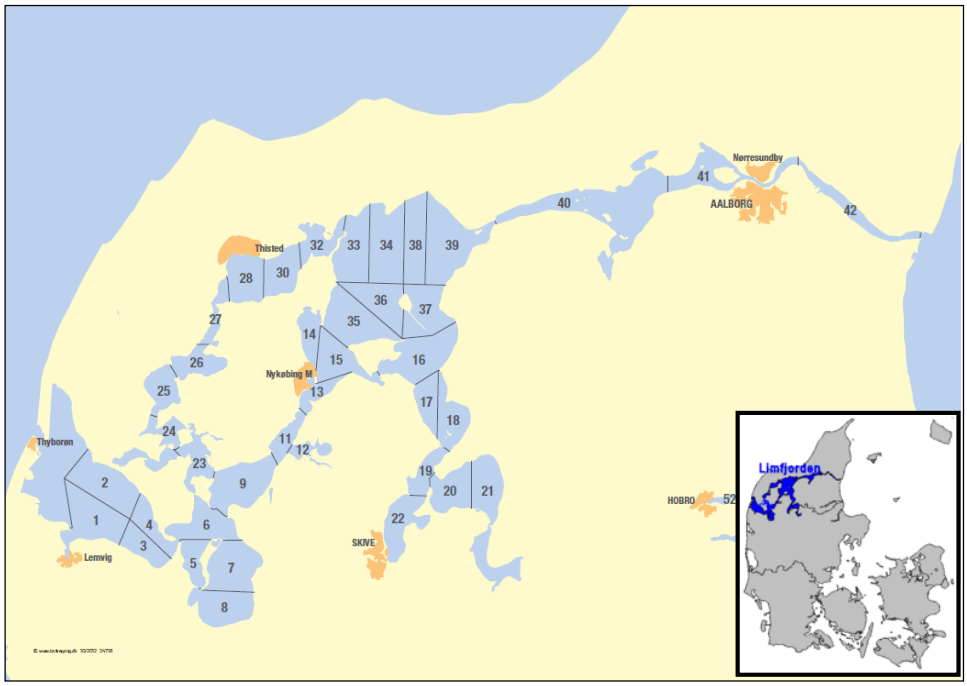


Figure 3-1: Map of the unit of certification area showing designated mussel production areas, in the Limfjord and inset showing the location of the Limfjord in Denmark.

Foreningen
Muslingeerhvervet
www.muslingeerhvervet.dk
21. januar 2016

MSC fartøjer 2016

AS56	Rene Michael Kloosterman
A122	Benny Nielsen
A178	Carsten Nørremark Jensen
A36	Olav Gorm Petersen
A489	Jens Olaf Kamp
A60	Carsten Nørremark Jensen
A956	Allan Leslie Bach
E62	Kaj Iversen
E63	Kaj Iversen
FLH804	Partrederiet Elly T 192
FN43	Valter Vendelbo
HM198	Begitte Aps
HM324	Ernst Egon Christensen
HM404	Morten Konge
HM430	Lille Tot Aps
HM88	Ole Vangsgaard
HM911	Frederik Isaksen Vendelbo
H138	Frederik Isaksen Vendelbo
L10	Reinhardt Schmidt
L11	Poul Kjeldgaard Støvlbæk
L154	Tommy Bach
L158	Poul Jørgen Bach
L206	Niels Ole Hansen
L253	Benny Rimmer Andersen
L32	Hans Jørgen Jensen

Foreningen Muslingeerhvervet , Øroddevej 80, 7900 Nykøbing M.
Tlf. +45 33 14 98 00 – Fax +45 33 14 98 04 – E.mail: fme@musling.eu – CVR 13 79 10 74.
Bankforbindelse: Spar Nord, Kirketorvet 1, 7900 Nykøbing M.
Reg.nr. 8122 – Konto 45 60 68 58 45

Foreningen
Muslingeerhvervet
www.muslingeerhvervet.dk

L34	Jes Andersen
L472	Bruno Eriksen
L491	Bo Husted Kjeldgaard
L500	Jens Sund
L501	Erik Pedersen Kloster
L54	Niels Kjeldgaard Jensen
L82	Allan Leslie Bach
L820	Erik Pedersen Kloster
L900	Jan Torp Nielsen
L929	Herluf Bonde Broberg
L933	Kjeld Strøm Kristensen
L935	Kjeld Møller Pedersen
SK100	Jan Møller
SK106	Alex Sloth Hedegaard
SK132	Svend Søe Bonde
SK18	Herluf Bonde Broberg
SK20	Leo Kjærgaard Andersen
SK49	Johannes Christensen
SK5	Jan Møller
SK50	Johannes Christensen
SK919	Mona Pedersen
SK920	Sk 920 Nitsen Aps
SK923	Holger Norup Havbo
SK924	Povl Erik Norup Havbo
SK925	Jens Sloth Jensen
T112	Peter Bredahl Pedersen
T121	Henrik Støvlbæk Krog
T122	Poul Kjeldgaard Støvlbæk

Foreningen Muslingeerhvervet , Øroddevej 80, 7900 Nykøbing M.
Tlf. +45 33 14 98 00 – Fax +45 33 14 98 04 – E.mail: fme@musling.eu – CVR 13 79 10 74.
Bankforbindelse: Spar Nord, Kirketorvet 1, 7900 Nykøbing M.
Reg.nr. 8122 – Konto 45 60 68 58 45

Foreningen
Muslingeerhvervet
www.muslingeerhvervet.dk

T132	Skaldyrsrederiet Aps
T192	Hans Jørgen Jensen
T194	Tommy Lyng Gertsen
T229	Karl Møller Bekhøj
T300	Poul Kærgaard
T301	Poul Kærgaard
T329	Freddy Kristian Sandbæk
T58	Bent Normann Gade
T60	Tommy Hasager
T72	Lars Kyndi Toft

Med venlig hilsen
Viggo Kjølhede

Foreningen Muslingeerhvervet , Øroddevej 80, 7900 Nykøbing M.
Tlf. +45 33 14 98 00 – Fax +45 33 14 98 04 – E.mail: fme@musling.eu – CVR 13 79 10 74.
Bankforbindelse: Spar Nord, Kirketorvet 1, 7900 Nykøbing M.
Reg.nr. 8122 – Konto 45 60 68 58 45

Figure 3-2: List of vessels in the Limfjord Oyster Dredge fishery Unit of Certification.

3.2 Changes in the management system

There have been no significant changes in the management system reported in the initial certification of the fishery.

It was noted during the surveillance audit that some changes have been made at the Government level with the merging of different Ministries. This has not affected the institutions that are in place for managing shellfisheries in Denmark.

It was also noted that the Danish Government is planning to relocate some government institutions out of Copenhagen (around 3,900 government jobs are affected by this). Although some changes in personnel are anticipated to result from this change, these have not yet taken place, and no institutional changes are presently planned.

The assessment team considered that these changes would not affect the ongoing certification of the fishery.

3.3 Changes in relevant regulations

There have been some changes to the regulation of the mussel and cockle dredge fishery in the Limfjord since certification. These are summarised briefly below:

a) **Vessel licensing** – the number of licences issued remains fixed at 103, but the number of vessels operating in the fishery has reduced to 38. New rules have been introduced to allow the aggregation and renting of licences (and associated quota). Since 2015 vessel owners have also been allowed to rent other licences to allow them to catch more oysters than would be allowed to under a single licence (one vessel was reported to have 16 licences).

   It was noted that overall effort is unchanged, because the TAC is allocated per licence to a fixed number of licences. The changes allow for rationalisation of the fleet and are felt to have contributed to easier management of the fishery.

b) **Experimental oyster relaying area** – an oyster relaying area has been established in the Nissum Bredning Natura 2000 site. Vessels are now required to return any small (<80g weight) oysters to this area, and no dredging is permitted there. The area is shown as a blue box in Figure 3-4. Preliminary indications are that this trial has been successful, and two relaying areas are due to be established for the 2016-17 fishery.

The assessment team considered that these changes would not affect the ongoing certification of the fishery.

3.4 Changes to personnel involved in science, management or industry

It was noted that the manager responsible for administration of the Limfjord shellfishery at NaturErhvervstyrelsen in Copenhagen, Søren Palle Jensen, was due to retire later in 2016.

3.5 Changes to scientific base of information including stock assessments

The overall oyster stock in the Limfjord is surveyed annually, and more detailed investigations of stock status are carried out within the Nissum Bredning Natura 2000 site to ensure that the oyster fishery doesn't harm the wildlife features of the site. A brief summary of the most recent findings is presented below as an update to the information set out in the assessment report.

3.5.1 Nissum Bredning oyster stock

The oysters stock in the Nissum Bredning Natura 2000 site was surveyed in April 2015. The survey results and assessment of potential impacts of an oyster fishery on this area has been published by DTU-Aqua (Nielsen et al, 2015).

The stock distribution is shown in Figure 3-3. The stock biomass was estimated at around 1,300t in waters deeper than 3m. A proposed fishery of 150t of oysters was approved by DTU-Aqua, and a TAC of 150t was implemented by NaturErhvervstyrelsen for the 2015-16 fishery.

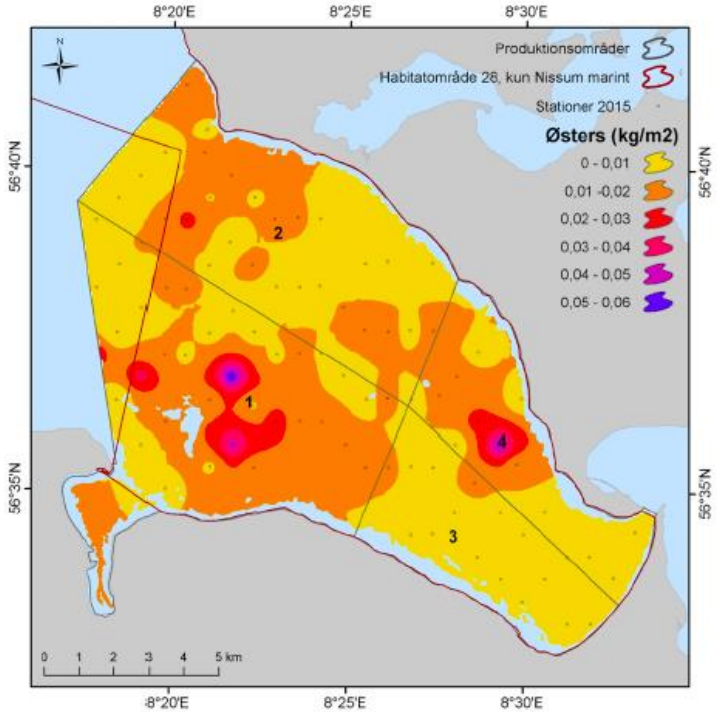


Figure 3-3: Distribution and abundance of oysters in the Nissum Bredning Natura 2000 site, from April 2015 survey data [Source: Nielsen *et al*, 2015]

In addition to the stock survey data, the latest stock assessment also included "black box" data from fishing vessels that shows the exact locations of all fishing activity in 2014-2015. These data are shown in Figure 3-4.

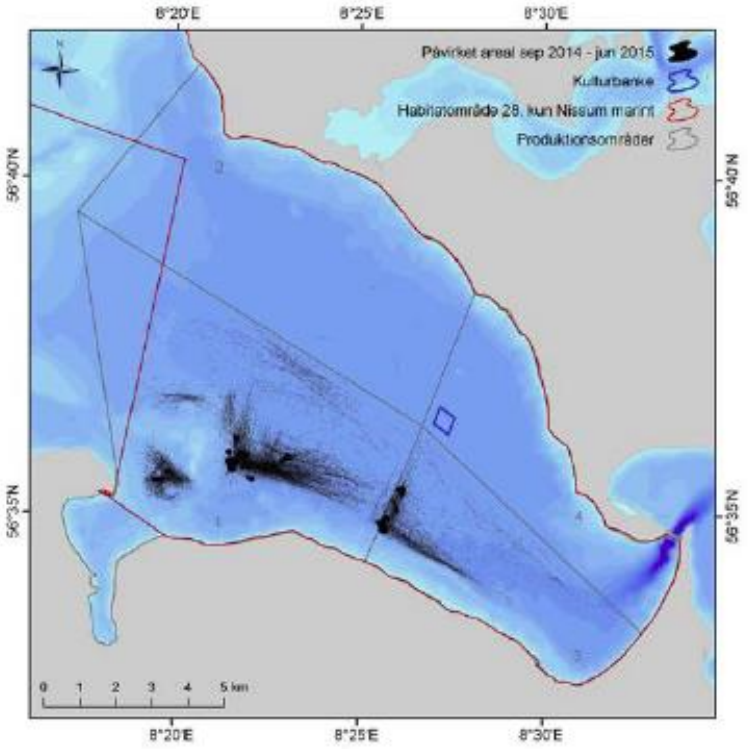


Figure 3-4: Distribution of fishing activity in the Nissum Brednign Natura 2000 site between September 2014 and June 2015. [Source: Nielsen et al, 2015].

The distribution of fishing activity relative to marine habitats, and cumulative impacts on these habitats were assessed for the proposed 2015-16 fishery in the Nissum Bredning Natura 2000 site. No dredging is permitted in areas where eelgrass occurs, and impacts on this habitat are considered to be negligible. There has been little impact on other marine habitats in recent years. It was estimated that the 2015-16 fishery could impact up to 1.7% of the total distribution of macroalgae in Nissum Bredning, and cumulative impacts were estimated at 11.5% (mostly due to the location of fishing in the 2011-12 fishing season).

3.5.2 Oyster stock outside Nissum Bredning

In addition to the stock survey and impact assessment for the Nissum Bredning Natura 2000 site, DTU-Aqua has surveyed the distribution and abundance of oysters further to the north and east (see Figure 3-5). This survey found a very low density of oysters in these areas, with a stock estimated at around 290t.

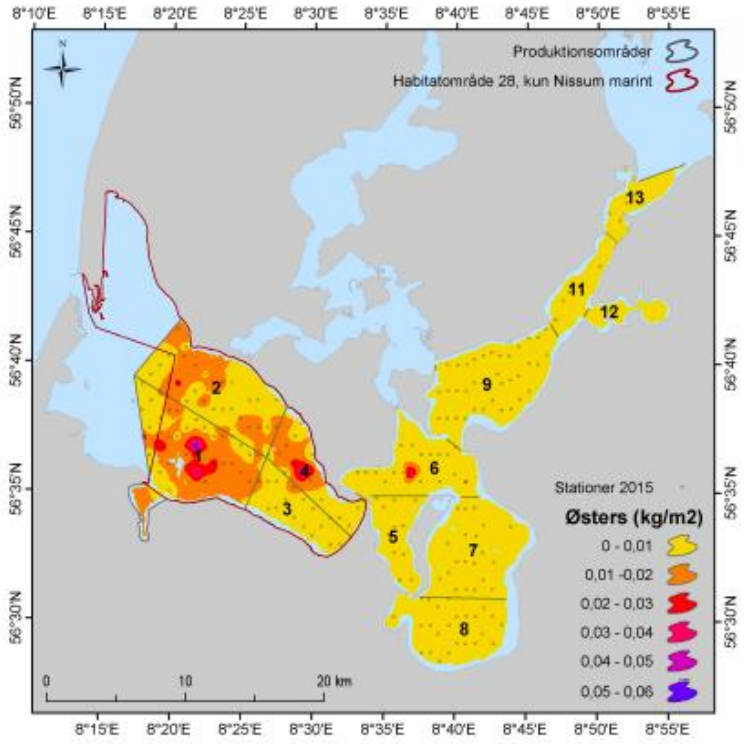


Figure 3-5: Distribution and abundance of oysters in the western Limfjord, from April 2015 survey data [Source: DTU-Aqua, 2015]

In the light of the low stock density and abundance recorded in this survey, DTU-Aqua recommended that there should be no oyster fishing outside production areas 1-4. NaturErhvervstyrelsen implemented this control on the fishery for the 2015-16 fishery.

3.5.3 Overall stock

The overall stock biomass of oysters in the Limfjord is presently estimated at around 1,590t. This is similar to the biomass estimate in the past two years (Figure 3-6). The stock has fallen from a peak of around 10,000t in 2007. The fall in biomass is due principally to natural mortality and poor recruitment over the past few years, both of which are attributed to unfavourable environmental conditions (cold winters and hot summers), low oxygen levels during the summer, and also starfish predation. The pattern of generally low biomass with occasional good recruitment is typical of the Limfjord oyster stock since records began.

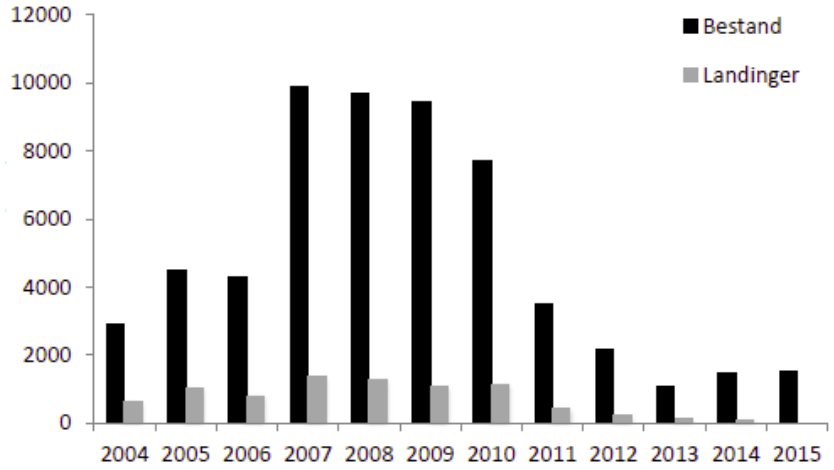


Figure 3-6: Standing stock (Bestand) and landings (Landinger) in tonnes from the Limfjord oyster fishery, 2004-2015. [Source: Nielsen et al, 2015].

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

This fishery is not enhanced. However, it was noted during the site visit that DTU-Aqua staff at the Danish Shellfish Centre in Nykøbing Mors have been working for several years on a project to produce hatchery-reared flat oysters.

It was reported that the technical problems of rearing juvenile oysters in the hatchery and growing them to adequate size for release into the wild have now been addressed. During 2015 some hatchery-reared oysters were introduced into some experimental areas in Nissum Bredning. The success of this activity has yet to be formally evaluated.

The extent of stock management with hatchery-reared oysters will be kept under review at future audits. For the time being it is clear that this remains a wild oyster fishery.

3.7 Any developments or changes within the fishery which impact traceability or the ability to segregate between fish from the Unit of Certification (UoC) and fish from outside the UoC (non-certified fish)

There have been no changes within the fishery that could impact traceability.

3.8 TAC and catch data

The most recent TAC and greenweight catch data for the oyster fishery are set out in the table below.

Table 3.8-1: TAC and catch data for the Limfjord oyster fishery [Source: NaturErhvervstyrelsen database]

TAC	**Year**	**2015-16**	**Amount**	**150t***
UoA share of TAC	**Year**	**2015-16**	**Amount**	**100%**
UoC share of TAC	**Year**	**2015-16**	**Amount**	**100%**
Total green weight catch by UoC	**Year (most recent)**	**2015-16**	**Amount**	**136.5t***
	Year (second most recent)	**2014-15**	**Amount**	**81t◊**

Notes

* The 2015-16 TAC was allocated solely for production areas 1-4. No fishing was permitted outside this area.

◊ The 2014-15 TAC was split between the Nissum Bredning Natura 2000 site (production areas 1-4) and other production areas. 100t were allocated to Nissum Bredning, and 50t to the other production areas.

3.9 Summary of Assessment Conditions and Recommendations

3.9.1 Conditions of certification

There were three conditions of certification, summarised in the table below.

Table 3.9-1 Summary of Assessment Conditions

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1.2.3	Closed at this audit.	70	80
2	2.2.3	Closed at this audit.	70	80
3	3.2.4	Closed at third surveillance audit.	70	80

3.9.2 Recommendations

There was one certification recommendation, summarised below.

Table 3.9-2: Summary of recommendations

Recommendation number	Performance indicator (PI)	Recommendation
1	2.4.3	The score awarded for PI 2.4.3 could be improved if experimental work was carried out to quantify the effects of the fishery on marine habitats (such as the creation of experimental dredging exclusion zones).

4 Assessment Process

4.1 Details of 4th Surveillance Audit Process

As a result of the assessment, three conditions of certification were raised by the assessment team, and maintenance of the MSC certificate is contingent on the Limfjord Oyster Dredge fishery moving to comply with these conditions within the time-scales set at the time the certificate was issued. In addition, one recommendation was made which, whilst not obligatory, the client is encouraged to act upon within the spirit of the certification.

4.2 Scope & History of the Assessment

4.2.1 Surveillance team details

The MSC require that surveillance audits shall be carried out by a team of two or more individuals with expertise comparable to the members of the original team (that conducted the assessment of the fishery). If different from the original assessment team, the MSC also require that the selection of individuals to conduct audits shall be justified in writing and their relevant skills and/or expertise documented. This information is documented below.

The original assessment team for the fishery comprised Jim Andrews (Team Leader, Principle 3), Andy Brand (Principle 1) and Marie Maar (Principle 2). This surveillance audit was carried out by this original assessment team. Jim Andrews and Marie Maar participated on-site, and Andy Brand participated off-site, following approval of a variation request submitted to the MSC to allow this.

Brief resumes of the team's experience are set out below.

Jim Andrews

Jim is a marine biologist with over 20 years' experience working in marine fisheries and environmental management. He currently works as an independent fisheries and marine environmental consultant. His previous experience includes running the North Western and North Wales Sea Fisheries Committee as its Chief Executive from 2001 to 2005, and previously working as the SFC's Marine Environment Liaison Officer. During this time, he was responsible for the regulation, management and assessment of inshore finfish and shellfish stocks along a 1,500km coastline. He has an extensive practical knowledge of both fisheries and environmental management and enforcement under UK and EC legislation. Jim has formal legal training & qualifications, with a special interest in the policy, governance and management of fisheries impacts on marine ecosystems. He has worked as an assessor and lead assessor on more than 20 MSC certifications within the UK, in Europe and in India since 2007. In 2008 he worked with the MSC and WWF on one of the pilot assessments using the new MSC Risk Based Assessment Framework. Jim has carried out numerous MSC Chain of Custody assessments within the UK.

Dr Andy Brand

Andy Brand worked for 40 years on the academic staff of the Port Erin Marine Laboratory, Isle of Man, retiring in 2006 as Director of the Laboratory. During this time, he developed large, well-funded, research programmes on the biology, ecology, aquaculture and fisheries of bivalve molluscs, especially scallops, and on the environmental impact of scallop dredging. He has had extensive fishery management and environmental assessment consultancy experience, including contracts with government departments and industry, and has been a member of ICES Working Groups on herring, scallops and ecosystem effects of fishing. In addition to work in the Irish Sea he has studied, and advised, on scallops and fisheries management in Alaska, Argentina, Australia, Bermuda, Chile, Ireland, France and the Philippines. He is now an Honorary Senior Fellow of the University of Liverpool and works as an independent consultant on shellfisheries. He has recent experience as an assessor and independent reviewer for Marine Stewardship Council certifications for scallop, mussel, clam and oyster fisheries in the Irish Sea, Faroes, Denmark, Netherlands, Spain, India, the USA and Canada.

Dr Marie Maar

Marie Maar is a senior researcher at the Aarhus University (AU), Denmark. She has participated in several large EU- and national funded research projects on the ecology of bivalves, ecosystem dynamics and environmental effects of aquacultures and offshore platforms with special emphasis on blue mussels. In addition, she has conducted environmental assessment consultancy for government

departments. Marie has 15 years of experience within marine ecology and has published >40 peer-reviewed papers.

4.2.2 Date & Location of surveillance audit

Notice of the surveillance audit was placed on the MSC website on 4th March 2016. A site visit took place in Nykøbing Mors, Denmark between the 5th and 6th April 2016.

4.2.3 Stakeholder consultation & meetings

A total of 32 stakeholder organisations and individuals having relevant interest in the assessment were identified and notified, via e-mail, of surveillance process. This highlighted the potential process for engagement in the surveillance, if desired. In addition, the interest of others not appearing on this list was solicited through the postings on the MSC website. No stakeholders came forward requesting a meeting with members of the assessment team and no written submissions were received.

Meetings were conducted with the following individuals & organisations:

1) Søren Mattesen, Managing Director, Vilsund Blue A/S, Nykøbing Mors, 5th April 2016
2) Viggo Kjøhelde, Chairman, Foreningen Muslingeerhvervet, Nykøbing Mors, 5th April 2016
3) Jane Gertsen, Account Manager, Foreningen Muslingeerhvervet, Nykøbing Mors, 5th April 2016
4) Mogens Andersen, Fishery Controller, NaturErhvervstyrelsen, Nykøbing Mors, 6th April 2016
5) Jonathan Jacobsen, Danish Fishermen's Producer Organisation, Nykøbing Mors, 6th April 2016.

4.2.4 What was inspected

This audit concentrated on assessing whether and/or how the client has been addressing the conditions raised in the original assessment. In addition, a review was carried out of operational and management changes in the past year. This was done by review of information provided by the client (see appendix 6 for references used), interviews and e-mail exchanges, as required.

4.3 Surveillance Standards

4.3.1 MSC Standards, Requirements and Guidance used

This surveillance audit was carried out according to the procedures set out in the MSC Fisheries Certification Requirements v2.0, and using the CRv1.3 Standard.

4.3.2 Destructive fishing practices

The client confirmed that no destructive fishing practices (explosives or poisons) are used in this fishery.

4.3.3 Controversial unilateral exemptions

No indication was given during the site visit that the fishery is subject to any controversial unilateral exemptions.

4.3.4 Harmonisation

There are no other MSC-certified oyster fisheries in the Limfjord. There are no harmonisation requirements for this fishery.

5 Results

5.1 Conditions of Certification

5.1.1 Condition 1: Information & Monitoring

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.3	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy. Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule. There is good information on all other fishery removals from the stock	70
Condition	The status of the oyster stocks outside Natura 2000 sites should be monitored at a frequency and accuracy that is adequate to support the harvest control rules in place for the oyster fishery.		
Milestones	An appropriate monitoring programme should be agreed with relevant agencies within 12 months of certification. Evidence of implementation should be provided within 2 years of certification. Reports of monitoring should be provided within 4 years of certification. The results of on-going monitoring will be reviewed in all subsequent surveillance audits.		
Client action plan	We will work with DTU-Aqua to develop a monitoring programme for the unit of certification area that will enable the abundance of the oyster stock to be estimated at a level of accuracy and coverage that is sufficient to verify that the harvest controls in place are effective. This monitoring programme will seek to utilise both fishery dependent data (such as CPUE) and fishery-independent data as well as the results of industry test dredging and formal survey data to provide optimum and efficient coverage of the unit of certification area. Within 12 months of certification we will have agreed a monitoring programme with DTU-Aqua and other relevant organisations. This programme will be available for scrutiny at the first surveillance audit. By the time of the second surveillance audit we will have implemented the new monitoring programme, and will provide evidence of this. Within 4 years of certification we will provide reports of the outcome of monitoring of the fishery, and this will be available for scrutiny at the fourth annual surveillance audit. DTU-Aqua have been consulted about this action plan to develop a monitoring programme, and have agreed to work in partnership with us to support its implementation.		

Progress on Condition: Year 1	The findings from the first surveillance audit are reproduced below: *The most recent stock survey, which was completed in June 2012, provides evidence that the oyster stock is being monitored throughout the unit of certification and not just within the Nissum Bredning Natura 2000 site.* *In the 2012 survey, a total of 180 stations were sampled in 12 production areas. 4 of the production areas (1-4) are within the Nissum Bredning Natura 2000 site, where 83 samples were taken. The remaining 97 samples were taken outside the Natura 2000 area.* *The 2012 survey showed a stock of just over 1,500t in the Nissum Bredning Natura 2000 site, and just over 600t in the other production areas.* *In response to the survey results, the TAC for 2012-13 was reduced to 200t.* ***Conclusion*** *There is evidence that the monitoring programme for this stock has been extended, as required by this condition in year 1; and also that this new monitoring programme was implemented in 2012, which was ahead of schedule for the condition. Furthermore, there is evidence that the results of monitoring have already been reported and that the management system has responded to these results with an adjustment of the TAC.* *It is therefore concluded that progress with this condition is **ahead of target**. The timescale for this condition extends for a further 3 years, so it is appropriate for it to remain open.*
Progress on Condition: Year 2	The findings from the second surveillance audit are reproduced below: *The most recent stock survey, which was completed in June 2013, provides further evidence that the oyster stock is being monitored throughout the unit of certification and not just within the Nissum Bredning Natura 2000 site.* *In the 2013 survey, a total of 202 stations were sampled in 12 production areas in waters deeper than 3m. 4 of the production areas (1-4) are within the Nissum Bredning Natura 2000 site, where 88 samples were taken. The remaining samples were taken outside the Natura 2000 area.* *The 2013 survey showed a stock of 679t in the Nissum Bredning Natura 2000 site, and 398t in the other production areas (all in areas deeper than 3m; it should be noted that there is a considerable, but unquantified, stock in the shallower waters).* *In response to the survey results, the TAC for 2013-14 was reduced to 130t, all of which is to be taken outside the Nissum Bredning Natura 2000 site.* *There were anecdotal reports of very good spat settlement in 2013, as may have been expected because of the warm summer conditions. While this is a good sign for the future, it remains to be seen whether this year-class will lead to strong recruitment of harvestable oysters in 3-4 years' time.* *The observations at this audit provide further evidence of implementation of the extended stock monitoring programme as well as evidence that the results of monitoring have already been reported and that the management system has responded to these results with an adjustment of the TAC.*

	It is therefore concluded that progress with this condition remains ahead of target. The timescale for this condition extends for a further 2 years, so it is appropriate for it to remain open. ***Conclusion*** *The observations at this audit provide further evidence of implementation of the extended stock monitoring programme as well as evidence that the results of monitoring have already been reported and that the management system has responded to these results with an adjustment of the TAC.* *It is therefore concluded that progress with this condition remains **ahead of target**. The timescale for this condition extends for a further 2 years, so it is appropriate for it to remain open.*
Progress on Condition: Year 3	The findings from the third surveillance audit are reproduced below: *The 2014 stock assessment provides further evidence that the oyster stock is monitored throughout the unit of certification area and not just in the Nissum Bredning Natura 2000 site.* *In the 2014 survey, a total of 205 stations were sampled in the Limfjord. Of these, 91 sample stations were in the Nissum Bredning area and 114 stations outside the area. The total stock biomass was estimated at 1461t. In response to this a TAC of 150t was set (100t within the Nissum Bredning Natura 2000 site, and 50t outside that area).* *The industry reported that the TAC had not been fully utilised in the 2014-15 season, partly because of the low density of oysters which made fishing uneconomical; and partly in response to catches of small oysters in Area 6, which led to a self-imposed cessation of fishing in that area in order to allow the small oysters to grow without disturbance.* *It was also reported that starfish are abundant in the area. Some experimental fishing for starfish has been conducted, partly as an attempt at oyster stock husbandry, and partly because starfish have an economic value.* ***Conclusion*** *The observations at this audit provide further ongoing evidence of implementation of the extended stock monitoring programme as well as evidence that the results of monitoring have already been reported and that the management system has responded to these results with an adjustment of the TAC.* *It is therefore concluded that progress with this condition remains **ahead of target**. The timescale for this condition extends for a further year, so it is appropriate for it to remain open.*
Progress on Condition: Year 4	The 2015 stock assessments for the Nissum Bredning Natura 2000 site (Nielsen et al, 2015) and for the areas outside the Natura 2000 site (DTU-Aqua, 2015) provide further evidence of ongoing monitoring and adaptive management of the oyster stock. The key findings of these stock assessments are summarised in section 3.5 of this surveillance report.
Status of condition	The observations at this audit provide further ongoing evidence of implementation of the extended stock monitoring programme as well as evidence that the results of monitoring have already been reported and that the management system has responded to these results with an adjustment of the TAC.

	The response of the client and DTU-Aqua to the requirements of this condition was swift and has been maintained from the first surveillance audit to this fourth audit. It is therefore concluded that progress with this condition can be **closed**. A revised rationale and scoring for the relevant Performance Indicator is set out in Appendix 1 of this report.

5.1.2 Condition 2: Discarded non-target species – information & monitoring

Performance Indicator(s) & Score(s)	**Insert relevant PI number(s)**	**Insert relevant scoring issue/ scoring guidepost text**	**Score**
	2.2.3	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery. Information is sufficient to estimate outcome status with respect to biologically based limits. Information is adequate to support a partial strategy to manage main bycatch species. Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).	70
Condition	A monitoring programme should be established to provide better information about the species discarded from the oyster fishery. This programme should be designed to provide quantitative information that enables the outcome status for these species with respect to biologically based limits.		
Milestones	An appropriate monitoring programme should be agreed with relevant agencies within 12 months of certification. Evidence of implementation should be provided within 2 years of certification. Reports of monitoring should be provided within 4 years of certification. The results of ongoing monitoring will be reviewed in all subsequent surveillance audits.		
Client action plan	We will work with DTU-Aqua and other interested parties to develop a monitoring programme for discards from the oyster fishery. This programme will provide information about the nature and quantity of species that are discarded from oyster dredging vessels. Within 12 months of certification we will have agreed a discard monitoring programme with DTU-Aqua and other relevant organisations. This programme will be available for scrutiny at the first surveillance audit. By the time of the second surveillance audit we will have implemented the new monitoring programme, and will provide evidence of this. Within 4 years of certification we will provide reports of the outcome of monitoring of the fishery, and this will be available for scrutiny at the fourth annual surveillance audit. DTU-Aqua and Fiskeridirektoratet have been consulted about this proposal to produce a discard monitoring plan, and have agreed to co-operate with its implementation.		

Progress on Condition: Year 1	The findings from the first surveillance audit are reproduced below: *During the site visit the Assessment Team observed video of oyster fishing vessels in operation, which confirmed the view that the fishery is very clean, and that discards are limited to starfish and other marine invertebrates that are returned to the sea whilst the catch is sorted on board the fishing vessel.* *Interviews with the client and DSC confirmed that a formal discard monitoring programme has not yet been agreed or implemented.* *The client reiterated their commitment to work with DTU Aqua to prepare and implement an appropriate discard monitoring programme for this fishery.* ***Conclusion*** *Progress with this condition is presently **behind target**.* *In order to put progress back on schedule, the AT has asked the client to work with DTU-Aqua to prepare a discard monitoring programme that meets the SG80 requirements for this PI within 3 months of this surveillance audit.*
Progress on Condition: Year 2	The findings from the second surveillance audit are reproduced below: *The client provided an appropriate research plan which included actions to address this issue within 3 months of the 2013 surveillance audit, which put progress back on schedule.* *Evidence of implementation of the monitoring programme for non-target species was provided at this surveillance audit. Scientists from DTU-Aqua and the oyster fishing industry have agreed a monitoring programme which will examine the discarded species at random from 5 oyster fishing vessels.* *Field work is due to start in March 2014, and the result of this research are due to be reported later in the year. The start of the field work is ahead of the second anniversary of certification, which is the deadline for the condition.* ***Conclusion*** *Evidence of progress with this condition was provided at the site visit. Progress is now **on target** and it appears likely that progress will be ahead of target by the time of the second anniversary of certification in May 2014.*
Progress on Condition: Year 3	The findings from the third surveillance audit are reproduced below: *A report on catch composition in the Limfjord oyster dredge fishery was submitted at this surveillance audit (Gommesen & Fomsgaaard, 2014). This report presented data gathered by workers from DSC/DTU-Aqua from analysis of 12 fishing trips during the 2013-14 fishing season.* *The key findings of this work were that:* • *Dead material (mostly old oyster shells) form the bulk of the catch (~65%).* • *Oysters make up less than 10% of the total catch.* • *Undersized oysters make up less than 1% of the total catch.* • *Around 24% of the catch is made up of non-target animal species, mostly other invertebrate species. The only species that comprised more than 2.5% of the catch were starfish, which made up 15% of the catch in oyster dredges.*

	The information presented at this audit provides some independently verifiable information to support the anecdotal reports about catch composition presented at previous audits. ***Conclusion*** *The presentation of a report of catch monitoring at this audit is **ahead of schedule**. The condition was set against a 4 year timescale, so it is appropriate that it should remain open until the fourth surveillance audit.*
Progress on Condition: Year 4	The findings of the report submitted at the third surveillance audit were discussed with stakeholders during this audit. No further quantitative catch analysis has been carried out. Stakeholders interviewed at this surveillance audit confirmed that the catch composition described in that report is typical of that found in all oyster fishing areas and remains relevant.
Status of condition	The confirmation from stakeholders that the findings of the 2014 study of catch composition remains relevant enables this condition to be **closed** on schedule. A revised rationale and scoring for the relevant Performance Indicator is set out in Appendix 1 of this report.

5.1.3 Condition 3: Research Plan

Performance Indicator(s) & Score(s)	**Insert relevant PI number(s)**	**Insert relevant scoring issue/ scoring guidepost text**	**Score**
	3.2.4	A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are disseminated to all interested parties in a timely fashion.	70
Condition	A research plan should be produced for the fishery, setting out a strategic framework for research that will provide reliable and timely information describing the fishery, the state of the stock, and effects of the fishery on the environment.		
Milestones	A draft research plan should be produced within 12 months and agreed with all interested parties within 2 years.		
Client action plan	We will work with DTU-Aqua and other interested parties to develop a research plan for the oyster fishery that sets out a strategic approach to research. This research plan will provide reliable and timely information that will inform the management of the fishery. We will develop a draft plan within 12 months of certification of the fishery, which will be available for inspection at the first annual surveillance audit. We will seek agreement to the research plan within 2 years of certification and present evidence of this for scrutiny at the second surveillance audit. DTU-Aqua and Fiskeridirektoratet have been consulted about this proposal to produce a research plan, and have agreed to co-operate with its implementation.		
Progress on Condition: Year 1	The findings of the first surveillance audit are reproduced below: *Research has been carried out by DTU-Aqua and the Dansk Skaldyrcenter (Danish Shellfish Centre, DSC) into a number of aspects*		

	of the shellfish fisheries in the Limfjord, including research into the oyster fishery. *Recent research projects include stock assessments carried out by DTU-Aqua (Dolmer et al, 2011; Dolmer, 2012). DSC have also established a native oyster hatchery at Nykøbing Mors and are planning to rear seed oysters as part of trial restocking of the Nissum Bredning area.* *While it is clear that much relevant research continues to be carried out, there is no evidence of progress with the production of a research plan that would set a strategic context for ongoing investigation of the oyster fishery.* ***Update – June 2013*** *Whilst this report was in preparation, a draft research plan was submitted to the assessment team by the client fishery. This plan identified the key priorities for research as:* *1. Restocking of the oyster beds using hatchery-reared oysters.* *2. Investigating the effect of predators on the oyster stock.* *3. Researching the environmental impacts of fishing.* ***Conclusion*** *At the site visit, progress with this condition was behind target.* *In order to put progress back on schedule, the AT asked the client to work with DSC / DTU-Aqua to prepare a draft research plan that meets the SG80 requirements for this PI within 3 months of this surveillance audit.* *The submission of this draft research plan in June 2013 has put progress with this condition back* ***on target****.*
Progress on Condition: Year 2	The findings of the second surveillance audit are reproduced below: *The client provided an appropriate research plan which included actions to address this issue within 3 months of the 2013 surveillance audit, which put progress back on schedule.* *Evidence was presented at the site visit to demonstrate that all relevant parties had committed to the research plan and are taking action to implement it. Specifically:* • ***Restocking*** *– trial restocking of a small experimental area in the Nissum Bredning oyster bed is being undertaken. Small oysters are being produced both in a hatchery (at the DTU-Aqua facilities in Nykøbing Mors) and also collected using spat collectors (empty mussel shells in mesh bags).* • ***Starfish predation*** *– DTU-Aqua are investigating the role of starfish as predators on oysters, and the potential for managing the starfish population in order to sustain the oyster stock.* • ***Discards*** *– DTU-Aqua are working with the fishermen to implement a discard monitoring programme, due to start in March 2014.* • ***Environmental effects*** *– DTU Aqua are monitoring the extent of eelgrass and macroalgae in the western Limfjord as part of the monitoring of habitats in the Nissum Bredning Natura 2000 site, which has historically been the most important oyster fishing ground.*

	Conclusion *There is evidence that the interested parties have agreed to a research plan for this fishery, and that action is being taken to implement the proposals set out in the research plan. Progress with this condition is therefore considered to be* ***ahead of target****.* *It will be appropriate to review evidence of implementation at the third surveillance audit in 2015 before determining this condition.*
Progress on Condition: Year 3	The findings from the third surveillance audit are reproduced below: *Evidence was presented at this surveillance audit which demonstrated that the research plan is being implemented. The key evidence presented this year was that:* • *Discard monitoring - this has taken place (see comments under Condition 2 above);* • *Environmental effects – DTU Aqua continue to monitor the extent of eelgrass and macroalgae in the Nissuim Bredning Natura 2000 site as part of the commitment to monitor and manage the potential habitat impacts of this fishery; and* • *Starfish predation – some trial fishing of starfish is taking place as part of experimental husbandry to investigate the possible effect that this predator may have on oyster stocks.* *The information presented demonstrates collaboration between Foreningen Muslingeerhvervet and DSC/DTU-Aqua which is delivering the research plan for this fishery. The results of research are being disseminated by DTU-Aqua to interested parties.* ***Conclusion*** *The evidence presented at this audit demonstrates that the agreed research plan is being implemented and that results are being disseminated. Progress with this condition remains* ***ahead of target.*** *In response to the findings at this audit, the assessment team has re-scored the Performance Indicator and has closed this condition (see Appendix 1 of this report).*
Progress on Condition: Year 4	Evidence was presented at this surveillance audit which demonstrated ongoing implementation of the research plan for the oyster fishery. The key evidence presented this year included: • **Environmental effects** – DTU Aqua continue to monitor the extent of eelgrass and macroalgae in the Nissuim Bredning Natura 2000 site as part of the commitment to monitor and manage the potential habitat impacts of this fishery; and • **Relaying of juveniles** – a trial relaying area has been established in the centre of the Nissum Bredning site. Dredging for oysters is prohibited in this area and fishermen are required to relay any small (<80g) oysters in their catch in this area. • **Stock enhancement** – DTU-Aqua staff at the Danish Shellfish Centre in Nykøbing Mors gave the assessment team a tour of the oyster hatchery where they have been working to rear *Ostrea edulis* juveniles. During 2015, some hatchery-reared juveniles were transplanted into shallow water in the Limfjord. The survival and growth of these individuals is being monitored. The information presented demonstrates that ongoing collaboration between Foreningen Muslingeerhvervet, DFPO and DTU-Aqua which is delivering the

	research plan for this fishery. The results of research are being disseminated by DTU-Aqua to interested parties.
Status of condition	This condition was closed at the third surveillance audit. Evidence of an ongoing commitment to research into the oyster fishery was presented at this fourth surveillance audit. The assessment team has concluded that the condition should remain closed.

5.2 Recommendations

The assessment team made a recommendation that would improve the performance of the fishery against the MSC Principles and Criteria. Recommendations do not have to be implemented to maintain certification, and accordingly the action taken and timescales are at the discretion of the client.

Progress with recommendations is reviewed below.

5.2.1 Recommendation 1: Habitats Information & Monitoring

Performance Indicator(s) & Score(s)	**Insert relevant PI number(s)**	**Insert relevant scoring issue/ scoring guidepost text**	**Score**
	2.4.3	The physical impacts of the gear on the habitat types have been quantified fully.	90
Recommendation	The score awarded for PI 2.4.3 could be improved if experimental work was carried out to quantify the effects of the fishery on marine habitats (such as the creation of experimental dredging exclusion zones).		
Observations: Year 1	The findings of the first surveillance audit are reproduced below: *It was reported that the approach to protecting eelgrass beds from the effects of dredging is under review in other parts of the Limfjord. If new management measures prove successful in other areas, it is thought likely that they would be implemented for eelgrass and other vulnerable marine habitats in the vicinity of the oyster dredge fishery.* ***Conclusion*** *Although there has been no direct progress with this issue, it is clear that the interaction between dredge fisheries and marine habitats in the Limfjord is under scrutiny, and that progress might be made with this recommendation over the period of certification.*		
Observations: Year 2	The findings of the second surveillance audit are reproduced below: *It was reported that work is being carried out to monitor the extent of sensitive marine habitats in the Nissum Bredning. Continuing this work while the area is closed to fishing (due to poor recruitment & low oyster stock) will provide a better understanding of the potential direct and indirect impacts of dredging on these habitats.* ***Conclusion*** *With the closure of the Nissum Bredning area and ongoing monitoring of habitats in this area, it may be possible over time to make progress with this recommendation.*		
Observations: Year 3	The findings from the third surveillance audit are reproduced below: *It is evident that the extent of habitats within the Nissum Bredning Natura 2000 site continued to be monitored during 2013-14 when there was no*		

	dredging for oysters in this area. However, it is not yet clear whether this information shows (or is capable of showing) any quantifiable impacts of the dredge fishery on marine habitats in the area as a result of the temporary cessation in dredging and its subsequent resumption in the 2014-15 season. ***Conclusion*** *As with previous audits, it is clear that information is being gathered which might be capable of providing a quantified understanding of the impact of oyster dredges on marine habitats. At present there is no indication that this information has yet been analysed to determine this.*
Observations: Year 4	The extent of marine habitats in the Nissum Bredning Natura 2000 site was monitored again in 2015 (and documented in Nielsen et al 2015). This report shows that sensitive marine habitats (such as eelgrass beds) are thriving within the areas established to protect them from dredging. The cumulative physical impact of dredging on each sensitive marine habitat in the Natura 2000 site has been quantified through measurement of the area of seabed swept by dredges annually and information about the recovery rates of different habitats from dredge impacts. Given the scale of the fishery and the Natura 2000 site, and the nature of the information that can be gathered from survey work within the site, the cumulative impact measurement represents a pragmatic measure of the physical impact of the gear on the key marine habitats in the area.
Conclusion:	It is clear from the analysis set out in the Natura 2000 assessment that information is being gathered which provides a quantified understanding of the impact of oyster dredges on marine habitats. The estimation of cumulative impact represents a pragmatic use of this information, meeting the objectives of this recommendation.

6 Conclusion

6.1 Summary of findings

1) The client and other stakeholders have presented evidence of ongoing stock assessment and active management of the fishery at this audit.
2) There is evidence from stock surveys that the oyster stock in the Limfjord is presently at a low level after several years of high natural mortality and poor recruitment. This is typical of the stock dynamics in the Limfjord. The TAC has been adjusted in response to the change in stock abundance.
3) NaturErhvervstyrelsen have confirmed that the certified fishery is compliant with all regulations in place, and that there have been no issues of non-compliance.
4) Three conditions of certification were set for the fishery when it was certified. The status of these conditions following this surveillance audit can be summarised as:
    a. Condition 1 (target species information): information has been presented at this and previous surveillance audit to allow this condition to be **closed** at this surveillance audit.
    b. Condition 2 (discarded non-target species information): information has been presented at this and previous surveillance audit to allow this condition to be **closed** at this surveillance audit.
    c. Condition 3 (research plan): this condition was **closed** at the third surveillance audit.
5) Having reviewed all of the evidence presented at this audit, the surveillance team found no changes in the status or management of this fishery that would require re-scoring of any Performance Indicators (apart from PI1.2.3 and PI2.2.3 in connection with the closing of Conditions 1 & 2).
6) We conclude that the fishery continues to meet the MSC Certification Requirements, and that **MSC Certification should continue with annual surveillance audits**.

7 References

Bergmann, M., & Moore, P.G., 2001. Mortality of *Asterias rubens* and *Ophiura ophiura* discarded in the *Nephrops* fishery of the Clyde Sea area, Scotland. ICES J. Mar. Sci., **58**, 531-542.

Dansk Skaldyrcenter/DTU-Aqua, 2014. Notat: Screening om fagligt grundlag for tilladelse til østersfiskeri i Limjorden 2014/15. DTU Aqua, Charlottenlund. 10pp.

DTU-Aqua, 2015. Notat: Rådgivning vedr. østersfiskeri i områderne udenfor Nissum Bredning. DTU-Aqua, Charlottenlund. 2pp.

Dolmer P., Poulsen L.K, Christoffersen M., Geitner K., & Larsen F. (2011) Konsekvensvurdering af fiskeri af østers i Nissum Bredning 2011/2012. DTU Aqua-rapport nr. 245-2011. Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet, 57 s. + bilag Available from: http://www.aqua.dtu.dk/upload/aqua/publikationer/forskningsrapporter/245-2011_konsekvensvurdering-af-fiskeri-af-oesters-i-nissum-bredning-2011-12.pdf

Dolmer, P. (2012). Østersfiskeri i Nissum Bredning 2012/2013. DTU-Aqua Notat, 15 Juni 2012, 11/01618. 6pp. Unpublished Report.

Fomsgaard, C., Geitner, K. & Petersen, J.K. (2013). Notat om fagligt grundlag for tilladelse til østersfiskeri i Limjorden 2013/14. 7pp. Unpublished DTU-Aqua report.

Gommesen, M., & Fomsgaard, C., 2014. Bifangst ved skrab af østers. DTU-Aqua, Dansk Skaldyrcenter. 4pp.

Nielsen P., Canal-Vergés P., Nielsen C. F., Geitner K. & Petersen J. K. Konsekvensvurdering af fiskeri efter østers i Nissum Bredning 2015/2016. DTU Aqua-rapport nr. 303-2015. Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet. 46 pp. + bilag. Available from: http://www.aqua.dtu.dk/-/media/Institutter/Aqua/Publikationer/Forskningsrapporter_301_351/303-2015_Konsekvensvurdering-af-fiskeri-efter-oesters-i-Nissum-Bredning-2015-2016.ashx?la=da

Petersen J. K., Gislason H, Fitridge I, Saurel C, Degel H & Nielsen C. F. Fiskeri efter søstjerner i Limfjorden. Fagligt grundlag for en forvaltningsplan. DTU Aqua-rapport nr. 308-2016. Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet. 35 pp. Available from: http://www.aqua.dtu.dk/-/media/Institutter/Aqua/Publikationer/Forskningsrapporter_301_351/308-2016_Fiskeri_efter_soestjerner_i_Limfjorden.ashx?la=da

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

Performance Indicator 1.2.3: Target Species Information & Monitoring

Performance Indicator	**1.2.3**
SG60 Standard	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy. Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.
SG80 Standard	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy. Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule. There is good information on all other fishery removals from the stock
SG100 Standard	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly relevant to the current harvest strategy, is available. All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.
Original Scoring	
Score Awarded	70
Rationale	In scoring this Performance Indicator, the team have taken regard of the fact that the RBF has been used to score PI 1.1.1 because there is limited information about the state of the stock relative to unfished. The fishery has been awarded a 'pass' score for PI 1.1.1, and a default pass score of PI 1.2.4 (assessment of stock status). A consequence of the limited information about the stock, which triggered the use of the RBF, is that there is limited information available about stock structure and productivity. There is a good understanding of oyster stock status within the Nissum Bredning Natura 2000 site, and the location of sensitive habitats and species in this area (such as eelgrass beds, and reefs) that might be adversely affected by the fishery. However, outside this site the information about oyster stocks is less detailed. Very good information is available about the composition of the fleet prosecuting the oyster stock. All fishing activity is recorded and monitored, and all fishery removals from the oyster stock are recorded in official landings data. This information is sufficient to support the harvest strategy for the fishery. The SG60 requirements are met, and the 1st & 3rd SG80 requirements are met. There is limited information about stock abundance outside

	Natura 2000 sites so the 2nd SG80 requirement is not met and a condition has been generated to address this.
Condition	The status of the oyster stocks outside Natura 2000 sites should be monitored at a frequency and accuracy that is adequate to support the harvest control rules in place for the oyster fishery. An appropriate monitoring programme should be agreed with relevant agencies within 12 months of certification. Evidence of implementation should be provided within 2 years of certification. Reports of monitoring should be provided within 4 years of certification. The results of on-going monitoring will be reviewed in all subsequent surveillance audits.
Revised Scoring	
Score Awarded	80
Rationale	In scoring this Performance Indicator, the team has taken regard of the fact that the RBF has been used to score PI 1.1.1 because there is limited information about the state of the stock relative to any analytically or empirically determined reference points. The fishery was awarded a 'pass' score for PI 1.1.1, and a default pass score of PI 1.2.4 (assessment of stock status). Very good information is available about the composition of the fleet prosecuting the oyster stock. More recently, "black box" recorders have been fitted to all oyster fishing vessels, so that the spatial extent of all oyster dredging activity can be monitored. This information is sufficient to support the harvest strategy for the fishery, meeting the first of the SG80 requirements. Throughout this period of certification, DTU-Aqua have presented evidence of ongoing annual surveys of the entire oyster stock in the western Limfjord, meeting the requirements of the condition that was set to address this gap in understanding. It is clear, therefore, that there is a good understanding of the abundance and distribution of oysters in the Limfjord. Further to this, all fishing activity is recorded and monitored, and all fishery removals from the oyster stock are recorded in official landings data. This meets the second of the SG80 requirements. Because of the depth limits on commercial oyster fishing activity (no fishing in waters shallower than 5m), the only fishery removals are taken by the dredge fishery. All removals are recorded, so the third of the SG80 requirements is also met. An overall score of 80 is now considered to be appropriate for this Performance Indicator, and the condition that was generated at certification can be closed.

Performance Indicator 2.2.3: Discarded Species Information & Monitoring

Performance Indicator	**2.2.3**
SG60 Standard	Qualitative information is available on the amount of main bycatch species affected by the fishery. Information is adequate to broadly understand outcome status with respect to biologically based limits. Information is adequate to support measures to manage bycatch.
SG80 Standard	Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery. Information is sufficient to estimate outcome status with respect to biologically based limits. Information is adequate to support a partial strategy to manage main bycatch species. Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).
SG100 Standard	Accurate and verifiable information is available on the amount of all bycatch and the consequences for the status of affected populations. Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty. Information is adequate to support a comprehensive strategy to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective. Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.
Original Scoring	
Score Awarded	70
Rationale	Qualitative information is available on discarding of non-target species from the fishery, but no quantitative information has been presented. Nevertheless, this information is sufficient to determine that discarding from the fishery is unlikely to adversely affect the status of the discarded species in the area. There is no programme in place to continue to collect data about the level of discarding from the fishery. All of SG60 requirements met; the second and 3rd SG80 requirements met.
Condition	A monitoring programme should be established to provide better information about the species discarded from the oyster fishery. This programme should be designed to provide quantitative information that enables the outcome status for these species with respect to biologically based limits. An appropriate monitoring programme should be agreed with relevant agencies within 12 months of certification. Evidence of implementation should be provided within 2 years of certification. Reports of monitoring should be provided within 4 years of certification.

	The results of ongoing monitoring will be reviewed in all subsequent surveillance audits.
Revised Scoring	
Score Awarded	80
Rationale	Quantitative information on the relative proportion of target and non-target species caught and discarded from the fishery was presented ahead of schedule at the third annual surveillance audit. This information confirmed the qualitative information presented beforehand which indicated that most of the catch (65% by weight) was made up of oyster shells, with starfish forming the main living element of the catch (at 15% of the total catch). No other species made up more than 2.5% of the catch (Gommesen & Formsgaard, 2014). Oysters made up around 10% by weight of the catch. This information meets the first of the SG80 requirements. Oyster fishermen sort their catch immediately and return non-target species to the sea shortly after capture. Post-capture survival of starfish returned to the sea after fishing is known to be good (Bergmann & Moore, 2001), so impacts on population outcome are unlikely to occur. The distribution and abundance of starfish in the Limfjord has been monitored by DTU-Aqua since 1993 (Petersen et al, 2016). The starfish population has increased in recent years and has resisted deliberate efforts by fishermen to control numbers. Discarding of starfish from the oyster fishery is therefore highly unlikely to affect starfish populations in the Limfjord. This information and the partial strategy meet the second and third SG80 requirements. The location and extent of fishing activity is carefully monitored in the Limfjord (see Nielsen et al, 2015 and Figure 3-4 in this report), and would detect changes in the operation of the fishery that could increase risk to the main bycatch species, meeting the fourth SG80 requirement. An overall score of 80 is now considered to be appropriate for this Performance Indicator, and the condition that was generated at certification can be closed.

Appendix 2 - Stakeholder submissions (if any)

No stakeholder submissions were received.

Appendix 3 - Surveillance audit information (if necessary)

Not applicable.

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

Not applicable.

Appendix 5 - Revised Surveillance Program

When this fishery was certified, a “Normal” surveillance program was proposed (under CRv1.3). The assessment team considers that this level of surveillance remains appropriate.

The equivalent surveillance program that complies with the new CRv2.0 requirements is set out below.

Table A5-1: Surveillance program

Score from CR Table 5	Surveillance Category	Year 1	Year 2	Year 3	Year 4
6	Default Surveillance	On-site surveillance audit.	On-site surveillance audit.	On-site surveillance audit.	On-site surveillance audit. Reassessment