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# Schleswig-Holstein blue shell mussel fishery

## Certificate No: MSC-F-0072

### 4<sup>th</sup> Surveillance Report

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Fishery client	Erzeugerorganisation Schleswig-Holsteinischer Muschelfischer e.V
Assessment type	Fourth Surveillance
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# 1 Contents

- 1 CONTENTS** ..... 2
- 2 GLOSSARY**..... 3
- 3 EXECUTIVE SUMMARY** ..... 3
- 4 REPORT DETAILS** ..... 4
  - 4.1 SURVEILLANCE INFORMATION ..... 4
  - 4.2 BACKGROUND ..... 6
  - 4.3 VERSION DETAILS..... 8
- 5 RESULTS**..... 8
  - 5.1 SURVEILLANCE RESULTS OVERVIEW..... 8
    - 5.1.1 *Summary of conditions*..... 8
    - 5.1.2 *Total Allowable Catch (TAC) and catch data*..... 9
    - 5.1.3 *Recommendations*..... 9
  - 5.2 RE-SCORING PERFORMANCE INDICATORS ..... 9
  - 5.3 CONDITIONS..... 18
    - 5.3.1 *Closed Conditions*..... 18
- 6 APPENDICES**..... 21
  - 6.1 EVALUATION PROCESSES AND TECHNIQUES..... 21
    - 6.1.1 *Site visits*..... 21
    - 6.1.2 *Stakeholder participation* ..... 21
  - 6.2 STAKEHOLDER INPUT ..... 21
  - 6.3 REVISED SURVEILLANCE PROGRAM ..... 21

## 2 Glossary

Abbreviation	Definition
CAB	Conformity Assessment Body
CFP	Common Fisheries Policy
CRs	(MSC) Certification Requirements
EU	European Union
KüFO	Küstenfischereiverordnung (Coastal Fisheries Decree)
LFischG	Landesfischereigesetz (State Fisheries Law)
LKN	Landesbetrieb für Küstenschutz, Nationalpark und Meeresschutz, Schleswig-Holstein (Schleswig-Holstein Agency for Coastal Defence, National Park and Marine Conservation)
LLUR	Landesamt für Landwirtschaft, Umwelt und ländliche Räume (State Agency for Agriculture, Environment and Rural Areas)
MEC	ME Certification Ltd
MEP	MacAlister Elliott & Partners Ltd
MELUND	Ministerium für Energiewende, Landwirtschaft, Umwelt, Natur und Digitalisierung (Ministry for Energy Transition, Agriculture, Environment, Nature and Digitization)
MELUR	Ministerium für Energiewende, Landwirtschaft, Umwelt und ländliche Räume (Ministry for Energy Transition, Agriculture, Environment and Rural Areas)
NABU	Naturschutzbund Deutschland e.V. (Nature and Biodiversity Conservation Union Germany)
PSA	Productivity Susceptibility Analysis
RBF	Risk Based Framework
SMA	Saatmuschelgewinnungsanlagen (artificial substrate spat collectors)
UoA	Unit of Assessment
UoC	Unit of Certification
VMS	Vessel Monitoring System
WWF	Worldwide Fund for Nature

## 3 Executive summary

This report contains the findings of the fourth surveillance cycle in relation to the Schleswig-Holstein blue shell mussel fishery. A surveillance audit was carried out remotely on 20. 21. 22. And 27 September, 2021 in conjunction with the site visit for the full reassessment. Due to the COVID-19 pandemic, the certificate for this fishery was extended by six months to April, 2022 and this surveillance audit was delayed—having taken place almost 18 months after the 3<sup>rd</sup> surveillance.

As of the third surveillance audit there were no remaining open conditions on this fishery. The previous conditions, dates of closure and rescoring justifications remain appended to this report, though there have been no changes since the 2<sup>nd</sup> surveillance audit in 2019. New information was reviewed as part of this audit and discussions were held with relevant parties. There are no changes to the status of the fishery or Performance Indicator scores as a result of this audit.

MRAG Americas confirms that this fishery continues to meet the MSC Fisheries Standard and shall remain certified.

## 4 Report details

### 4.1 Surveillance information

Table 1. Surveillance information.

1	Fishery name	
	Schleswig-Holstein Blue Shell Mussel Fishery	
2	Unit(s) of Assessment (UoA)	
	Blue mussel ( <i>Mytilus edulis</i> ) UoA 1: Bottom dredge for wild seed, which is then relayed on culture plots and harvested by dredge when grown UoA 2: Spat/seed collectors deployed as settlement substrata for larval mussels, which are transferred to culture plots and harvested by dredge when grown ICES IVb – in the Schleswig-Holstein part of the Wadden Sea	
3	Date certified	Date of expiry
	24 October 2016	23 April 2022
4	Surveillance level and type	
	Level 4 – Remote audit	
5	Surveillance number	
	1st Surveillance	
	2nd Surveillance	
	3rd Surveillance	
	4th Surveillance	X
	Other (expedited etc)	
6	Surveillance team leader	
	<b>Ms. Amanda Stern-Pirlot</b> was team leader for the assessment. Amanda is an MSc graduate of the University of Bremen, Center for Marine Tropical Ecology (ZMT) in marine ecology and fisheries biology. Ms. Stern-Pirlot joined MRAG Americas in mid-June 2014 as MSC Certification Manager (now Director of the	

	<p>Fishery Certification Division) and is currently serving on several different assessment teams as team leader and team member. She has worked together with other scientists, conservationists, fisheries managers, and producer groups on international fisheries sustainability issues for over 15 years. With the Institute for Marine Research (IFM-GEOMAR) in Kiel, Germany, she led a work package on simple indicators for sustainable within the EU-funded international cooperation project INCOFISH, followed by five years within the Standards Department at the Marine Stewardship Council (MSC) in London, developing standards, policies and assessment methods informed by best practices in fisheries management around the globe. Most recently she has worked with the Alaska pollock industry as a resources analyst, within the North Pacific Fisheries Management Council process, focusing on bycatch and ecosystem-based management issues, and managing the day-to-day operations of the offshore pollock cooperative. She has co-authored a dozen publications on fisheries sustainability in the developing world and the functioning of the MSC as an instrument for transforming fisheries to a sustainable basis.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot meets the competency criteria in Annex PC for team leader as follows:</p> <ul style="list-style-type: none"> <li>• She has an appropriate university degree and more than five years' experience in management and research in fisheries.</li> <li>• She has passed the MSC team leader training.</li> <li>• She has the required competencies described in Table PC1, section 2.</li> <li>• She has passed the MSC Traceability training module.</li> <li>• She meets ISO 19011 training requirements.</li> <li>• She has undertaken two fishery assessments as a team member in the last five years.</li> <li>• She has experience in applying different types of interviewing and facilitation techniques and can effectively communicate with clients and other stakeholders.</li> </ul> <p>In addition, she has the appropriate skills and experience required to serve as Principle 2 &amp; 3 assessor as described in FCP Annex PC table PC3.</p> <p>MRAG Americas confirms that Ms. Stern-Pirlot has no conflicts of interest in relation to the fishery under assessment.</p>
7	Surveillance team member
	<p><b>Ms. Chris Grieve</b> has 25+ years' experience in fisheries management and policymaking from local to global levels. First as research assistant to Australian stock assessment scientists, then as the manager of complex Australian multi-species demersal fisheries. She moved to the UK in 2000 to lead the Sustainable Fisheries Policy Research Programme for a London-based think tank where the vision was to influence change in the European Union's Common Fisheries Policy. In 2002, Chris became the International Policy Director for the Marine Stewardship Council (MSC) and was responsible for leading the MSC's work on standards, certification, accreditation, governing bodies, and developing world fisheries. Chris's role evolved to become Associate Director between 2005 and 2010 after she established Meridian Prime as a consulting company with a diverse portfolio of sustainability and organisational development work. Chris has led and participated in projects on the development, evolution, and implementation of the MSC standard and certification requirements. She has led and participated in sustainable fisheries-related projects for client organisations in the UK, Europe and the USA and has been a team member for several MSC-related fishery assessments. Chris is a member of the MSC's Peer Reviewer College. From 2013 to 2020, Chris served as Executive Director of the EDGE Certified Foundation: a Swiss-based, global certification scheme dedicated to pursuing gender equality in Fortune 500 companies. Chris continues to serve on a consultancy basis as Strategic Adviser to the EDGE Certified Foundation Board of Directors. Chris was a member of the Board of Directors for WOCAN (a non-profit focusing on gender equality in natural resource management in the global south) from 2014 to 2017, and from 2015 to 2016 was on the Advisory Board of Ocean Outcomes (a US-based non-profit focusing on sustainable fisheries) helping to prepare it for formal 501(c)3 status. Chris was a founding Trustee and Vice Chair of the ISEAL Alliance, the global sustainability standards organization; and a statutory-appointed member of two Australian fisheries management public boards.</p> <p>MRAG Americas confirms that Ms. Grieve meets the competency criteria in Annex PC for team members as follows:</p> <ul style="list-style-type: none"> <li>• She has an appropriate university degree and more than five years' experience in management and research in fisheries.</li> <li>• She has undertaken at least two MSC fishery assessments or surveillance site visits in the last five</li> </ul>

	<p>years.</p> <ul style="list-style-type: none"> <li>• She can score a fishery using the default assessment tree and describe how conditions are set and monitored.</li> <li>• She has passed the MSC Traceability training module.</li> </ul> <p>In addition, she has the appropriate skills and experience required to serve as Principle 3 assessor as described in FCP Annex PC table PC3, and MRAG Americas confirms she has no conflicts of interest in relation to the fishery under assessment.</p>
	A discussion between team members regarding conflict of interest and biases was held and none were identified.
8	<b>Audit/review time and location</b>
	<p>A remote surveillance audit was conducted via Zoom video link over several days between 20<sup>th</sup> and 27<sup>th</sup> September 2021 and on 5<sup>th</sup> October 2021, in conjunction with the remote site visit for a reduced reassessment of the fishery.</p> <p>The MSC’s “Derogation 3: Covid-19 Fishery and Chain of Custody Remote Auditing” enabled the assessment team to conduct the surveillance and reassessment site visit audits remotely because international, national, and/or local travel restrictions were in place at the time of the audits that particularly impacted members of the assessment team. Both the US and the UK (where the assessment team members reside) were on the German Government register of High-Risk Areas and Areas of Variants of Concern and would have required 14 days quarantine prior to meeting with anyone, thus rendering a two/three-day site visit uneconomical and unviable for the client and the CAB.</p>
9	<b>Assessment and review activities</b>
	New information about the fishery and its knowledge base was reviewed as part of this audit, as were changes in personnel relevant to the management and oversight of the fishery. The team assessed whether there were any changes to the status of the fishery resulting from updated information and therefore whether any changes to Performance Indicator scores would be warranted.
10	<b>Stakeholder opportunities</b>
	<p>The announcement of the 4<sup>th</sup> surveillance audit was published on the MSC website on 18<sup>th</sup> August 2021. Stakeholders were invited to submit written information or to request a meeting by 5pm UTC on 13 September 2021, ahead of the scheduled remote site visit. Stakeholders previously engaged in this fishery’s assessment and surveillance audits were also contacted directly by the CAB and invited to participate in both the surveillance audit and the reassessment site visit which were held concurrently. The certification client, NGO stakeholders, and representatives of the fisheries management and national park authorities met with the assessment team during the remote site visit.</p> <p>Stakeholder submissions, on the relevant template, for both the surveillance audit and reassessment may be found at the following link:</p> <p><a href="https://fisheries.msc.org/en/fisheries/schleswig-holstein-blue-shell-mussel/@@assessments">https://fisheries.msc.org/en/fisheries/schleswig-holstein-blue-shell-mussel/@@assessments</a></p>

## 4.2 Background

### Update on the fishery since the 3<sup>rd</sup> surveillance audit

#### Target stocks update

The original assessment team for this fishery determined in relation to Principle 1, that the fishery does not have an impact on the target stock and does not involve translocation (which is not permitted in the UoA), hence Principle 1 was not scored. Although there continue to be discussions and some active industry-led inquiries into the potential for importing mussel seed, there has not yet been a formal application made by the industry to the relevant authorities to request permission for importation of mussel seed. Therefore, as of the fourth surveillance audit, there is no update

provided on fishery impacts to the target mussel stocks. This fishery continues to meet all the MSC scope requirements for enhanced fisheries.

### **Ecosystem update**

Initially, there was one Condition of Certification pertaining to Principle 2 for Performance Indicator 2.4.1 on the potential impact of the fishery on sub-tidal mussel beds that has since been addressed by significantly restricting mussel dredging and seed collection activities within the Framework Agreement. The condition was closed following the second surveillance audit, as it is evident that these spatial restrictions are monitored, enforced, and working, thus reducing the concerns in this regard. At the 4<sup>th</sup> surveillance audit/reassessment remote site visit, representatives of the National Park Authority reported that a post-doctoral researcher has begun a project to investigate changes in mussel density on unfished sub-tidal 'mussel' beds. Anecdotally the researcher has reported to colleagues that no mussels have been observed on the so-called unfished, sub-tidal mussel beds, and there are several factors unrelated to fishing that could be at play. However, there are no published findings yet.

Regarding minor species, assessed in the original assessment using the RBF, logbook records continue to be collected, reporting on catches of incidental species such as starfish and crabs, as well as empty shells and rocks, etc. which remain generally low according to the Fisheries Administration. The protocol for sampling the catch continues to be via "bucket sample" where a bucketful of retrieved mussels and other organisms is taken from the catch, sorted and counted. There was discussion around this method of data collection, when it was also mentioned that all starfish captured and sorted from the mussel catch is kept onboard until it's released upon steaming back from a fishing trip. However, presently, this starfish catch is not weighed or counted before discarding. The issue of information collection, particularly in the context of P2 non-target species, is discussed in detail in the full reassessment report. Ghost crab infestation at seed collection sites is still a documented issue, as is the occurrence of Japanese skeleton shrimp, *Caprella mutica*.

There is still a particular focus on monitoring bycatches of Pacific oysters in the mussel fishery, as requested by NGO stakeholders in this fishery. The National Park Authority representatives reported that increasing numbers are being found in sub-littoral parts of the park, but they were unsure about whether their presence extends to the mussel fishing plots. Client representatives reported that bycatch of Pacific oysters remains very low ('one or two' or roughly one bucket collected during an entire day of mussel fishing that are subsequently returned to the sea).

In relation to ETP species interactions, no new official complaints have been lodged in 2020-21. NGO representatives did raise some uncertainties about the monitoring of eider duck disturbance but did not want to suggest there were major concerns. Issues and uncertainties relating to the impact of the fishery on Principle 2 species will be discussed and assessed in more detail in the reassessment report.

### **Management system update**

The "Framework Agreement" (Eckpunktevereinbarung zur Miesmuschelkulturwirtschaft im Nationalpark Schleswig-Holsteinisches Wattenmeer) which sets out arrangements for the sustainable management of the mussel fishery in the Wadden Sea National Park, has been in place for four years. The agreement was made between the German state of Schleswig-Holstein, the mussel fishing industry association, and several nature protection groups, including WWF Germany and is the main instrument for management of the fishery.

The implementation of the Framework Agreement is subject to annual review. The 2021 meeting (Muschelmeeting) to discuss the fourth year's implementation was postponed due to the Coronavirus pandemic. The stakeholders involved in the Muschelmeeting process reported that it was mutually agreed among the parties that a face-to-face meeting was preferred over a virtual meeting, and everyone was comfortable postponing the meeting until the major risks posed by the pandemic were over. Stakeholders consulted during the surveillance audit acknowledged that there has been good cooperation within the Framework Agreement, and that a return to meeting face-to-face will help to continue to build trusting relationships between the parties. The relative lack of information exchange in a multi-stakeholder forum like the Muschelmeeting, during the pandemic months, has given rise to some concerns about the National Park Authority's ability to accurately interpret 'Blackbox' data and the general monitoring of Principle 2 species catches and/or interactions. As indicated above, stakeholders were keen to emphasise that any concerns raised were not major concerns, but they do exist. Parties to the Framework Agreement agreed that resurrecting the face-to-face Muschelmeeting as soon as practicable is a desirable outcome and would again serve as a most valuable forum to discuss and resolve any concerns stakeholders may have.

In the meantime, management-related meetings between the National Park Authority and the Fishery Administration have taken place during the pandemic, but these have not involved the NGOs.

### **Changes or additions/deletions to regulations.**

There have been no changes or additions/deletions to regulations for this reporting period.

**Personnel changes in science, management or industry to evaluate impact on the management of the fishery.**

The Fisheries Administration appointed a new fishery manager, Ms Svenja Zakrzewski, who replaced Milan Müller in this role in September 2020.

Some changes in senior membership of the industry association level have occurred due to the passing away of two individuals. Their official functions have been taken over by other association members.

There have been no changes in administrative or institutional arrangements since the fishery was certified.

**Potential changes to the scientific base of information, including stock assessments.**

There has been no change to the scientific base of information since the last surveillance audit. In the second surveillance audit, a research study on mussel larval distribution led by Jacob Capelle at the Wageningen University in the Netherlands was reported. Since then, the mussel fishery has discontinued participation in this research, as no “larvae of interest” were being collected (S. Leuschel pers.com). In addition, the Lister Deep research project as reported on during the 2<sup>nd</sup> surveillance audit was initiated in 2019, however, no reports have been produced as of this 4<sup>th</sup> audit (see research update for more information). The first project meeting was held in April of 2020. The project is being led by Dr. Christian Buschbaum, a post-doctoral researcher at the Alfred Wegener Institute for marine research (AWI). Other research of relevance to this fishery has been produced since the last surveillance audit, including that which is cited in the Announcement Comment Draft Report for the reassessment that is occurring simultaneously. These are reviewed in more detail in the aforementioned report.

**Monitoring, Control and Surveillance Update**

There were no official sanctions issued in the mussel fishery in the past year nor any reported incidents. Monitoring has consisted of review of ‘black box’, VMS and electronic and ‘paper’ logbook data and some *in situ* monitoring via opportunistic vessel boarding wherein gear configuration and compliance with other fishery regulations is checked. Landing controls were also performed dockside, where landing declarations are cross-checked against sales notes for compliance with regulations and consistency between weight of mussels estimated as landed and actually sold. Compliance continues to be reported as generally high within the fleet and no major or minor non-compliances were reported (S. Zakrzewski, pers comm). The Fishery Administration representative also reported she had conducted control activities on board industry (company) vessels as the old Fishery Administration vessel had been decommissioned due to safety issues; and that a new control vessel will launch in 2021-22.

**Traceability Update**

There have been no changes since the previous audit affecting the traceability requirements for this fishery.

**4.3 Version details**

Table 2. Fisheries program document versions.

Document	Version number
MSC Fisheries Certification Process	<b>Version 2.2</b>
MSC Fisheries Standard (enhanced bivalve assessment tree)	<b>Version 2.01</b>
MSC General Certification Requirements	<b>Version 2.4.1</b>
MSC Surveillance Reporting Template	<b>Version 2.1</b>

**5 Results**

**5.1 Surveillance results overview**

**5.1.1 Summary of conditions**

As of the 4<sup>th</sup> surveillance audit, there are no Conditions of Certification in the Schweslig-Holstein blue mussel fishery. See sections 5.2 and 5.3 of this report for details about previously rescored performance indicators and closed conditions.

### 5.1.2 Total Allowable Catch (TAC) and catch data

Table 3. Total Allowable Catch (TAC) and catch data

TAC	Year	<b>2020</b>	Amount	<b>NA</b>
UoA share of TAC	Year	<b>2020</b>	Amount	<b>NA</b>
UoA share of total TAC	Year	<b>2020</b>	Amount	<b>NA</b>
Total green weight catch by UoC	Year (most recent)	<b>2020</b>	Amount	<b>10,185.5 mt (culture plot harvest)</b>
Total green weight catch by UoC	Year (second most recent)	<b>2019</b>	Amount	<b>13,597 mt (culture plot harvest)</b>

### 5.1.3 Recommendations

No new recommendations.

## 5.2 Re-scoring Performance Indicators

The following performance indicators were rescored as a result of the **second surveillance audit (2019)** and the following tables remain in the report for completeness. Changes to the original scores and rationales from MEC (2017) are indicated by strikethrough (deletions) and **red text** (additions).

#### Evaluation Table for PI 2.4.1 – Habitats outcome

<b>PI 2.4.1</b>	<b>The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area(s) covered by the governance body(s) responsible for fisheries management.</b>		
<b>Scoring Issue</b>	<b>SG 60</b>	<b>SG 80</b>	<b>SG 100</b>
<b>a</b>	Commonly encountered habitat status		
<b>Guidepost</b>	The UoA is unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
<b>Met?</b>	Y	Y	Y – UoA1 N – UoA2
<b>Justification</b>	Based on the evidence provided to the assessment team during the site visit, the naturally-		

occurring habitats have been identified as subtidal sand and mud flats and ephemeral subtidal seed mussel beds. These were identified in accordance with the normative text and guidance in MSC CRv2.0, which indicate that only those parts of the UoA supporting VME habitats should be considered as such. The remainder of the area is therefore assessed here as “commonly encountered habitats”. The ephemeral mussel beds are the only likely VMEs to be encountered. No evidence was presented demonstrating the presence of Sabellaria reefs or seagrass beds. Video footage of the seabed area under the suspended cultures, was provided by Maarten Ruth of the Landesamt für Landwirtschaft, Umwelt und ländliche Räume Schleswig-Holstein, clearly showing the habitats present.

The assessment team note that WWF (submission via email on 23<sup>rd</sup> September 2016) consider that the entire Wadden Sea is a VME by virtue of its designation as a National Park, Natura 2000 and World Heritage Site. The team has considered the criteria for identifying VMEs set out in the MSC Fisheries Certification Requirements version 2.0 and its guidance document, as well as the MSC Interpretations website (<https://www.msc.org/certifiers/msc-interpretation-website>) for clarity on the MSC’s intention of the VME definition. This has been discussed by the team in section 3.4.4.

In relation to habitat impacts, there are three issues to consider: the impact of the mussel dredge on habitats while fishing for seed mussels, the impact of the seed collectors on habitats underneath the collectors, and changes in habitat on the culture plots.

The Wadden Sea is a dynamic intertidal habitat, composed largely of sand and mudflats intersected by tidal channels which originate from the channels between the barrier islands (Figure 8 and Figure 9). The channels and sandbanks may move from year to year, or following a big storm.

Impacts from fishing gear (UoA1 and UoA2): Shallow sand and mud habitats in general are not very sensitive to damage from towed fishing gear, since natural disturbance rates are high (particularly in tidal channels), and recovery rates of habitats are correspondingly high. The team concluded on this basis that the fishery is ‘highly unlikely’ to cause serious or irreversible harm. There are various sources of evidence to support this conclusion – for example, Collie et al., (2000) predict a recovery time of sand habitats from trawling and dredging of on average ~50 days; there are a wide range of such studies in the literature. SG100 is met.

Ephemeral seed mussel beds are – ephemeral; being lost to predation or to winter storms within the first year. The beds tend to consistently re-appear in the same areas but not every year and with variable biomass from year to year. Fishing does not remove all the biomass from the beds. It is not known whether fishing speeds up or reduces the rate of overall loss of these seed beds; this probably varies in different cases. Overall, it is clear that since the habitat lasts for only a few weeks or months in any case, fishing cannot logically reduce structure and function to the point of serious or irreversible harm. SG100 is met.

Impacts from seed collectors (UoA2): Seed collectors may have two impacts: i) bio-deposition on to the habitats below (sand or mud) and ii) creation of a novel habitat (hard substrate in the water column). The impact of seed mussel collectors on the seabed has been evaluated in the Netherlands where it was found that there was little difference between the areas inside and outside the seed collectors, except for an increase in the abundance of macrofauna (crabs, starfish and others) under the collectors associated with clumps of mussels which had fallen off. On this basis, serious or irreversible harm from bio-deposition is highly unlikely, with evidence, so SG100 is met.

In relation to the creation of new hard substrate, recent species inventories from the Lower

	<p>Saxony Wadden Sea (described in Gittenberger 2015) have showed that a large number of species, including non-native species not previously known from the area, are present in the small areas of hard substrate available around the Wadden Sea. These inventories focused particularly on harbours, floating pontoons and rocks put in place for coastal protection. The team considered that on this basis, the seed collectors are not creating a new habitat – such anthropogenic habitats are already widely distributed in the area. On this basis, SG80 is met. There is not ‘evidence’, however, as to the full range of species which might settle on seed collectors in this area (as yet), so SG100 is not met.</p> <p><u>Impacts on culture plots:</u> The sediment substrate in mussel culture plots is known to be significantly altered when mussels are relaid, because of the generation of ‘mussel mud’ (organically-enriched fine mud from mussel faeces and pseudo-faeces). This creates a different habitat which supports a community of species typical of organically-enriched mud rather than sand. There is evidence from other areas where mussels are relaid on sandflats (e.g. the Menai Strait; Beadman et al. 2004) that the diversity of this community declines as mussel density (biomass per unit area) increases, because of the increasing tendency for the sediment to become anoxic. However, the impact on natural habitats is confined directly to the footprint of the mussel lays and there is no evidence of any effects propagating beyond the lays (Beadman et al., 2004). Given the life-history characteristics and low diversity of the natural community and the energetic nature of the environment, removal of the mussels most likely results in the restoration of a natural system relatively quickly (within weeks or months). On this basis, the team considered that the UoA is unlikely to cause serious or irreversible harm, and there is some evidence; SG100 is met.</p>		
<b>b</b>	VME habitat status		
<b>Guidepost</b>	The UoA is <b>unlikely</b> to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
<b>Met?</b>	Y	N Y – UoA1 Y - - UoA2	N – UoA1 Y – UoA2
<b>Justification</b>	<p>Relevant VME habitats (in the sense defined by the MSC) in the UoA area are ‘biogenic reefs’ (long-term persistent subtidal mussel beds; defined as those with &gt;1 year class present). These may be impacted by fishing gear, but seed collectors and culture plots are not relevant here. Hence for UoA2, since there is no interaction with VMEs, SG100 is met by default. The rationale below applies to UoA1.</p> <p>The key question is the extent to which the subtidal seed beds on which the fishery operates might naturally persist to become permanent mussel beds (‘biogenic reefs’ in Natura 2000 parlance) and the extent to which fishing on these beds prevents that from happening.</p> <p>Mussel seed that settles in the spring-autumn period is usually found to be gone, either quite quickly (within a few weeks) or at least by the following spring (see ‘stability map’ made for the Lower Saxony Wadden Sea; van Stralen, 2015). For the SH Wadden Sea, Nehls et al. (2011) describe a sublittoral seed bed where settlement which occurred during 2003 was not fished and was all removed by starfish by the end of 2004; the same reportedly occurred in an abandoned culture plot. The overall conclusion of this monitoring report is that the development of stable subtidal mussel beds in the area is not very likely. This view of subtidal seed beds is largely accepted (by management authorities as well as fishers) in other, similar</p>		

ecosystems with similar fisheries (e.g. Morecambe Bay, UK; Mandy Knott, Chief Scientist, NW IFCA, pers. comm.; see also PCR Menai mussels and PCR Exmouth mussels), although in some areas winter storms play at least as much of a role as starfish. The experience of the team from two broadly similar (although smaller) sites in the UK suggests that it is optimistic to suppose that subtidal mussel 'reefs' are often able to develop, even in the absence of fishing.

Nevertheless, Reise and Buschbaum (2016) use historical data to infer that subtidal mussel beds were more extensive in the Schleswig-Holstein Wadden Sea than they are now, and hypothesise that the fishery has played a significant role in the reduction of their footprint. They also note that these natural beds may be more diverse and species rich than the beds formed by the culture plots. Furthermore, mapping carried out by the National Park authority since 2009 (Figure 9) suggests that some persistent mussel beds may still be present. This mapping is carried out by side scan but also ground-truthed via grab samples and in some cases towed video. At the site visit, the team did not find consensus among stakeholders (on the management side) as to whether these 'reefs' were in fact subtidal mussel beds or not, and a detailed description of mapping methods is not available to allow the team to make a judgement. The team has therefore proceeded with scoring on the assumption that such mussel beds may be present and may be impacted by the fishery.

The Dutch research project 'PRODUS' addressed the issue of fishery impact on subtidal mussel beds directly (Smaal et al., 2013; van Stralen et al., 2013; Craeymeersch et al., 2013; Drent and Dekker, 2013a and b; Jansen et al., 2013; Glorius et al., 2013; van Bemmelen et al., 2013). This research found no impact of the autumn fishery on subsequent biomass and persistence of mussel beds, nor of any fishing on spatfall, but a medium-term (up to 2 years) effect of the spring fishery on subtidal beds which had persisted through the winter.

Under the National Park zoning and the Mussel Programme, the fishery only operates in certain parts of the subtidal, hence any seed beds which form in the other areas will be left unfished, and the competing hypotheses will therefore be able to be tested directly in the future. The Framework Agreement has provision for the closures of any persistent mussel beds, even in fished areas (beds with >1 year class present). The location of such persistent mussel beds forms part of the ongoing appropriate assessment (as agreed in the Framework Agreement) **and the outcome of this assessment was translated into management under the Framework Agreement.** ~~the Framework Agreement states that the outcome of this assessment will be translated into management.~~ Specifically, unless major impacts on the feature from fishing can be ruled out, the fishery ~~will be~~ **has been** excluded from this area, and there is provision for compensation if required.

~~Weighing up the balance of existing evidence, and~~ **The Framework Agreement in which mussel fishing, seed collecting and culturing areas have been further restricted and agreed by all parties has been in place for more than two seasons. The Fisheries Agency and other parties to the Framework Agreement indicate no concerns with industry compliance with these area restrictions, and VMS data exists to confirm compliance.** ~~considering in particular that the fishery may only operate in part of the total area under the existing rules, the team considered overall that the fishery is 'unlikely' to cause serious or irreversible harm to these habitats. SG60 is met.~~ The results of PRODUS suggest that at worst, there may be a short-medium term impact (lasting up to ~2 years) on mussel biomass on some of the fished beds, particularly from the springtime fishery. Furthermore, the management system allows for any damage to be evaluated and if necessary mitigated in the future by a change in management (exclusion from the area). Nevertheless, there is some evidence that the historical impact of the fishery may have been more severe than previously thought. Reise and Buschbaum predict that in the absence of the fishery, natural mussel beds would spread back to the subtidal – in other words, they predict that this harm is not irreversible, **and this can now be**

		<p>tested. In collaboration with the National Park Authority, the Alfred Wegener Institute has begun such a study in 2019. Results of this study may contribute to 'evidence' as required of the SG100 when they are available. but this cannot be tested until the implementation of the Framework Agreement. Based on this assessment, as well as the agreement with stakeholders and the client during the 2<sup>nd</sup> surveillance audit in 2019, it can therefore be considered highly unlikely that the mussel fishery reduces the structure and function of VME habitats to the point of serious or irreversible harm, and the SG80 is met for UoAs 1 and 2. (Tønning, 8<sup>th</sup> September, 2016), the team concluded that until the Framework Agreement is implemented, after which large areas of the subtidal will be closed for seed mussel fishing; SG80 is not met for VMEs for UoA1.</p> <p>Note: The assessment team have considered the point of view of WWF that the shrimp fishery is using the complete subtidal (see <a href="http://www.wwf.de/fileadmin/fm_wwf/Publikationen-PDF/WWF_Bericht_Wo_die_Krabben_gefischt_werden_kleine_Fassung.pdf">http://www.wwf.de/fileadmin/fm_wwf/Publikationen-PDF/WWF_Bericht_Wo_die_Krabben_gefischt_werden_kleine_Fassung.pdf</a>) except culture plots and rope installations. Therefore there is a combined impact of both the seed mussel fishery and the shrimp fishery on the habitats where seed mussels are fished.</p> <p>The team note that the WWF report shows the area fished by shrimp vessels over a 6 year period, which does indeed cover the entire subtidal area. It is also noted that shrimp fishing gear is not designed to catch seed mussels or to damage mussel beds. This evidence, coupled with the evidence that seed mussel beds have been a recurring feature of the UoA throughout a period of time when there has been both shrimp trawling and seed mussel fishing, supports a view that the combined effect of both seed mussel dredging and shrimp trawling is unlikely to cause serious or irreversible harm to seed mussel beds, justifying a score of 60 for UoA1.</p> <p>A condition of certification has been generated in response to the concerns raised about habitat impacts during the assessment process.</p>		
<b>c</b>	<b>Minor habitat status</b>			
	<b>Guidepost</b>			There is <b>evidence</b> that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	<b>Met?</b>			Y
	<b>Justification</b>	The fishery is limited in where it can operate at present (and will be further restricted under the Framework Agreement) and its overall footprint is small. The team did not identify any minor habitats – SG100 is met by default.		
<b>References</b>	H&S Consultancy, 2014; Beadman et al., 2004 ; van Stralen, 2015; Nehls et al., 2011; Collie et al. 2000; Gittenberger 2015; Smaal et al. (2013); van Stralen et al. (2013); Jansen et al. (2013); Glorius et al. (2013); Craeymeersch et al. (2013); van Bemmelen et al. (2013); Drent and Dekker et al. (2013a and b); MEP, 2012; MEP, 2016; Framework Agreement and associated map (Germany, 2015); Reise and Buschbaum, 2016. M. Müller pers. Comm 2019.			
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>			<b>75-95</b> <b>(UoA1)</b> <b>95 (UoA2)</b>	

<b>CONDITION NUMBER:</b>	<b>1 (closed 2019)</b>
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**Evaluation Table for PI 3.1.2 – Consultation, roles and responsibilities for UoA1 and UoA 2**

PI 3.1.2	The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties			
Scoring Issue	SG 60	SG 80	SG 100	
<b>a</b>	<b>Roles and responsibilities</b>			
	<b>Guidepost</b>	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	<b>Met?</b>	Y	Y	N
	<b>Justification</b>	The management system for the fishery involves scientists, government, fisheries managers and stakeholders in a consultative process. The roles of all parties in all areas of responsibility are defined in the valid legislation, particularly in the State Fisheries Law and the National Park Law. In addition, in 2006 the State Ministry of Agriculture, Environment and Rural Areas adopted the Mussel Programme Schleswig-Holstein Wadden Sea where the roles and responsibilities of all concerned are described in detail and 2011 the State Government has signed a contract under public law with the PO and the fishing companies where the framework for the management is defined. However, the NGOs challenged this view and consider the process to be not legally valid, as it – among other issues – did not include an appropriate impact assessment as required under the Natura 2000 directives and did not include a full participation of NGOs as also required. SG 80 is therefore met. Following the implementation of the Framework Agreement this issue will be solved.		
<b>b</b>	<b>Consultation processes</b>			
	<b>Guidepost</b>	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.
	<b>Met?</b>	Y	N-Y	N

<p><b>Justification</b></p>	<p>There exists a consultation process engaging fisheries and environmental administrations, fishermen and NGOs. Relevant information is regularly collected personally and through the Blackbox system. Licences for seed fishery and culture plots are allocated for several years. Both NGOs and National Park administration <del>have never fully agreed</del> <b>previously had not always agreed</b> with the decisions of the fishery administration because they believe that the impact of the mussel fishery has been underestimated. Lately, the cooperation between all parties has been strengthened by the signature of a framework agreement between the State Government, the PO "Schleswig-Holstein Mussel Fishermen" and 5 NGOs where further reductions of fishing possibilities and improved protection of the National Park have been agreed and offering long term stability for the fishermen.</p> <p><b>The annual "Muschelmeeting" constitutes a roundtable where operations and management decisions under the Framework Agreement are reviewed by all parties. During this meeting, the effectiveness and practicality of management measures and concerns among parties are discussed and changes are made if agreed. As of June, 2019 there have been two such meetings and all parties involved report good cooperation. For example, at the April 2019 meeting, an agreement was made between the parties to investigate possible changes to the areas identified for mussel culturing and seed collection based on newly allocated testing areas. Specifically for seed collection, there are new testing sites in the Hörnum Deep that began in March 2019.</b></p> <p><del>There was, however, no roundtable where management decisions are presented and all stakeholders can participate in the discussion. The Fisheries Administration took the decision on the basis of its own considerations and views on the legal situation, which however was challenged both by the nature administration and by the NGOs. This dispute finally resulted in the Framework Agreement. Explanations on whether and how information has been used to reach a decision are not publicly disseminated, though minutes of the annual meetings are taken and distributed to participating parties.</del></p> <p><b>Therefore, the management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained. This meets the SG80 requirement. Because decisions and rationales are not disseminated publicly, the SG100 is not met. Hence SG60 is met but SG80 is not met.</b></p>		
	<p><b>c</b> Participation</p>		
<p><b>Guidepost</b></p>		<p>The consultation process provides opportunity for all interested and affected parties to be involved.</p>	<p>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.</p>
<p><b>Met?</b></p>		<p>Y</p>	<p>N</p>
<p><b>Justification</b></p>	<p>The exchange between the stakeholders, particularly between the Fisheries Administration and the PO seems to be on a high level. Opportunities exist for all interested parties to be involved in consultation processes. But the final decision is taken in the Ministry and not in a democratic vote. <b>Participation is encouraged and facilitated through the annual Muschelmeeting. but definitely not facilitated.</b> SG80 is met but SG100 is not met.</p>		
<p><b>References</b></p>	<p>Germany, 1996; Germany, 1999; Germany, 2006; Germany, 2008; Germany, 2011; Germany, 2015; National Park website</p>		
<p><b>OVERALL PERFORMANCE INDICATOR SCORE:</b></p>			<p><b>70-80</b></p>
<p><b>CONDITION NUMBER:</b></p>			<p><b>2 (closed 2019)</b></p>

**Evaluation Table for PI 3.2.2 – Decision-making processes for UoA1 and UoA2**

PI 3.2.2	The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery.		
Scoring Issue	SG 60	SG 80	SG 100
<b>a</b>	Decision-making processes		
<b>Guidepost</b>	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
<b>Met?</b>	Y	<del>N</del> Y	
<b>Justification</b>	There are <del>some</del> <b>established</b> decision-making processes in place <b>that result in measures and strategies to achieve the fishery-specific objectives</b> . Based on scientific advice and in exchange with the mussel fishery, the National Park Authority, the fishery administration, and the NGOs decisions are taken by the competent Ministry. <b>The consultation and decision processes laid out in the Framework Agreement have thus far been successfully implemented to the satisfaction of all parties. It is however controversial if all measures and strategies clearly aim at the long-term objectives fixed in the European and national legislation. SG80 is therefore not met.</b>		
<b>b</b>	Responsiveness of decision-making processes		
<b>Guidepost</b>	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
<b>Met?</b>	Y	<del>N</del> Y	N
<b>Justification</b>	The decision-making process can react in a timely manner on serious and other important issues <del>but does not always from the NGO's and National Park administration's view</del> . The relevant legislation (National Park Law, German Federal Nature Conservation Law, Natura 2000, all of these being the basis for the Framework Agreement and the subsequent new Mussel Programme)), <del>when finally implemented</del> , provide for long-term measures restricting the fishery (closed season, closed areas, size of culture plots, minimum residence period on culture plots, etc.). The fishery can be restricted immediately if for instance large reefs (> 100 ha) in the subtidal zone are discovered. <b>The mussel fishery manager within the Fisheries Administration is satisfied that the information available to him through surveillance activities (e.g. black box data) is sufficient to identify emerging issues within the fishery. The National Park Authority is still not able to access the blackbox data due to technical reasons, but it has been made available by the industry for direct analysis by the National Park. It is clear that decision-making processes as currently operational under the Framework Agreement do respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions as required of the SG80. Because the National Park Authority has not yet been able to make use of the black box data, it is not clear whether it contains all information needed to identify all issues potentially needing a management response. Thus the SG100 is not met. But there is still a lack of information especially in the</b>		

		subtidal areas. Therefore it can't be assumed that the process responds to all issues. SG80 is not met.		
<b>c</b>	Use of precautionary approach			
	<b>Guidepost</b>		Decision-making processes use the precautionary approach and are based on best available information.	
	<b>Met?</b>		Y	
	<b>Justification</b>	The decision-process is based on the best information available supplied by the very efficient Blackbox system and the regular mussel monitoring. The lately signed Framework Agreement where i.e. the total culture plot area has been reduced beyond the requirements of the Mussel Programme clearly indicates that for the future the precautionary approach is the basis for all decisions. SG80 is met.		
<b>d</b>	Accountability and transparency of management system and decision-making process			
	<b>Guidepost</b>	Some information on the fishery's performance and management action is generally available on request to stakeholders.	Information on the fishery's performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on the fishery's performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	<b>Met?</b>	Y	Y N	N
	<b>Justification</b>	<p>Decisions taken with regard to licenses for the seed mussel fishery or the allocation of culture plots or other fishing methods is made available to the PO and the concerned fishermen. These decisions are, however, not publicly announced. The formal objections of NGOs and National Park administration against some of the decisions were only partly successful. A court case against one of the decisions (translocation from outside the Wadden Sea of Schleswig-Holstein) was successful.</p> <p>Monitoring results are available in the competent Ministry on request and are partly published in annual reports. The PO and other stakeholders are informed on the outcome. As a result of the Framework Agreement, the industry has made black box data available for direct analysis by the National Park Administration, demonstrating further that information on the fishery's performance and management action is available on request as required of SG80.</p> <p>There are two research projects that began in 2019 relevant to habitat impacts of the fishery, and distribution of mussel larvae. If either of these projects conclude with recommendations for the management of the fishery, it will be possible to test the consultation and information availability policies, and responsiveness of the management system at that time as well. in the future there will be also access of the National Park administration to the black box data. There is, however, no formal reporting to all stakeholders. Reporting to key stakeholders under the Framework Agreement consists in part of a yearly "roundtable" meeting among parties to receive updates and new information on each year's mussel fishery as implemented under the Framework Agreement and discuss/agree any changes as needed.</p> <p>SG 60 and 80 are met, but SG100 is not met due to a lack of comprehensive formal reporting. is met but SG80 is not met.</p>		
<b>e</b>	Approach to disputes			

<b>Guidepost</b>	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
<b>Met?</b>	Y	Y	Y
<b>Justification</b>	The management system or fishery acts proactively to avoid disputes. The best example for this is the lately signed Framework Agreement between the Ministry, the PO and 5 NGOs. This agreement has ended a long-lasting conflict between the undersigned concerning the impact of the mussel fishery on the National Park's eco-system. SG100 is met.		
<b>References</b>	Germany, 1999; Germany, 2006; Germany, 2011; Germany, 2015; National Park website		
<b>OVERALL PERFORMANCE INDICATOR SCORE:</b>			<b>65 80</b>
<b>CONDITION NUMBER:</b>			<b>3 closed in 2019</b>

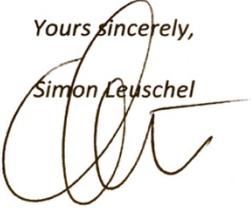
## 5.3 Conditions

### 5.3.1 Closed Conditions

There were no open conditions as of the 4<sup>th</sup> surveillance audit, and no new conditions were raised. The following tables from the 2<sup>nd</sup> and 3<sup>rd</sup> surveillance audits are included here for completeness.

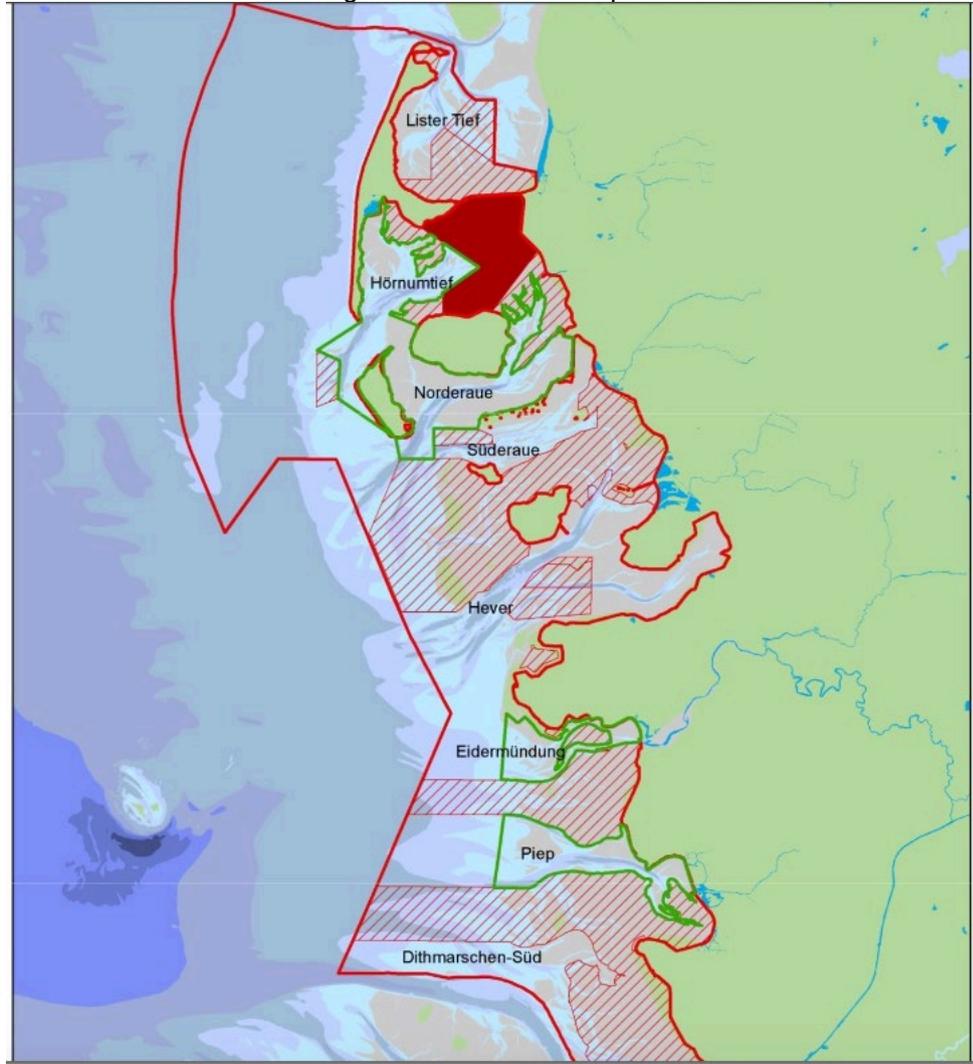
Table 4. Condition 1

Performance Indicator	2.4.1 (scoring issue b for UoA 1)
Score	70
Justification	See MEC 2016 page 85.
Condition	<p>There is some evidence that the historic footprint of mussel beds in the subtidal was considerably larger than it is now, and the long-term impact of the fishery may be part of reason for the decline. Although the mussel biomass is at least partly compensated for by the culture plots, Reise and Buschbaum (2015) note that the ecological value (biodiversity) of the culture plots may be lower relative to natural mussel beds.</p> <p>Reise and Buschbaum (2015) conclude that if the subtidal were not fished, the historical extent of subtidal mussel beds would regenerate (see Conclusion 10). Although this does not appear to have happened in existing closed areas, it will be better tested by the implementation of the Framework Agreement which provides for more extensive closed areas, including complete tidal basins. These have been selected in agreement with stakeholders (the National Park Authority, WWF).</p> <p>Overall, the team (following agreement with stakeholders) concluded that based on the current management system, while the fishery is 'unlikely' to cause serious or irreversible harm to VMEs (naturally-occurring and persistent subtidal mussel beds) it is not 'highly unlikely'. More extensive closed areas, such as those provided for in the Framework Agreement, would be required to meet the SG80 guidepost ('highly unlikely').</p>
Milestones	By the end of the first year, more extensive subtidal areas will be protected from seed mussel fishing, either via the implementation of the Framework Agreement or via another means. This is to include comprehensive impact assessments for all components of the

	<p>fishery and the reduction of culture plots to 1,700 ha, 250 ha of which can be used for SMAs.</p>
<p>Consultation on condition</p>	<p>The following letter by the client confirming commitment to the Framework Agreement comprises the action plan for this condition:</p> <p style="text-align: center;"><i>Dear Kat,</i></p> <p style="text-align: center;"><b>MSC Fishery Assessment: Client Action Plan</b></p> <p style="text-align: center;"><i>I am writing on behalf of Erzeugerorganisation Schleswig-Holsteinischer Muschelfischer e.V. to confirm our client action plan in response to the condition of certification of the Schleswig-Holstein mussel fishery.</i></p> <p style="text-align: center;"><i>I confirm that we will implement the new Framework Agreement (Eckpunktevereinbarung) for mussel cultivation activities on the west coast of Schleswig-Holstein. This Framework Agreement has been drawn up by a partnership of organisations to ensure that both the mussel fishery and marine wildlife will continue to thrive in this area. In particular this framework agreement includes new restrictions on the spatial extent of mussel fishing activity. These restrictions will improve the performance of the fishery with respect to the habitats outcome performance indicator (PI2.4.1) by minimising the potential impact of the fishery on benthic habitats, which will meet the requirements of the condition.</i></p> <p style="text-align: center;"><i>The Framework Agreement already enjoys the support of all of the key organisations in the area, and has been subject to extensive consultation and discussion. The Framework Agreement represents a formal commitment by all relevant entities to the appropriate management the mussel fishery in this area.</i></p> <p style="text-align: center;"><i>The Framework Agreement is due for implementation from the 1st January 2017. We are committed to playing an active role in the implementation of this Agreement.</i></p> <p style="text-align: center;"><i>Yours sincerely,</i> <i>Simon Leuschel</i></p> 
<p>Progress on Condition (Year 1)</p>	<p>The Framework Agreement is now implemented and the fishery has been operating accordingly during the 2017 and 2018 seasons. It includes the following restrictions (additional to those that have been part of the mussel program regulations previously):</p> <ul style="list-style-type: none"> <li>(i) No mussel fishery activities (culture plots, seed mussel fishery, SMAs) in Zone 1 of the National Park</li> <li>(ii) No mussel fishery activities (culture plots, seed mussel fishery, SMAs) in defined areas of Zone 2 of the National Park (see Figure 1). Reefs reported by</li> </ul>

- (iii) MELUR cannot be fished
- (iii) Total size of culture plots is reduced to 1,700 ha
- (iv) 250 ha of this area can be used for SMA
- (v) Comprehensive environmental impact assessment for all components of the fishery

The following figure shows how the mussel fishery has been constrained within the National Park since the Framework Agreement has been implemented:



**Figure 1. Mussel culturing and harvesting area of the fishery in Schleswig-Holstein under the Framework Agreement. Mussel fishing activity (spat collectors, wild seed harvest and on-growing plots) are permitted only inside the three areas outlined in green. This map has been reproduced from the Public Certification Report (ME Certification Ltd 2016).**

Regarding the requirement for a comprehensive impact assessment, this had been done in order to designate the areas open to fishing and seed collection pictured in the above map. However, at the site visit it became apparent that there is no intent to repeat such an impact assessment to assess the effectiveness of the new fishing restrictions. The assessment team therefore would recommend that the fishery, National Park, and other eNGOs work together to establish a means of measuring the success of restricting fishing to these areas according to the sustainability objectives laid out in the Framework Agreement and elsewhere.

Progress on Condition (Year 2) Fishing has continued only in the restricted areas as laid out in the Framework Agreement and presented in Figure 1, above, through the 2018 and into the 2019 season. In relation to ongoing research to determine the affect of restricting mussel fishing to these areas, there has been a project initiated by the Alfred Wegener Institute in collaboration with the National

	Park Authority as described in the background section of this report. The Fisheries Administration and other parties to the Framework Agreement have indicated high confidence that the fishery is complying with these area restrictions and thus it is now highly unlikely that the fishery is reducing the structure and function of commonly encountered and VME habitats to the point where there would be serious or irreversible harm and the SG80 is met.
Status	This condition is <b>closed</b> following the second surveillance audit. PI 2.4.1 has been rescored in section 5.4 of this report.
Additional information	N/A

**Table 5. Condition 2**

Performance Indicator	3.1.2
Score	75
Justification	<p>A consultation process exists to engage fisheries and environmental administrations, fishermen and NGOs. Relevant information is regularly collected personally and through the Blackbox system. Licences for seed fishery and culture plots are allocated for several years.</p> <p>Both NGOs and National Park administration have never fully agreed however with the decisions of the fishery administration because they believe that the impact of the mussel fishery has been underestimated. Lately, the cooperation between all parties has been strengthened by the signature of a framework agreement between the State Government, the PO “Schleswig-Holstein Mussel Fishermen” and five NGOs where further reductions of fishing possibilities have been agreed and offering long term stability for the fishermen.</p> <p>There was, however, no roundtable where management decisions are presented and all stakeholders can participate in the discussion. The Fisheries Administration took the decision on the basis of its own considerations and views on the legal situation, which however was challenged both by the Nature administration and by the NGOs. This dispute finally resulted in the Framework Agreement.</p>
Condition	The management system must include consultation processes that regularly seek and accept relevant information, including local knowledge. The management system must demonstrate consideration of the information obtained.
Milestones	By the end of the first year, the Framework Agreement will have been implemented resulting in an improvement of the consultation process to allow the building of mutual trust. Annual meetings of all parties will serve to discuss the success or possible problems in the implementation of the Agreement.
Consultation on condition	See above under condition 1
Progress on Condition (Year 1)	The first annual “Muschelmeeting” under the Framework Agreement took place on 26 March, 2018. This was the first opportunity to demonstrate the new consultation process with respect to stakeholder involvement with management decisions is working.
Progress on Condition (Year 2)	The second annual Muschelmeeting to review and discuss the implementation of the Framework Agreement took place on 30 April, 2019. All stakeholders in attendance reported good cooperation within this framework. One example is an agreement between the parties to investigate possible changes to the areas identified for mussel culturing and seed collection based on newly allocated testing areas. Specifically for seed collection, there are new testing sites in the Hörnum Deep that began in March 2019.
Status	This condition is <b>closed</b> following the second surveillance audit. PI 3.2.1. has been rescored in section 5.4 of this report.

Additional information	N/A
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Performance Indicator	3.2.2.
Score	65
Justification	<p>The decision-making process can react in a timely manner on serious and other important issues but does not always from the NGO's and National Park administration's view. The relevant legislation (National Park Law, German Federal Nature Conservation Law, Natura 2000, all of these being the basis for the Framework Agreement and the subsequent new Mussel Programme), when finally implemented, provide for long-term measures restricting the fishery (closed season, closed areas, size of culture plots, minimum residence period on culture plots, etc.). The fishery can be restricted immediately if for instance large reefs (&gt; 100 ha) in the subtidal zone are discovered. But there is still a lack of information especially in the subtidal areas. Therefore, it can't be assumed that the process responds to all issues.</p> <p>Decisions taken with regard to licenses for the seed mussel fishery or the allocation of culture plots or other fishing methods is made available to the PO and the concerned fishermen. These decisions are, however, not publicly announced. The formal objections of NGOs and National Park administration against some of the decisions were only partly successful. A court case against one of the decisions (translocation from outside the Wadden Sea of Schleswig-Holstein) was successful.</p> <p>Monitoring results are available in the competent Ministry on request and are partly published in annual reports. The PO and other stakeholders are informed on the outcome. As a result of the Framework Agreement, in the future there will be also access of the National Park administration to the black box data. There is, however, no formal reporting to all stakeholders.</p>
Condition	<p>There must be established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes must respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Information on the fishery's performance and management action must available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>
Milestones	<p>By the end of the first year, the Framework Agreement will have been implemented.</p> <p>This will improve the exchange of information by guaranteeing the access of the National Park administration to the black box data.</p>
Consultation on condition	See above under Condition 1
Progress on Condition (Year 1)	<p>The Framework Agreement has been implemented as scheduled, and includes provisions for delivering information (including "black box" data) to the National Park administration. It was reported at the site visit that the National Park administration does indeed have the information needed but has not yet worked out a good way to assimilate it given the limitations of their software and hardware. The data currently come from the industry via the Obere Fischereibehörde rather than directly from the fishery. Questions remain concerning how often the data can be delivered (e.g. should it now come directly from the fishery) and whether/how it is filtered and disseminated once received. Currently the data are only from the larger vessels and not the smaller ones. The National Park administration will use the data to see where fishing is happening (monitoring) and possibly other analyses once they have determined the best way to process it. The assessment team will continue to monitor the progress on this aspect of implementation of the Framework Agreement.</p>
Progress on Condition (Year 2)	<p>Key to the ability of decision-making processes to respond serious and other important issues, and information availability on the fishery and management performance, as required of the SG80 in this fishery, the National Park Administration as a key party to the</p>

	<p>Framework Agreement must have access to the so called “black box” (VMS) data provided by the fishery to the Upper Fisheries Management Administration. As confirmed in a stakeholder submission from Ms. Britta Diederichs (National Park Authority), the National Park Administration has available all data from July 2017 through February 2019, as provided by the Upper Fishery Administration approximately every two months. There is currently one facility for the evaluation of this data in the Upper Fisheries Administration, which is used for monitoring and control within the fishery. However, for technical reasons, the National Park Administration has not yet been able to access the data in a usable format. They are still working on this in collaboration with the mussel fishing industry and nature conservation authorities, but since they have not yet been able to view the data, they cannot yet tell if it provides them with sufficient information to detect “serious or other important issues” within the National Park, to which the decision-making processes are required to respond per MSC requirements.</p> <p>During the 2019 annual Muschelmeeting, the responsible department head of the German Ministry, Dr. Ing. Johannes Oelerich, acknowledged their role and responsibility in solving the data accessibility issue within the National Park Administration and hopes to find a solution in a timely manner.</p> <p>It is evident that the industry (mussel producer organization) is fulfilling its obligations with respect to making this black box data available to the National Park (as required of the SG80 scoring issue d), but it is yet to be seen whether this data enables further detection of serious or other important issues, as stated above.</p> <p>It is also evident that the current decision-making processes, particularly with the successful establishment of the annual roundtable under the Framework Agreement, are able to respond to serious or other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions, as required of the SG80.</p> <p>The question does remain as to whether the black box data, once usable by the National Park Administration, will reveal any further issues that require attention. However, if it does, evidence suggests that the decision-making processes will be able to respond as required.</p> <p>In summary, the industry has fulfilled their responsibilities by providing the black box data, and the decision-making processes have evolved under the Framework Agreement to being sufficiently responsive.</p>
<p>Status</p>	<p>This condition has been closed following the 2<sup>nd</sup> annual audit.</p>
<p>Additional information</p>	<p>There was disagreement among stakeholders as to whether this condition should be closed before the National Park Authority has the ability to analyse the available data. It is the view of the assessment team that there has been sufficient progress to close the condition now, as described above. However, the team has added a recommendation related to this condition, for the continued cooperation among parties toward making the data accessible to the NPA. In addition, the team will review at the next annual audit (assuming the data will be accessible in the meantime) the findings of the National Park Authority relative to the usefulness of the data and any detection of issues arising from its analysis.</p>

## 6 Appendices

### 6.1 Evaluation processes and techniques

#### 6.1.1 Site visits

The site visit protocol, as defined in the MSC Fishery Certification Process version 2.2, was followed in this surveillance audit, despite being conducted remotely. As indicated earlier in this report, stakeholders were notified through the surveillance audit announcement and direct emails from the CAB about the site visit and were invited to participate in the audit by submitting their comments in writing and/or joining a Zoom meeting with the assessment team. The site visit portion of the surveillance audit was conducted remotely in the week of 20<sup>th</sup>-27<sup>th</sup> September 2021 and on 5<sup>th</sup> October 2021.

The following outlines the agenda and itinerary of the site visit portion of the remote audit:

Monday, 20 September 2021

Time (CET)	Meeting	Participants	Location	Topics/Information
17:00-18:00	Opening meeting with fishery clients and industry topics	Simon Leuschel David de Leeuw MRAG Assessment Team ASI Assessment Team	See Zoom link and call information above	1-6

Tuesday, 21 September 2021

16:00-18:00	WWF Wattenmeer Landesbetrieb für Küstenschutz, Nationalpark und Meeresschutz	Hans-Ulrich Roesner (WWF) Britta Diederichs (LKN S-H) Kirsten Boley-Fleet (LKN S-H) MRAG Assessment team ASI Assessment team	See Zoom link and call information above	1-5 and any raised by WWF and LKN S-H
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Wednesday, 22 September 2021

Time (CEST)	Topic	Participants	Location	Topics/Information
16:00-17:00	Schleswig-Holstein fisheries management authority	Svenja Zakrzewski MRAG Assessment Team ASI Assessment Team	See Zoom link and call information above	1,2,4,5 and any raised by stakeholder

Monday, 27 September 2021

Time (CEST)	Topic	Participants	Location	Topics/Information
16:00-16:30	Closing meeting with Clients	Simon Leuschel David de Leeuw MRAG Assessment Team ASI Assessment Team	See Zoom link and call information above	1-6 and any raised by stakeholder

Tuesday, 5 October 2021

Time (CEST)	Topic	Participants	Location	Topics/Information
16:00-17:00	GEOMAR - Helmholtz Centre for Ocean Research Kiel, Germany	Eva Papaioannou	See Zoom link and call information above	1-5 and any raised by stakeholder
17:00-17:30	Assessment team post-site visit meeting	Assessment team	See Zoom link and call information above	1-6 and any raised by stakeholder
17:30	End site visit			

Topics

1	<ul style="list-style-type: none"> <li>• Introductions-roles and responsibilities of assessment team and ASI auditor</li> <li>• Brief overview of the MSC Sustainable Fishing Program and Objectives of the Surveillance and Reassessment Audit.</li> <li>• Site visit proceedings—review of agenda</li> <li>• Requirements pertaining to confidential information</li> <li>• Operative normative requirements (versions of the MSC standards and requirements)</li> <li>• Q and A</li> <li>• Screen shot for recording attendance</li> </ul>
2	<b>Review of 2019/2020 fisheries, including impact of pandemic</b>
3	<b>PRINCIPLE 1 Target Stocks</b> <ul style="list-style-type: none"> <li>• No current P1 assessment necessary. Discussion of any changes that may impact this, such as seed translocations.</li> </ul>
4	<b>PRINCIPLE 2 Ecosystem</b> <ul style="list-style-type: none"> <li>• Primary and secondary species information—updated sample of logbooks. Changes in encounters with starfish, crabs, Pacific oysters, etc?</li> <li>• Birds interactions/encounters? Eiderenten incidents?</li> <li>• Other ETP species possible interactions, management, or research. Discussion of measures in place to reduce unwanted interactions with seals, other mammals, birds?</li> <li>• Habitat and ecosystem information, new research and management (e.g. any changes to closed areas, fished areas, seed collection sites? Regulations and practices of lost gear recovery? New studies on habitats or ecosystem dynamics, or persistence of unfished subtidal mussel beds?)</li> </ul>
5	<b>PRINCIPLE 3 Management System</b> <ul style="list-style-type: none"> <li>• Legal framework: any changes in international agreements, national fisheries legislation, or other overarching policy that could affect the mussel fishery?</li> <li>• Adjudication: any new legal challenges or disputes.</li> <li>• Management systems: any potential or actual changes during 19/20 seasons: management objectives, decision processes, advisory processes, consultation, stakeholder engagement, dispute resolution, research plan, performance evaluation.</li> <li>• Regulations: any changes or additions/deletions to regulations in 2019 and 2020.</li> <li>• Update on any minor or major infringements or offences registered in 2020-21.</li> <li>• Update on on-the-water and port-related monitoring, control and surveillance activity in 2020-21 (e.g., restricted landing points/times/reporting requirements; landings reconciliation; electronic weighing &amp; reporting; cross-referencing logbooks)</li> <li>• Any general impacts of the pandemic on your monitoring and management activities.</li> </ul>
6	<b>Traceability:</b> <ul style="list-style-type: none"> <li>• Any changes affecting traceability and the ability to segregate MSC from non-MSC products?</li> <li>• Any new or relevant laws or regulations related to traceability affecting this fleet?</li> </ul>

## 6.1.2 Stakeholder participation

The announcement of the 4<sup>th</sup> surveillance audit was published on the MSC website on 18<sup>th</sup> August 2021. Stakeholders were invited to submit written information or to request a meeting by 5pm UTC on 13 September 2021, ahead of the scheduled remote site visit. Stakeholders previously engaged in this fishery's assessment and surveillance audits were also contacted directly by the CAB and invited to participate in both the surveillance audit and the reassessment site visit which were held concurrently. The certification client, NGO stakeholders, and representatives of the fisheries management and national park authorities met with the assessment team during the remote site visit.

Stakeholder submissions for both the surveillance audit and reassessment were submitted only on the MSC's Template for Stakeholder Submissions relevant to reassessments and may be found at the following link:

<https://fisheries.msc.org/en/fisheries/schleswig-holstein-blue-shell-mussel/@@assessments>

The remote site visit was conducted as outlined in the agenda in Section 6.1.1 above.

The following participants were in attendance:

Name	Affiliation
Amanda Stern-Pirlot	MRAG Americas, Assessment team leader
Chris Grieve	Assessment team member contracted to MRAG Americas
Simon Leuschel	Client representative
David de Leeuw	Client representative
Britta Diederichs	Landesbetrieb für Küstenschutz, Nationalpark und Meeresschutz Schleswig-Holstein
Kirsten Boley-Fleet	Landesbetrieb für Küstenschutz, Nationalpark und Meeresschutz Schleswig-Holstein
Hans-Ulrich Rösner	Wattenmeerbüro, WWF Deutschland
Svenja Zakrzewski	Fishery Manager, Fisheries Administration Schleswig-Holstein
Eva Papaioannou	GEOMAR - Helmholtz Centre for Ocean Research Kiel, Germany
Sergio Cansado	Assurance Services International (ASI) Assessment Leader
Tristan Southall	Assurance Services International (ASI) Assessment Trainee

## 6.2 Stakeholder input

This 4<sup>th</sup> audit was carried out in conjunction with the full reassessment process for this fishery. Written stakeholder input was received, and several stakeholder interviews were held (see section 6.1). Written comments were published on the MSC website and can be found here:

[https://fisheries.msc.org/en/fisheries/schleswig-holstein-blue-shell-mussel/@@assessment-documentsets?documentset\\_name=Stakeholder+input+%28ACDR%29&assessment\\_id=FA-02743&phase\\_name=Announcement+Comment+Draft+Report+and+stakeholder+input&start\\_date=2021-08-18&title=Re-Assessment+v2.2](https://fisheries.msc.org/en/fisheries/schleswig-holstein-blue-shell-mussel/@@assessment-documentsets?documentset_name=Stakeholder+input+%28ACDR%29&assessment_id=FA-02743&phase_name=Announcement+Comment+Draft+Report+and+stakeholder+input&start_date=2021-08-18&title=Re-Assessment+v2.2)

The assessment team decided that, as these comments are more relevant to the reassessment process than to this 4<sup>th</sup> surveillance, we will provide a full summary of verbal input received and respond fully to written comments in the reassessment report drafts.

## 6.3 Revised surveillance program

No changes to the surveillance program have been made. As this is the 4<sup>th</sup> audit in this certificate, the new surveillance program will appear in the next full assessment report.