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MSC SUSTAINABLE FISHERIES CERTIFICATION

Off Site Surveillance Visit - Report for SSMO Shetland Inshore Brown and Velvet Crab and Scallop Fishery

2nd Annual Surveillance

April 2014

Prepared For: **The Shetland Shellfish Management Organisation (SSMO)**
Prepared By: **Food Certification International Ltd**



Assessment Data Sheet

Certified Fishery	SSMO Shetland inshore brown & velvet crab, lobster and scallop
Fishery Management Agency	The Shetland Shellfish Management Organisation (SSMO)
Species	Brown crab (<i>Cancer pagurus</i>) Velvet crab (<i>Necora puber</i>) King scallop (<i>Pecten maximus</i>)
Fishing Method	Brown crab (<i>Cancer pagurus</i>) - Creel/pots (static gear) Velvet crab (<i>Necora puber</i>) - Creel/pots (static gear) King scallop (<i>Pecten maximus</i>) - Scallop dredge (mobile gear)
Certificate Code	F-FCI-0021a, F-FCI-0021b, F-FCI-0021c
Certification Date	14.03.2012
Certification Expiration Date	13.03.2017
Certification Body	FOOD CERTIFICATION INTERNATIONAL Ltd Findhorn House, Dochfour Business Centre Dochgarroch, Inverness, IV3 8GY, Scotland, UK Tel: +44(0)1463 223 039 MSC Fisheries Department Email: fisheries@foodcertint.com Web: www.foodcertint.com
Surveillance Stage:	2nd Annual Surveillance
Surveillance Date:	7 th March 2014

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1. Introduction

The purpose of the annual Surveillance Report is fourfold:

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

Please note: The primary focus of this surveillance audit is 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

Certificate holder: The Shetland Shellfish Management Organisation (SSMO)
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2.2 General Background about the fishery

2.2.1 Area Under Evaluation

Within EU waters-ICES Areas IVa. Within 6nm of Shetland Islands.

The geographic area of all units of certification is confined to the Shetland 6nm inshore waters. Velvet crab and king scallops in Shetland have a coastal distribution within the 6nm. However brown crab is considered a 'shelf' species that can be spread across quite large areas and multiple habitats. These factors compound to make determination of geographic stock boundaries difficult. In this assessment the Shetlands brown crab stock has been defined as the stock distributed in Shetland inshore waters (6 nm). There is evidence of lack of connectivity between brown crab populations of Shetland and other geographic areas and negligible levels of fishing activity outside the Shetland Shellfish Management Area (Robinson and Leslie, 2010).

2.2.2 Fishery Ownership, Organisational Structure & History

The client for this certification is the Shetland Shellfish Management Organisation (SSMO). The SSMO was established to apply for and administer The Shetland Regulation Fishery Order which came into effect in January 2000.

The SSMO is a non-profit making, legally constituted company with a board of directors made up of representatives from the Shetland Fishermen's Association (SFA), Shetland Inshore Fisheries Association (SIFA), Shetland Islands Council, Shetland Fish Processors Association and the Association of Community Councils. The Regulating Order in Shetland was first granted to the SSMO in 1999 for a 10 year period and has since been re-issued twice for the period 2010 to 2013 and recently for the period 2013-2028. The Scottish Government has confirmed that current arrangements are likely to be extended and work is already underway preparing for the next regulating order period. The Regulating Order grants the SSMO the legal right to manage the crabs and scallops fisheries (among other shellfish fisheries), within the area between the low water mark and the six mile limit around Shetland. The order enables the SSMO to impose restrictions and regulations, to issue licences and to impose tolls.

3. Assessment Process

3.1 Scope & History of the Assessment

The Performance of the SSMO velvet crab, brown crab and scallops fisheries in relation to MSC Principles 1, 2 and 3 at time of original assessment is summarized in Table 1 and 2.

Table 1 - Allocation of weighted scores at Sub-criteria, Criteria and Principle levels

MSC Principle	Velvet Crab fishery	Brown Crab fishery	Scallop fishery
Principle 1: Sustainability of Exploited Stock	80.0 PASS	80.0 PASS	81.3 PASS
Principle 2: Maintenance of Ecosystem	83.0 PASS	83.0 PASS	80.7 PASS
Principle 3: Effective Management System	82.8 PASS	82.8 PASS	82.8 PASS

Table 2- Summary of the scores for 2nd Annual Surveillance

Principle 1 – Stock Status / Management Strategy			Velvet Crab	Brown Crab	Scallop
1.1.1	Outcome (status)	Stock status	80	80	80
1.1.2		Reference Points	65	65	65
1.1.3		Stock Rebuilding	NA	NA	NA
1.2.1	Management	Harvest Strategy	95	95	95
1.2.2		Harvest control rules & tools	90	90	90
1.2.3		Information & monitoring	80	80	90
1.2.4		Assessment of stock status	85	85	85

Principle 2 – Wider Ecosystem Impacts			Creel (brown crab and velvet crab)	Scallop dredge
2.1.1	Retained Species	Outcome (status)	85	90
2.1.2		Management	95	95
2.1.3		Information	95	90
2.2.1	Bycatch	Outcome (status)	90	80
2.2.2		Management	80	80
2.2.3		Information	75	80
2.3.1	ETP Species	Outcome (status)	80	90
2.3.2		Management	70	80

Principle 2 – Wider Ecosystem Impacts			Creel (brown crab and velvet crab)	Scallop dredge
2.3.3		Information	70	70
2.4.1	Habitats	Outcome (status)	90	60
2.4.2		Management	80	60
2.4.3		Information	95	95
2.5.1	Ecosystem	Outcome (status)	80	80
2.5.2		Management	80	80
2.5.3		Information	80	80

Principle 3 – Management / Governance (all units of certification)			
3.1.1	Governance & Policy	Legal & customary framework	95
3.1.2		Consultation, roles & responsibilities	95
3.1.3		Long term objectives	100
3.1.4		Incentives for sustainable fishing	80
3.2.1	Fishery-specific Management System	Fishery specific objectives	70
3.2.2		Decision making processes	75
3.2.3		Compliance & enforcement	80
3.2.4		Research plan	80
3.2.5		Management performance evaluation	60

(Sourced from original assessment)

As a result of the assessment, **eight** conditions of certification were raised by the assessment team, and maintenance of the MSC certificate is contingent on the SSMO Shetland inshore brown & velvet crab, lobster and scallop fishery moving to comply with these conditions within the time-scales set at the time the certificate was issued. A further condition on the velvet crab fishery was raised following the first surveillance audit as stock status (1.1.1) was rescored at 70 and as a result rebuilding strategy (1.1.3) was scored at 90.

In addition, **seven** recommendations were made which, whilst not obligatory, the client is encouraged to act upon within the spirit of the certification. These conditions and recommendations are detailed in **Section 4.2.1** of this report.

Date certified

14/03/2012

Certificate expiry

13/03/2017

Number of previous audits

One

3.2 Details of 2nd Surveillance Audit Process

3.2.1 Determination of surveillance level

Please see **Appendix 2**

3.2.2 Surveillance team details

The assessment team for this fishery assessment comprised of Antonio Hervás, who acted as team leader and Principle 1 specialist; Fiona Nimmo who was responsible for evaluation of Principle 2 and Tristan Southall who was responsible for evaluation of Principle 3. Paul Macintyre was responsible for traceability / chain of custody considerations.

The off-site surveillance visit was carried out by Principle 1 Specialist Julian Addison, Principle 2 Specialist, Fiona Nimmo and Principle 3 specialist, Rod Cappell. The Report Leader was Rod Cappell

3.2.3 Date & Location of surveillance audit

7th March, 2014 - Off Site.

3.2.4 Stakeholder consultation & meetings

What was inspected

A remote surveillance was undertaken involving the submission of documents providing evidence relating to the conditions and information requested by FCI. A conference call was held on the 7th March 2014 where NAFC Marine Centre, as science and fisheries management advisers to SSMO, and SSMO presented the evidence and the surveillance team asked questions. Further information was provided by NAFC and SSMO immediately following the meeting.

Stakeholder Consultation

Food Certification International contacted all stakeholders to inform them that the surveillance will be carried out remotely. All stakeholders were given the opportunity to request an onsite meeting with a locally based member of the original team if necessary. No such requests were received.

Documents referred to

See **Appendix 4**.

3.3 Surveillance Standards

3.3.1 MSC Standards, Requirements and Guidance used

This surveillance audit was carried out according to the MSC Fisheries Certification Requirements v1.3.

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

- » The certified UoCs include creel and scallop dredge within a fishery within 6 miles of Shetland and managed under UK regulating order. No indication was given or suggested during the surveillance audit to suggest that either of these practices is in evidence for this fishery.

4. Results, Conclusions and Recommendations

4.1 Discussion of Findings

4.1.1 Changes in fleet structure or operation

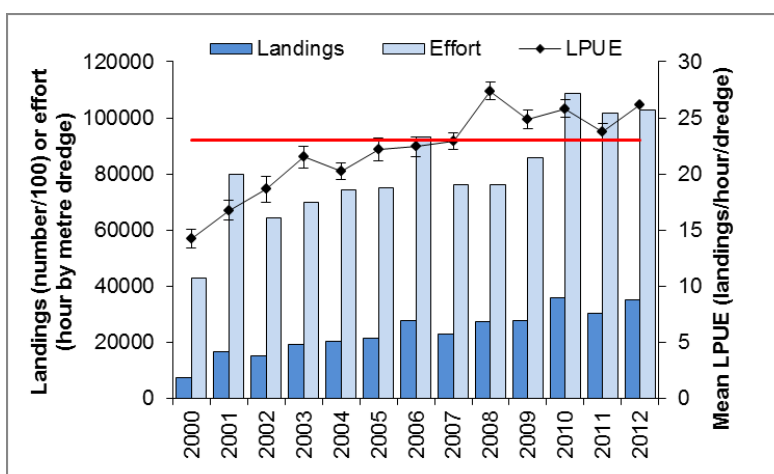
A number of licenced fishermen are known to have ceased fishing over the last 12 months. Active vessels in the fishery have therefore decreased from around 120 to 108 vessels. The SSMO is currently amending licensing procedures for inclusion in the new management plan, which will clarify conditions for replacement vessels (preventing increases in fishing capacity). Additional management measures affecting fleet operation are described in section 4.1.4 below.

4.1.2 Changes in stock status and exploitation patterns

The main indicator of stock status around which the harvest control rules are based continues to be landings per unit effort (LPUE). At last year's audit preliminary data were available only for the first half of 2012 because changes in the way in which information was recorded on log book sheets could not be accommodated in the existing database and the new database was still awaiting implementation. These preliminary LPUE data for 2012 were considered particularly unreliable for the velvet crab fishery because GAM analysis showed that LPUE for velvet crab generally increased during the second half of the year. Updated information for 2012 covering the full calendar year was provided at this year's audit. The status of the scallop stock has not changed in recent years with LPUE continuing to be above the target LPUE (Figure 1), and in consequence no management action is required. LPUE for brown crab declined in 2012, being at the lowest point in the 13 year time series (Figure 2), although until data for 2013 are available, it is difficult to assess whether or not LPUE is still fluctuating around its target rate, and hence whether there has been a change in stock status for brown crab. As brown crab LPUE is currently below the target reference point of 0.8 kg per creel, management actions have been triggered under the agreed harvest control rules. Fishing effort has been limited through the introduction of creel limits and no additional licences have been issued. Velvet crab LPUE has declined since 2008 and was well below the target LPUE of 0.6 kg/pot in 2012 (Figure 3). As velvet crab LPUE continues to be below the target level, and has now dropped below the 2nd trigger reference point, the following management actions have been triggered under the agreed harvest control rules: fishing effort has been limited through the introduction of a limit of 240 creels targeted at velvet crabs, no additional licences have been issued, the closed season for velvet crabs (when they are moulting) has been lengthened, the NAFC Marine Centre has been commissioned to carry out a velvet crab survey in 2014, and areal closures by SSMO grid were discussed by the SSMO board but rejected as there was no evidence of the benefit of such closures.

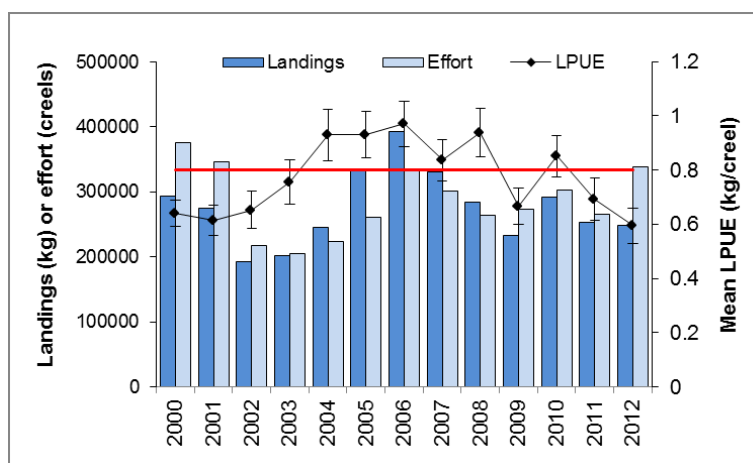
Data for 2013 were not available at the time of the surveillance audit. The new log sheets introduced in 2013 provide scope for vessels to record the main target species for each set of gear. Previously LPUE data were an aggregation of all fleets of creels irrespective of the main target species. As a result mean LPUE figures for one species may be artificially reduced because of the inclusion of fleets for which another species was the main target. For example, creels targeted at velvet crabs will also have a bycatch of brown crab, and including the LPUE of brown crabs from those creels within the overall figures will artificially reduce the LPUE for brown crabs. In future, it will be possible to calculate LPUE for each species using data only from vessels and/or fleets of creels which have specifically targeted that species, which should provide a more accurate index of stock abundance than in previous years. In addition to improvements in recording of the target species on the new log sheet, an upgraded database will be implemented in 2014 which will allow spatial integration of fisheries data and the incorporation of biological data, providing a spatially referenced management tool for use in conjunction with the standard assessment of stock status using LPUE-based reference points and associated harvest control rules.

Figure 1 - Landings of scallops (displayed in numbers) and mean LPUE (number of scallops caught per hour towed per dredge). Horizontal red line indicates the target LPUE used by management.



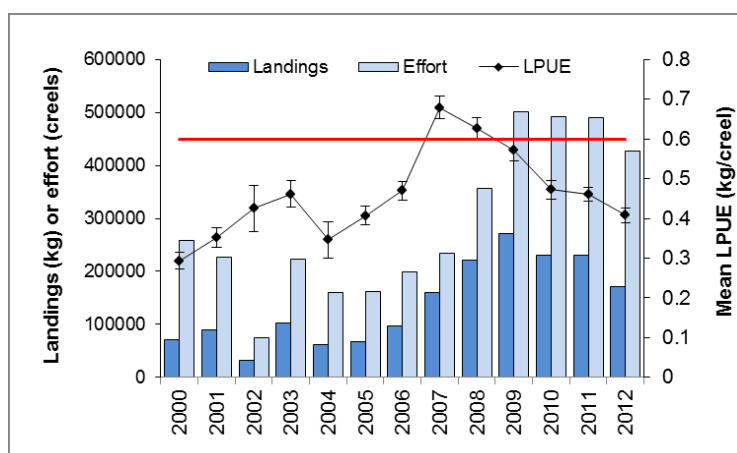
(Source: NAFC Marine Centre)

Figure 2 - Total brown crab landings (Kg), total number of creels catching brown crab, and the average LPUE obtained from SSMO logbooks data with 95% confidence intervals shown. Horizontal red line indicates the target LPUE used by management.



(Source: NAFC Marine Centre)

Figure 3 - Total velvet crab landings (Kg), total number of creels catching velvet crab, and the average LPUE obtained from SSMO logbooks data with 95% confidence intervals shown. Horizontal red line indicates the target LPUE used by management.



(Source: NAFC Marine Centre)

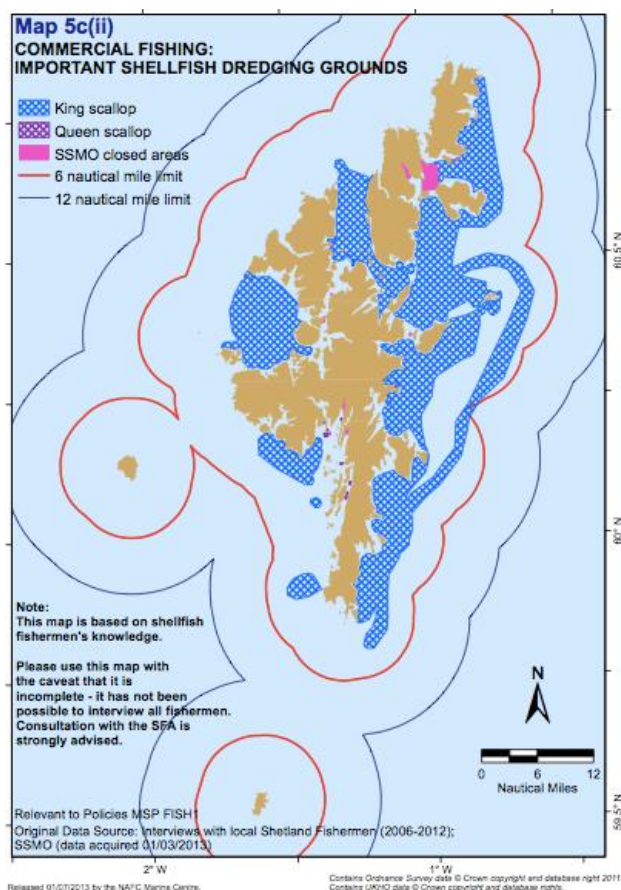
4.1.3 Changes in ecosystem interaction or management

In 2014 the Shetland Islands Council (SIC) will adopt the fourth edition of the Shetland Islands' Marine Spatial Plan (SMSP) as 'Supplementary Guidance' to the emerging Shetland Local Development Plan (SIC and NAFC, 2013). The SMSP provides an overarching policy framework to guide marine development and activity out to 12 nautical miles. It incorporates authoritative spatial data on the marine environment, its various uses and assets.

As part of the SMSP, the continued development and review of local fisheries spatial management measures contributes to the protection and conservation of important habitats and species. The SMSP provides relevant and up-to-date spatial information on important habitats and species to support sustainable fisheries management; this includes the SSMO closed areas (Figure 4).

As part of the SMSP the NAFC Marine Centre has also undertaken a Habitats Regulations Appraisal (NAFC, 2013), which recognizes that legislation may be pending requiring all fishing activities within Natura 2000 sites to be subject to an Appropriate Assessment. Such recognition, together with the framework and capacity to efficiently carry out Appropriate Assessments should they be required for fisheries operations is commendable.

Figure 4. Shellfish dredging grounds and SSMO closed areas



(Source: SIC and NAFC, 2013)

The SSMO are committed to protecting habitats through areas closed to scallop dredging if and when new information becomes available. For example, preliminary surveys undertaken by Herriot Watt University indicated potential presence of sensitive habitat; while the NAFC undertake surveys to confirm this, fishermen have been asked to avoid these areas as a precautionary measure.

No other ecosystem interactions or management changes are reported since the first surveillance audit.

4.1.4 Changes in management

The renewal of the Shetland Regulated Fishery (Scotland) Act took place during 2012-2013. A 15 years Regulating Order has been established up to 2028. The new draft management plan and Code of Conduct were under development at the time of this surveillance. However the proposed developments were discussed.

Despite a number of vessel operators retiring from the fishery, no new licences are being issued (until levels of effort are more accurately established and the impact of new measures on the velvet crab LPUE are known). SSMO is using this period to revise licensing policy on new licences and replacement vessel conditions.

New procedures have also been put in place to improve the application process and to better define decision-making procedures.

SSMO and NAFC have both experienced staff changes (to reduced levels) over the last 12 months. The SSMO Advisory Group has taken an operational role within the SSMO decision making structure, providing advice to the board. This group incorporates meetings with relevant experts where required to facilitate appropriate recommendations to the board

NAFC report that the production of a new fisheries management tool has been delayed in its completion; Phase one of the new fisheries database will be complete by end of March 2014 and will allow spatial interrogation of fisheries data. Phase two has been commissioned to effectively incorporate more complex spatial and biological data.

Additional management measures introduced since the previous surveillance include:

Creel limit: Creel limits were implemented last year and came into force on 1 July 2013. Creel tags are to be introduced in the coming months. Of the maximum 600 creels permitted per boat, 240 can be used for targeting velvet crab. The remainder is to be fitted with escape gaps allowing for velvet crab and juvenile brown crab and lobster to escape.

Escape gaps and creel tagging measures received approval from the Scottish Government in January 2014 year. After trials at the NAFC Marine Centre, a trial size for the escape gaps has been agreed and 50 have been introduced to the fishery for fishermen to trial. These are expected to be fit into their existing creels from July 2014 with the escape gaps being phased in over several months.

Velvet closed season: Following on from reports from several SSMO members regarding velvet crab shells only going soft in September last year, SSMO have extended the velvet closed period until the end of October 2014. Velvet crab fishermen must tie up their vessel for a minimum eight week consecutive period during the months of June to September 2014 inclusive when they find soft shelled velvets in their area.

4.1.5 Catch data

See **Section 5**.

4.2 Reporting on Conditions & Recommendations

4.2.1 Condition 1

Brown Crab, Velvet Crab and Scallops Units of Certification

Condition 1	Reference points
Performance Indicators:	1.1.2 – Reference points Limit and target reference points are appropriate for the stock. Score: 65
Timelines	5 years of certification. From the 1 st year of certification: working with relevant stakeholders to support the implementation of: <ul style="list-style-type: none"> » Limit reference points set above the level at which there is an appreciable risk of impairing reproductive capacity » Target reference point set at levels consistent with BMSY or some surrogate measure with similar intent or outcome. Limit and target reference points should be set at levels which are justified biologically.
Summary of issues	Generic reference points are used which are based on reasonable practice. However there is a lack of biological basis for the level at which they are set. Thus not meeting Issue 2 and 3 of scoring guidepost 80.
Suggested Action	From the start of 5 year certification period: Working with relevant stakeholders to support the implementation of limit and target reference points which are set at levels consistent with avoiding recruitment overfishing and maintaining the stock at BMSY.
Milestones	<p>Years 1-4: Working with relevant stakeholders to support the implementation of limit and target reference points which are set at levels consistent with avoiding recruitment overfishing and maintaining the stock at BMSY.</p> <p>Resulting score: 65</p> <p>Year 5: Adoption of limit and target reference points using information on the biology of the species to avoid recruitment overfishing and to maintain the stocks at BMSY.</p> <p>Resulting score: 80</p>

Progress against interim milestones

Year 2: In order to address Condition 1, during the second year of certification the SSMO has continued to engage with the NAFC Marine Centre in order to define limit and target reference points which are set at levels consistent with avoiding recruitment overfishing and maintaining the stock at BMSY.

SSMO commissioned the NAFC Marine Centre to review the available data for all species in order to provide data ranges for reference point setting using a traffic light approach. NAFC have completed a review of 13 years of data for the velvet crab fishery and presented the results at a meeting of the SSMO Advisory Group in January 2014. The Advisory Group agreed the setting of a suite of reference points based on LPUE, the mean size of male crabs, the sex ratio and the percentage of pre-recruits in the catch. The Advisory Group also agreed that the target reference point for LPUE had been set too high initially at 0.6 kg/creel, recommending that it should be reduced to 0.55 kg/creel. The recommendations of the Advisory Group have been reported to the SSMO board and approved.

Analysis of the data available for brown crab and scallop fisheries is ongoing and will be reported via the Advisory Group in due course. The Advisory Group had initial discussions on potential reference points for the brown crab fishery, but agreed that they will need further investigation of brown crab LPUE by considering data only from vessels targeting brown crab, data which will now be available following the introduction of the new log sheets in 2013. In addition the Advisory Group considered that there were aspects of crab behavior and stock distribution that would inform decisions on setting reference points and noted that this will be aided by the implementation of the new database in 2014 which will allow spatial interrogation of fisheries data.

The SSMO has continued to consult with the industry on the potential measures that could be adopted to strengthen the overall harvest strategy and harvest control rules and tools within the fishery.

Remedial actions

None required

Changes to condition

None

Updated status

In progress.

4.2.2 Condition 2

Condition 2 was closed during the 1st Surveillance Audit.

4.2.3 Condition 3

Brown Crab and Velvet Crab Units of certification

Condition 3	Principle 2: ETP Species
Performance Indicators:	<p>2.3.2 - Management strategy The fishery has in place precautionary management strategies designed to:</p> <ul style="list-style-type: none"> - meet national and international requirements; - ensure the fishery does not pose a risk of serious or irreversible harm to ETP species; - ensure the fishery does not hinder recovery of ETP species; and - minimise mortality of ETP species. <p>Score: 70</p> <p>2.3.3 – Information / Monitoring Relevant information is collected to support the management of fishery impacts on ETP species, including:</p> <ul style="list-style-type: none"> -information for the development of the management strategy; -information to assess the effectiveness of the management strategy; and -information to determine the outcome status of ETP species. <p>Score: 70</p>
Timelines	<p>Year 1: provide evidence of an implemented Code of Conduct outlining action to be taken should incidental entanglement occur with ETP species. Resulting score: 70</p> <p>Year 2: provide evidence of how incidental capture events are recorded (independent of whether they have occurred or not). Resulting score: 70</p> <p>Year 3: provide evidence of data collation and analyse in relation to ETP interactions on an annual basis. Resulting score: 80</p> <p>Years 4-5: no further action required Resulting score: 80</p>
Summary of issues	<p>Entanglement of cetaceans in ropes such as crab and lobster creel buoy lines is a well-known phenomenon in many parts of the world. Little is known about the scale of the problem in Scotland, but European member states are required to establish means of monitoring such mortalities.</p> <p>Within SSMO creel fisheries there is no clear strategy in place to outline actions to be taken in the event of entanglement or to minimise mortality or record frequency of ETP interactions, in particular cetaceans and otters. There are no quantitative data on the level of interaction or mortality due to interactions with the creel fishery.</p>
Suggested Action	<p>Develop and implement a full strategy in relation to managing all ETP species encountered by the fishery, including having <i>in place and operational</i> an appropriate Code of Conduct for responsible fishing, which explicitly refers to ETP species, including cetaceans and otters, and which introduces robust and reliable means to monitor, manage and reduce or eliminate impacts on ETP species, including establishment and implementation of procedures to maximise live release.</p> <p>This can be achieved by, for example, extending the current SSMO Code of Conduct to include a detailed set of actions outlining the procedures to be taken should interaction with ETP species occur, including recording protocols. Reference to the UK turtle Code of Conduct is encouraged to ensure appropriate consideration of all factors is included within the strategy.</p> <p>Provide data and analysis to comprehensively clarify the impact of creel fishing on ETP species including</p>

Condition 3	Principle 2: ETP Species
	number of live releases. This could be achieved within the current SSMO logbook structure extended to include an ETP log. Liaise with scientists to ensure data gathered is relevant, robust and useful to include (for example) species, date and area of capture, numbers, length or weight as well as condition on release. Collate & analyse all data generated in relation to ETP on an annual basis for all certified vessels and use to inform strategy development and make available to relevant authorities.
Milestones	<p>Year 1: provide evidence of an implemented Code of Conduct outlining action to be taken should incidental entanglement occur with ETP species. Resulting scores: 2.3.2: 80, 2.3.3: 70</p> <p>Year 2: provide evidence of how incidental capture events are recorded (independent of whether they have occurred or not). Resulting scores: 2.3.2: 80, 2.3.3: 70</p> <p>Year 3: provide evidence of data collation and analyse in relation to ETP on an annual basis. Resulting scores: 2.3.2: 80, 2.3.3: 80</p> <p>Years 4-5: no further action required Resulting scores: 80, 80</p>

(Source: Original assessment)

Progress against interim milestones

Year 2: The 'SSMO Cetacean Entanglement Prevention Guide' (which was circulated in 2013 as detailed within the 1st Annual Surveillance Audit) has now been incorporated into the updated Code of Conduct, which is due for dissemination to SSMO members.

Wheelhouse cards have been developed and circulated to all SSMO members, which provide information on individual ETP species and what should be done should any ETP species be encountered. This includes generic requirements across all ETP species (e.g. report within log sheets), as well as species specific actions (e.g. for cetaceans: immediate call to the SSPCA detailing location, gear, species, size, animal's condition, etc.)

Revised SSMO log sheets require that all ETP interactions are recorded and reported to the SSMO. The SSMO has implemented policies and procedures for dealing with reports and also for reviewing these data on ETP species and habitats on a regular basis via the Inshore Co-ordinator and SSMO Advisory Group.

The SSMO database is undergoing a major update, which will see it replaced with a new system that is currently in final stages of development (due to be implemented in May 2014). All 2013 and 2014 log sheet records are based on daily data (as opposed to the previous weekly log sheets) and will be entered into this new database. The database will incorporate logbook data on landings, ETP and habitat interactions and biological information and will provide a real-time map based interface that will be monitored regularly by the Inshore Co-ordinator and reported to the SSMO Advisory Group.

No interactions with any ETP species have been reported since the date of certification.

Evidence of data collation and analyse will be required to close this condition. It is expected that this will be possible with the implementation of the updated database, which will be established by the third surveillance audit.

Remedial actions

None required.

Changes to condition

None.

Updated status

On target

4.2.4 Condition 4

King scallop Unit of certification

Condition 4	Principle 2: ETP Species
Performance Indicators	<p>2.3.3 – Information / Monitoring</p> <p>Relevant information is collected to support the management of fishery impacts on ETP species, including:</p> <ul style="list-style-type: none"> -information for the development of the management strategy; -information to assess the effectiveness of the management strategy; and -information to determine the outcome status of ETP species. <p>Score: 70</p>
Summary of issues	Information is not sufficient to quantitatively estimate the fishery related mortality and impact of the fishing on ETP species, in particular common skate.
Suggested Action	<p>Ensure that quantitative data is recorded as part of the management strategy already implemented (including the Seafish Skates and Rays ID guide).</p> <p>This can be achieved by, for example, extending the current SSMO Code of Conduct to include a detailed set of actions outlining the procedures to be taken should interaction with ETP species occur, including recording protocols. Ensure Code of Conduct includes details of all relevant ETP species including skate and ray egg capsules, with ID guides provided as appropriate.</p> <p>Provide data and analysis to comprehensively clarify the impact of scallop dredging on ETP species. This could be achieved within the current SSMO logbook structure extended to include an ETP log. Liaise with scientists to ensure data gathered is relevant, robust and useful to include (for example) species, date and area of capture, numbers, length or weight as well as condition on release. Collate & analyse all data generated in relation to ETP on an annual basis for all certified vessels and use to inform strategy development and make available to relevant authorities.</p> <p>The above actions should be supported by an independent, observer-based risk assessment to assess the nature of these interactions, quantify their extent over appropriate spatial and temporal scales and to assess the likely fate of the animals involved. This risk assessment should be used to inform strategy development and make available to relevant authorities.</p>
Milestones	<p>Year 1: provide evidence of an implemented Code of Conduct outlining recording protocols for ETP species interactions, including capture of egg capsules.</p> <p>Resulting score: 70</p> <p>Year 2: provide evidence of how incidental capture events are recorded (independent of whether they have occurred or not) and provide evidence that a risk assessment is underway to qualify and quantify ETP impacts.</p> <p>Resulting score: 70</p> <p>Year 3: provide evidence of data collation and analyse in relation to ETP interactions on an annual basis, including the results of an initial risk assessment.</p> <p>Resulting score: 80</p> <p>Years 4-5: no further action required</p> <p>Resulting score: 80</p>

(Source: Original assessment)

Progress against interim milestones

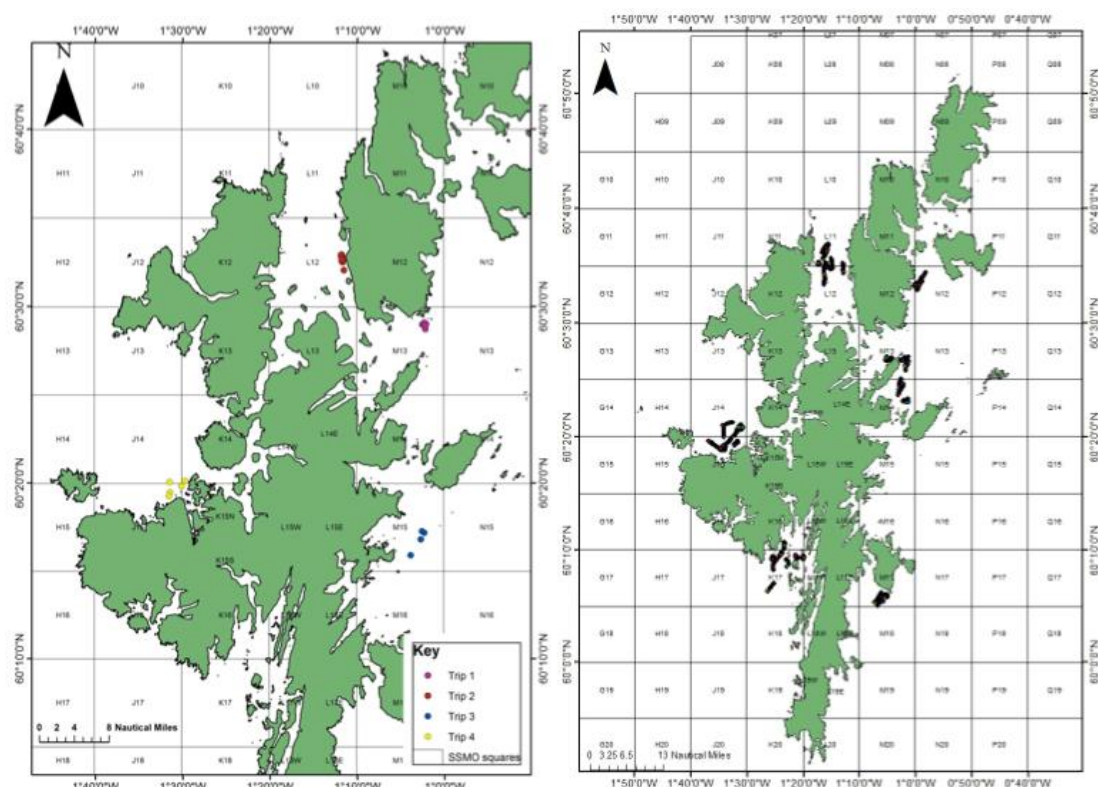
Year 2: Progress reported under Condition 3 is relevant across all SSMO members and is therefore relevant to meeting the year 2 milestone of Condition 4. This includes dissemination of the wheelhouse guide on ETP species; incorporation of the 'SSMO Cetacean Entanglement Prevention Guide' into the Code of Conduct; requirement to record any interactions within ETP species including habitats within log sheets; and development of new database.

Revised SSMO log sheets require that all ETP interactions are recorded and reported to the SSMO. The SSMO has implemented policies and procedures for dealing with reports and also for reviewing these data on ETP species and habitats on a regular basis via the Inshore Co-ordinator and SSMO Advisory Group.

A study into the occurrence of bycatch in the *Pecten maximus*, *Cancer pagurus* and *Necora puber* fisheries around Shetland was conducted from 2012 to 2013 (NAFC, 2013b). In relation to scallop dredging, this included four sampling/observer trips taken on-board scallop dredging vessels, undertaken quarterly across an annual period, equating to 228 dredges sampled and a total of 35.25 hours of towing time. In addition the NAFC Marine Centre using their research vessel undertook an independent scallop survey, which completed 75 tows of 30-minute duration using two standard

scallop dredges. The locations of the hauls for the sampling/observer trips and independent survey are presented in Figure 5.

Figure 5: Location of hauls for the scallop sampling/observer trips (left) and independent NAFC scallop survey (right)



(Source: NAFC, 2013b)

During the project all bycatch was qualified and quantified to species level. A total of 36 species were identified from 25 taxonomical families on the sampling/observer trips and 52 species from 41 taxonomic families during the independent research survey.

No species from the list of current ETP species were recorded during the observer or research surveys. Horse mussels (*Modiolus modiolus*) were recorded during the observer trips (1.33% of the catch) and during the research survey (3.58% of the catch). Horse mussels are locally common although horse mussel beds are rare. Within the observer and research surveys they were not encountered in high enough density to constitute a bed and so were not considered to form a sensitive habitat. Low incidences of elasmobranch egg capsules were recorded in the sampling and survey, and those that were observed were empty.

The bycatch study showed limited impact on bycatch species and no impact on ETP species within the scallop fishery. Based on this quantitative report it is concluded that the risk of scallop dredgers interacting with ETP species is low. Based on this low risk it is considered that existing provisions for data collection and management are sufficient. Independent surveys are not required on an annual basis, but will be reviewed in five years.

The SSMO have also provided a copy of the log sheets illustrating where interactions with ETP species can be recorded. The year 2 milestone relating to evidence of recording procedures and risk assessment has been met.

Evidence of data collation and analysis will be required to close this condition. It is expected that this will be possible with the implementation of the updated database, which will be established by the third surveillance audit.

Remedial actions

None required

Changes to condition

None.

Updated status

On target.

4.2.5 Condition 5

King scallop Unit of certification

Condition 2	Principle 2: Habitats
Timelines	<p>2.4.1 – Status The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function. Score: 60</p> <p>2.4.2 – Management There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types Score: 60</p>
Summary of issues	<p>Scallop dredging is associated with damage to sensitive seabed habitats and non-target benthic communities. The seabed across the range of the fishery is not homogenous and available broad and fine scale habitat maps show that the area comprises a mosaic of different seabed habitats. Accordingly, there will be variation in the sensitivity to the effects of dredging across the range of affected habitats.</p> <p>The closed areas implemented by the SSMO demonstrate a significant step in management as does the research plan to establish locations of sensitive habitats; however these are not considered to form a partial strategy nor a robust, cohesive strategy. Potential areas of vulnerable habitat remain unprotected. Results of research plans have not yet been incorporated into management plans.</p> <p>The location of habitat suitable for scallops is well understood; however the scale of effort data is not sufficient to establish location of fishing activity to any degree lower than 5 x 5 nautical mile squares.</p>
Suggested Action	<p>Extend strategic provisions relating to protecting vulnerable seabed habitats in the SSMO Spatial Management Framework. This should include a log for recording encounters with vulnerable seabed habitats, which could be established and maintained as part of an operational Code of Conduct on all certified vessels. This could include an undertaking to explore measures to reduce unacceptable impacts where identified, such as the possibility of closing further vulnerable habitat area(s).</p> <p>Use resulting information to enhance management strategy of the impacts of the fishery to seabed habitats at least to a point where measures combine into a cohesive, reactive and documented strategy that shows an understanding of how the management measures work together to achieve the objective of minimising impacts to seabed habitats.</p> <p>Ensure that fisheries and environmental data and analysis are made available to the relevant management authorities.</p> <p>Ensure appropriate tools are in place for monitoring, surveillance and enforcement of any actions within the Management Framework for example use of portable vessel monitoring systems in vessels without VMS.</p>
Milestones	<p>Year 1: Provide evidence that a vessel log for recording encounters with vulnerable seabed habitats via a Code of Conduct (for example) has been implemented Resulting score: 2.4.1: 60, 2.4.2: 60</p> <p>Year 2: Demonstrate data generated and research undertaken is shaping the development of a management strategy to mitigate adverse habitat impacts. Resulting score: 2.4.1: 70, 2.4.2: 70</p> <p>Year 3: Continue to demonstrate data generated and research undertaken is shaping the development of a management strategy to mitigate adverse habitat impacts. Resulting score: 2.4.1: 70, 2.4.2: 70</p> <p>Year 4: Demonstrate that a robust, cohesive and reactive Management Strategy that mitigates adverse impacts to sensitive habitats has been implemented Resulting score: 2.4.1: 75, 2.4.2: 75</p> <p>Year 5: Provide evidence that the Management Strategy is being implemented and enforced successfully Resulting score: 2.4.1: 80, 2.4.2: 80</p>

(Source: Original assessment)

Progress against interim milestones

Year 2: SSMO members continue to record any interactions with sensitive habitats within log sheets. Descriptions and photographs of sensitive habitats have been provided, alongside ETP species, within the Wheelhouse Guide.

Voluntary vessel monitoring systems have been installed in 10 (with 5 more units to be fitted) of the more active 22 vessels (8-10 vessels are full-time, with the remainder part-time/seasonal) that are under 12m in length i.e. that are not already fitted with VMS as per EU regulations.

VMS data are reviewed regularly to monitor compliance to closed areas; and no scallop dredge vessels have been recorded within these closed areas.

During 2012 an acoustic-based survey was undertaken to assess the appropriateness of areas closed to protect priority marine features from scallop dredging around Shetland (NAFC, 2013c). Based on this, the spatial boundaries of closed areas have been refined and further surveys and consultation agreed to progress towards more fine-scale improvements to the appropriateness of the spatial management plan.

The SSMO Board recently (Feb, 2014) considered additional data on vulnerable seabed habitats, informed by surveys undertaken by Herriot Watt University. Fishermen have been asked to avoid these areas as a precautionary measure while NAFC carry out further surveys to determine the status and extent of the vulnerable habitat. This provides evidence that information is triggering management procedures that are implemented on a precautionary basis to protect vulnerable habitats.

In summary, data collated and research undertaken continues to inform the development of a cohesive strategy to mitigate adverse habitat impacts.

Remedial actions

None required.

Changes to condition

None.

Updated status

On target

4.2.6 Condition 6

Brown cab, velvet crab and scallops Unit of certification

Condition 6	Fishery Specific Objectives
Performance Indicators	<p>3.2.1 - Status</p> <p>Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.</p> <p>Score: 70</p>
Summary of issues	<p>There is a clear opportunity for improving the definition and distinction of both short and long term objectives, for target stocks, the wider ecosystem and also socio-economic objectives, in a way which is both well-defined and, ideally, measurable.</p> <p>Clearly there is an explicit understanding of objectives which guides management, but these are not always clearly defined in a way which is readily understood, not only by outside observers, but also by intimately involved stakeholders</p>
Suggested Action	<p>The SSMO management plan is the obvious place to further refine and define the short and long term objectives for the SSMO. From an MSC point of view there requirement for objectives is primarily related to management of the stocks (P1) and ecosystem impacts of the fishery (P2). However, best management practice, would also be to include clearly defined social and economic objectives – this may be particularly important in the Shetland situation, where there should be a good and clear understanding within the community of the strategic direction of the SSMO. The process of defining the objectives should be open and transparent and done in full consultation with licence holders and wider stakeholders. As well as defining these objectives, it is also important that they be clearly communicated along with a description of how these inform management decision-making.</p>
Milestones	<p>Year 1: N/A</p> <p>Resulting score: 70</p> <p>Year 2: demonstrate that the process of drafting, developing and consulting upon more clearly defined short and long term objectives is underway – for example as evidenced by discussion at AGM etc.</p>

Condition 6	Fishery Specific Objectives
	<p>Resulting score: 70</p> <p>Year 3: Demonstrate that more clearly defined short and long term management objectives are explicitly defined in a revised management plan</p> <p>Resulting score: 80</p> <p>Years 4-5: no further action required</p> <p>Resulting score: 80</p>

(Source: Original assessment)

Progress against interim milestones

Year 2:

The revised management plan is in the process of being drafted, which is in line with the timing outlined in the condition. SSMO provided a copy of the draft management plan, currently being finalised. It contains an aim 'to continue to maintain sustainable and well managed shellfish fisheries operating within a healthy marine environment' and explicit short and long-term objectives as follows:

Short Term Goals

- » Implement fully functioning management plan and active policies
- » Implement new database & fisheries management tool
- » Implement and enforce creel limitations, creel tagging and escape gaps

Medium Term Goals

- » Continue to meet MSC recommendations
- » Maximise benefits to industry from MSC accreditation

Long Term Goals

- » VMS (or equivalent) for all vessels
- » Retain MSC Accreditation for a further period
- » MSC accreditation for the lobster fishery

There are also strategic objectives specified in the draft:

The SSMO management strategy is built around the following objectives:

1. Stocks –Stocks will be maintained at biologically sustainable levels.
2. Environment –Fishing activity will be managed in an environmentally responsible manner
3. Governance – The SSMO will operate in an efficient and transparent manner and be accountable.
4. Socio-Economic – The continued prosperity of the shellfish fleet and the communities which it supports will be given due consideration in management decisions.
5. Research & Development – We will put in place research and development plans to inform and sustain the work of the SSMO into the future

The SSMO states that these objectives reflect the high level objectives set out in the Strategic Framework for Inshore Fisheries in Scotland (2005) produced by the Scottish Government (Scottish Executive).

These aims and objectives appear consistent with achieving SG80 in year 3 if the management plan is implemented over the coming year as expected.

Remedial actions

None required.

Changes to condition

None.

Updated status

On target.

4.2.7 Condition 7

Brown cab, velvet crab and scallops Unit of certification

Condition 7	Decision-making processes
Performance Indicators	<p>3.2.2 - Status</p> <p>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.</p> <p>Score: 75</p>
Summary of issues	<p>There is a clear opportunity to improve upon the both the definition of decision-making processes and the communication of outputs from decisions, in order to more clearly demonstrate that decisions do indeed respond to serious and other important issues. For example significant recent issues such as area closures, real time closures, stock exploitation management actions and the on-going decisions in relation to granting of new licences are taken, without necessarily presenting clear evidence of the research on which these are based or the degree of evaluation, consultation and above all timely and transparent manner in which decisions are taken.</p>
Suggested Action	<p>The SSMO management plan is the obvious place to further define management decision-making processes employed by the SSMO. This should clearly describe the decision-making processes employed by the SSMO management – defining which decisions can be taken by the board and which require AGM / EGM approval. For each it should ideally be defined how these are taken – i.e. the strategic direction or criteria that inform them and describe the process of ensuring decisions are based on best available evidence and appropriate consultation. It would also be expected that the management plan more clearly define the process for dissemination of decision conclusions.</p>
Milestones	<p>Years 1-2: demonstrate that all management decisions comply with the text of the scoring guidepost above, by more clearly and transparently explaining how and why management decisions are taken, and presenting the evidence on which decisions are based. This may be evidenced through newsletters, website and meeting minutes etc.</p> <p>Resulting score: 75</p> <p>Year 3: demonstrate that more clearly defined decision-making processes are clearly outlined in a revised management plan. This should include a more clearly defined process for new entrant applications, and should clearly define how decisions are guided by short and long term objectives and how appropriate evidence and consultation is taken into account. Finally, this should also define how decision outcomes will be communicated in a transparent fashion.</p> <p>Resulting score: 80</p> <p>Years 4-5: no further action required</p> <p>Resulting score: 80</p>

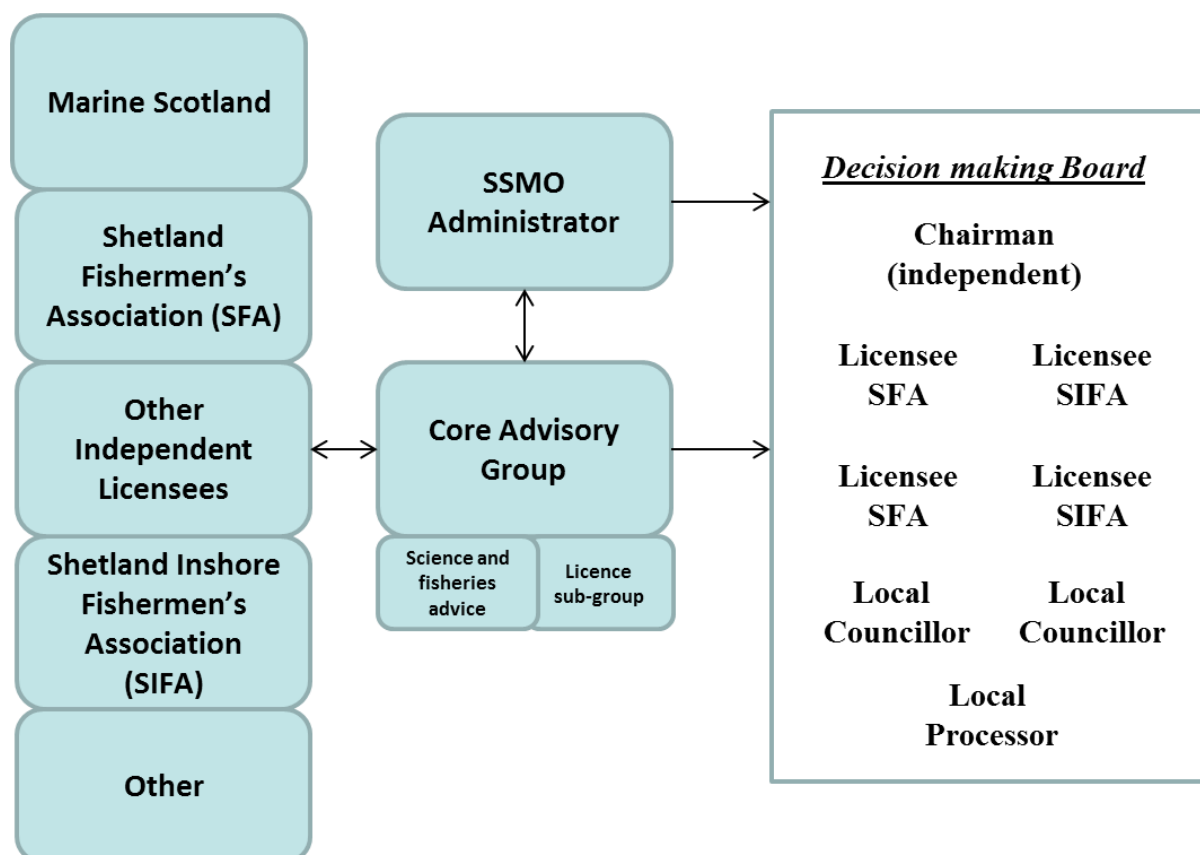
(Source: Original assessment)

Progress against interim milestones

Year 2:

At year 1 surveillance, evidence of progress was provided to the assessment team. A review by external consultants (ABA, 2012) identified a number of areas to address the need for improved decision-making. This resulted in a restructuring of the board and the establishment of the Advisory Group (see figure 6).

Figure 6: Overview of the SSMO



(Source: SSMO, 2014b)

The roles of the SSMO board and the Advisory Group in the decision-making process are clearly defined in the management plan (currently being re-drafted). The licence application and decision-making process is also being revised, along with a monitoring and evaluation framework for inclusion in the management plan.

When the management plan is implemented, it is therefore expected that this condition would be closed.

Remedial actions

None required.

Changes to condition

None.

Updated status

On target

4.2.8 Condition 8

Brown cab, velvet crab and scallops Unit of certification

Condition 8	Monitoring and Evaluation
Performance Indicators	<p>3.2.5 - Status</p> <p>The fishery has in place mechanisms to evaluate some parts of the management system and is subject to internal review.</p> <p>Score: 60</p>
Summary of issues	<p>There have been significant changes in the harvest strategy as a result of the implementation of new harvest control rules (HCRs). Target and limit Reference points and management actions to be triggered as a result of changes in LPUE are considered a key part of the harvest strategy. However an evaluation of the performance of this key part of the harvest strategy has not been carried out.</p>
Suggested Action	<ol style="list-style-type: none"> To develop mechanisms to evaluate the performance of the management system as a result of the newly implemented harvest control rules. To carry out a full Management Performance Evaluation for certified shellfish fisheries of Shetland Islands
Milestones	<p>Year 1: Design mechanisms to evaluate the harvest strategy of shellfish fisheries under assessment. In particular the evaluation should focus on the comprehensiveness of the current design of the harvest control rules.</p> <p>Within the management plan for shellfish fisheries under assessment state what will the frequency of the Management Performance Evaluation.</p> <p>Score: 60</p> <p>Year 2: Carry out a full Management Performance Evaluation for certified shellfish fisheries of Shetland Islands.</p> <p>Score: 80</p> <p>Year 3: Thereafter carry out reviews / evaluations at the frequency stated in the management plan</p> <p>Score: 80</p>

(Source: Original assessment)

Progress against interim milestones

Year 2:

Design mechanisms to evaluate the harvest strategy of shellfish fisheries under assessment. In particular the evaluation should focus on the comprehensiveness of the current design of the harvest control rules.

As described under Condition 1, SSMO commissioned NAFC Marine Centre to evaluate the harvest control strategies of the certified shellfisheries. This has resulted in revisions being proposed to SSMO and revised HCRs are being agreed for inclusion in the new management plan.

Within the management plan for shellfish fisheries under assessment state what will the frequency of the Management Performance Evaluation.

The management plan is currently in draft form, but this process (involving inputs and consultation with a wide range of stakeholders) has resulted in all aspects of the management of the certified fisheries being evaluated. The draft also specifies how each element of SSMO management is to be evaluated:

Fisheries Management

A memorandum of understanding between the SSMO and Marine Scotland Compliance is under development and once in place should be reviewed annually or at more frequent intervals if required.

Reference points and harvest control rules should be reviewed annually in advance of the licensing round.

Environment

SSMO Inshore Officer is to record reports of ETP species and report these to the SSMO Advisory Group on a monthly basis as a standing agenda item.

The SSMO Advisory Group will consider the incidence of interactions as a standing agenda item, should an advisory group meeting not have been held prior to the board meeting the data should be presented to the board by the Inshore Officer.

Detailed data analysis of interactions with ETP species will be presented to the board as part of the stock assessment process and will be integrated into the management decision making process via appropriate harvest control rules.

Survey work to gather information on ETP interactions with the dredge fishery will be carried out every 5 years with the next survey to be carried out in 2017.

Data on lost gear reported on logsheets will be compiled by the SSMO Inshore Officer and reported via the SSMO Advisory Group. If necessary a risk assessment will be carried out and mitigation, over and above the existing escape gaps, may be considered.

Any interactions observed during ongoing data collection and standard surveys are to be recorded and reported to the SSMO.

Governance

Summary notes of all board meetings should be circulated to all interested licence holders on a monthly basis as soon as possible after the full minute of the board has been approved.

For all decisions there should be a consensus of opinion. Where agreement cannot be reached there should be a process of voting either by a show of hands or where appropriate via a secret ballot to be facilitated by the Inshore Officer. The chair will have the casting vote where there is a tie. Roles and responsibilities for board members with regards to decision-making are detailed in individual policy documents and outlined in the management plan where appropriate.

The SSMO management plan will be reviewed on an annual basis.

NAFC Marine Centre undertook a review of the harvest strategies for certified shellfisheries at the request of SSMO. This has led to revisions to HCRs that will be incorporated into the management plan. The external evaluation work undertaken by AB Associates in 2012 and the process led by SSMO to draft the new management plan (which includes monitoring and evaluation procedures described above) constitute a full management performance evaluation and therefore the second element of the condition is met, SG80 achieved and the condition closed.

Remedial actions

None required.

Changes to condition

None

Updated status

Condition closed

4.2.9 Condition 9

Velvet crab Unit of Certification

Condition 9	Stock status
Performance Indicators	1.1.1 – Stock status The LPUE (used as stock status indicator) not being at or fluctuating around the target LPUE (used by management as Target Reference Point) Score: 70
Summary of issues	The status of the scallop and brown crab stock has not changed in relation to their target LPUE (Figure 1 and 2). However the velvet crab LPUE has decreased since year 2008 and has been below the target LPUE of 0.6 kg/pot during years 2009-2012 (Figure 3) FCI was informed by the NAFC fisheries team that LPUE for year 2012 does not include data from July onwards and therefore year 2012 should not be taken into account when assessing trends in LPUE. In fact the NAFC fisheries team told that FCI audit team that preliminary analysis show an increasing LPUE trend for years 2011-2012 (Leslie B., <i>pern comm</i>). As a result of the change in velvet crab stock status Principle 1 for velvet crab was rescored (See below).
Suggested Action	Continue to implement rebuilding strategies to ensure that the stock rebuild toward the target reference point is the shortest practicable rebuilding timeframe
Milestones	Year 2-4: Continuing implementing rebuilding strategies (i.e. Harvest Control Rules) to ensure that the stock rebuild and is at or fluctuating around the target reference point. Score: 70 Year 5: To provide evidence that the stock is at or fluctuating around the target reference point. Score: 80

Rescoring of Performance Indicators PI 1.1.1 & PI 1.1.3 for velvet crab.

Velvet Crab				
	Criteria	60 Guideposts	80 Guideposts	100 Guideposts
1.1.1	Stock Status The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing	It is <u>likely</u> that the stock is above the point where recruitment would be impaired.	It is <u>highly likely</u> that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point.	There is a <u>high degree of certainty</u> that the stock is above the point where recruitment would be impaired. There is a <u>high degree of certainty</u> that the stock has been fluctuating around its target reference point, or has been above its target reference point, <u>over recent years</u> .
Score:		70		
Justification				
It is <u>highly likely</u> that the stock is above the point where recruitment would be impaired. Recruitment overfishing occurs when the adult population is fished at a rate at which the number and size of the adult population is reduced to a point that the stock does not have the reproductive capacity to replenish itself. A number of stock indicators provided evidence to support a high likelihood that the velvet stock is above the point where recruitment overfishing occurs. Stock indicators to support this are:				

1. **Technical conservation measures:**

- a. **Minimum Landing Size in relation to the Mean Size at Maturity:** The minimum landing size of 70 mm carapace width introduced in 2001 ensure that a large proportion of the mature population is not subject to fishing mortality. Mean size at maturity (L50%) for velvet crab was estimated at 57mm for males and females respectively. The proportion of the mature catch returned at sea is estimated at 43% (± 3 , 95% CL), estimated as the average for years 2001-2010.
- b. **Seasonal Closure:** Each vessel must stop fishing for a period of eight weeks between June and September (this was increased from six weeks to eight weeks in 2012). As the moult cycle is variable both between areas and between years this flexible approach allows the fishermen to stop fishing when the velvet crabs in their area are soft. They must notify the SSMO of this closure and this information is also provided to the Fishery office and the buyers.

2. **Size frequency distribution of the catch:** there has been stability in size frequency of the catch which indicates stability in the population structure.

- a. **Trends in mean size carapace width:** This provides some information on stock structure. The general stability observed for legal sizes and undersized individuals indicates that fishing levels are not causing recruitment overfishing.

3. **The ratio of stock biomass at current fishing mortality (F_{current}) to the stock biomass when there is no fishing** for both sexes indicates that the stock biomass is above the level where there is risk of recruitment overfishing if compared to proxies for recruitment overfishing. Long terms changes in stock biomass with changing fishing effort estimates that if fishing effort is reduced to zero (i.e. $F = 0$) the stock biomass would increase 160% approximately in the long term (Figure 3.6). Therefore at current fishing effort stock biomass is approximately 38% of the virgin stock biomass.

The stock is NOT at or fluctuating around its target reference point.

Landing per Unit Effort (LPUE) is the stock indicator used to manage the velvet crab fishery. The target LPUE is set at 0.6 kg per creel. The velvet crab LPUE has decreased since 2008 and has been below the target LPUE of 0.6 kg/pot during years 2009-2012 (Figure 3 above).

FCI was informed by the NAFC Fisheries Team that velvet data for the second half of 2012 was under represented in the logsheet returns. This was due to changes in the logbooks that were implemented to include ETP interactions. These changes could not be accommodated in the existing database and therefore data entry had to be suspended until a bespoke database was commissioned and completed. The significance of this under-representation of the data is that the mean LPUE value for the year is disproportionately influenced by data from the first half of the year when the LPUE is lower. When looking at the LPUE data from the second half of the year only it can be seen that LPUE in 2012 were increasing.

However the stock is not fluctuating around the target reference point and a new condition has been raised and PI 1.1.3 stock rebuilding has been triggered.

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Score:	90
Justification	
<p>Where stocks are depleted rebuilding strategies are in place</p> <p>Current Harvest Control Rules can be interpreted as a rebuilding strategies. As a result of LPUE being below the target LPUE a number of rebuilding management measures have been implemented including:</p> <ol style="list-style-type: none"> 1. Effort Control: A full consultation with industry took place during 2012 and a gear limit was agreed. In addition no licences have been issued since certification was awarded. 2. The velvet closed period was increased from six to eight weeks. <p>The shortest practicable rebuilding timeframe is specified which does not exceed <u>one generation time</u> for the depleted stock</p> <p>Generation timeframe is equal to the time needed for velvet to reach 45mm for males and 56mm for females (size at maturity), which is approximately 2 years. The current rebuilding strategy in place is implemented with the aim of rebuilding the stock toward the target reference point in the shortest possible timeframe. The following work is being undertaken in this regard:</p> <ol style="list-style-type: none"> 3. No more licences are being issued and gear limit has been agreed among industry. 4. The closed period has been extended from six to eight weeks 5. The minimum landing size implemented ensure that no fishing mortality occur before generation time. Velvet crabs typically live for four to six years and recruit to the fishery at around age three (65 mm CW). They reach maturity at a carapace width of approximately 50 mm. 6. Currently the Harvest Control Rules and Reference Points are under review (as result of Conditions for certification raised during full assessment). The NAFC Marine Centre is undergoing an evaluation of options available for setting appropriate reference points. The NAFC Marine Centre is advising to use a set of reference points (i.e. traffic light approach) to account for the inherent uncertainty in the use of only one target reference point. As part of the Action Plan to address condition 1 the SSMO will adopt target reference points using information on the biology of the species to maintain the stocks at BMSY. <p>There is <u>evidence</u> that they are rebuilding stocks</p> <p>Preliminary analysis of LPUE in 2012 indicates that LPUE is increasing toward the target LPUE (MSC Audit, May 2012, see section 4.1.2). Overall the rebuilding strategies implemented provide assurance that the productivity of the stock will be maintained at high levels. As mentioned previously a traffic light approach for the assessment of the stock in relation to target and limit reference points using information on the biology is to be implemented within the certificate life span.</p>	
References	
<p>» Shetland Shellfish Management Organisation (2010). Reference Points and Harvest Control Strategy</p> <p>» Identification and Implementation of relevant Fisheries Reference Points for Shetlands Shellfish Fisheries (2013). NAFC Marine Centre.</p> <p>» Future Management Options (2013). NAFC marine Centre</p>	

MSC Principle	Velvet Crab fishery	Brown Crab fishery	Scallop fishery
Principle 1: Sustainability of Exploited Stock	81.3 PASS	80.0 PASS	81.3 PASS
Principle 2: Maintenance of Ecosystem	83.0 PASS	83.0 PASS	80.7 PASS
Principle 3: Effective Management System	82.8 PASS	82.8 PASS	82.8 PASS

Progress against interim milestones

At last year's audit preliminary LPUE data for the velvet crab fishery were available only for the first half of 2012, and these data for 2012 were considered particularly unreliable because GAM analysis showed that LPUE for velvet crab generally increased during the second half of the year. At last year's audit the NAFC fisheries team told the FCI audit team that preliminary analysis showed an increasing LPUE trend for years 2011-2012. However, updated information for 2012 covering the full calendar year was provided at this year's audit, and velvet crab LPUE was well below the target LPUE of 0.6 kg/pot in 2012, showing further decline since 2011 (Figure 3). The velvet crab stock is not therefore at or fluctuating around its target reference point, and a score of 70 for the velvet crab Unit of Certification for PI 1.1.1 remains appropriate.

At the 1st surveillance audit carried out in May 2013, a new condition was raised against PI 1.1.1 because the velvet crab fishery was no longer fluctuating around its target reference point and PI 1.1.3 stock rebuilding was triggered. Under the MSC CR v1.3, paragraph CB2.4.2 requires that rebuilding strategies and monitoring are put in place within one year of becoming aware of the depleted status.

As velvet crab LPUE continues to be below the target level, and has now dropped below the 2nd trigger reference point, a range of management actions have been triggered in the fishery under the agreed harvest control rules. No additional licences have been issued, creel limits have been implemented, the closed season for velvet crabs (when they are moulting) has been lengthened, the NAFC Marine Centre has been commissioned to carry out a velvet crab survey in 2014, and areal closures by SSMO grid were discussed by the SSMO board but rejected as there was no evidence of the benefit of such closures. These measures along with a minimum landing size well above the size at maturity constitute a rebuilding strategy. In addition, there have been a number of legislative and enforcement activities implemented since the previous audit, which will underpin the rebuilding strategy. Creel tags have to be attached to all gear to aid enforcement of creel limits, and Marine Scotland Compliance has committed to enforcement of these limits both onshore and at sea. Vessels are now limited to a total of 600 creels, but only 240 may be targeted at velvet crabs, and to underpin this creel limit, all additional creels over the 240 limit must be fitted with escape gaps which permit the escape of all velvet crabs (but which retain other species above the minimum landing size).

At last year's surveillance audit, there was some evidence that LPUE was increasing towards the target LPUE, but the updated LPUE figures for 2012 do not show an increase. Whilst overall the rebuilding strategies implemented provide some assurance that the productivity of the stock will be maintained at high levels, the timing of the introduction of the key rebuilding actions reducing fishing effort in the velvet crab fishery are such that any effects of those actions would not be expected to be observed yet as the most recently available LPUE data are from 2012.

The cap on the number of licences and the increase in the moulting period closure from 6 to 8 weeks already introduced would be expected to contribute to limiting effort to its current level, but the limit of 240 creels targeted at velvet crabs did not come into force until 1 July 2013 and the requirement to have any additional creels fitted with escape gaps will be introduced from July 2014 along with increased enforcement activity in 2014.

Assuming the above measures are effective, the level of fishing effort would not be expected to have been reduced until the second half of 2013, and LPUE would be expected to increase following the reduction in fishing effort. In conclusion, whilst the rebuilding strategy is expected to work, evidence of its success will not be available until the 3rd surveillance audit when LPUE data are available for 2013 (and ideally 2014 if surveillance can be delayed until 2014 data is available in June).

Remedial actions

None required

Changes to condition

None

Updated status

In progress

4.2.10 Progress on Recommendations

In addition to the above Conditions, the assessment team made a number of recommendations. These are not required to maintain certification, but would improve the performance of the fishery against the MSC Principles and Criteria. Accordingly, the action taken and timescales are at the discretion of the client.

Recommendations, actions taken and the status of each recommendation are provided below.

Recommendations for Principle 2 of **the creel fisheries** as follows:

1. Retained and bycatch: establish a code of practice for handling live catch on board vessels to minimise discard mortality of shellfish species.

Action: 'Care of Catch' has been added into the updated Code of Conduct and disseminated to all SSMO members. Guidance has been given to fishermen on how best to return unwanted catch, including shellfish and fish.

Status: Closed

2. Bycatch, ETP and Habitats: establish a formal strategy for recording and reporting gear loss incidents, including date, time, position of loss and outcome (e.g. retrieval).

Action: Paragraph s 6.10-6.11 of the Code of Conduct state "The loss of any fishing gear should be reported on the log sheets, giving an accurate assessment of the quantity of gear and the approximate location. Every effort should be made to recover lost gear to avoid ghost fishing." Creels in the Shetland fishery are now tagged due to the implementation of pot limits. Each creel has a unique numbered tag. If fishermen lose gear, they will have to apply for new tags for replacement pots. This provides another means of monitoring any lost gear.

Status: Closed

3. Bycatch: explore/research the potential use of escape / biodegradable panels or biodegradable twine / clips connecting a panel of the pot to mitigate any lost gear impacts.

Action: A short report has been produced on mitigation methods for ghost fishing (Hamilton, 2014) which will be considered by the SSMO Advisory board. In addition, creel limits have been put in place to limit effort, with a maximum 600 creels per vessel of which only 240 may be set for velvet crabs i.e. 360 will be fitted with escape gaps.

Status: Closed

4. Bycatch: undertake research into the survivability of discarded fish within the creel fishery.

Action: The client has considered survivability of fish within the creel fishery and found a low risk to returned by-caught fish. This is due to i. the depth at which creels are set are relatively shallow and are unlikely to impact fish swim bladders when hauled; and ii. The Bycatch Report (NAFC, 2013b) indicates a low level of interaction with fish.

Status: Closed

5. ETP: explore potential mitigation measures within the creel fisheries to minimise mortality of ETP interactions such as use of biodegradable twine, or fleets set with weak links or breakaway lines to stop entanglement.

Action: Evidence to date suggests that issues of entanglement are rare in the Shetland creel fishery. This, together with the detailed wheel house guide providing clear steps on what to do if entanglement occurs, mitigates the need for further measures.

Status: Closed

6. ETP: incorporate the practice of storing pots on land with unlocked / open panels into future updates of the Code of Conduct to mitigate any potential impacts to birds and otters.

Action: this has been completed and paragraph 6.12 of the Code of Conduct states "When creels or keep creels are stored on land they should be left open to prevent unintentional trapping of otters or birds."

Status: Closed

Recommendations were made in respect of Principle 2 for **the scallop dredge fishery** as follows:

1. Bycatch: provide commitment to routinely record and monitor bycatch independently on an appropriate time series e.g. every five years. Ensure interaction with egg capsules is recorded by independent observers during bycatch surveys.

Action: The Bycatch Report (NAFC, 2013b) independently monitored bycatch in the scallop fishery and committed to independently reviewing the fishery's bycatch in five years' time.

Status: Closed

4.3 New Conditions & Recommendations

No new conditions or recommendations are proposed.

The next surveillance visit will be critical for the review of progress in rebuilding velvet crab stocks. It is therefore recommended that year 3 surveillance be delayed until 2014 LPUE data become available. The current timing for LPUE analysis allows the reporting of results in June. While a delay to the surveillance visit is suggested, to avoid excessive delay it is recommended that velvet crab LPUE analysis be fast tracked.

It is recommended that Principle 1 and Principle 3 team members should attend the year 3 surveillance audit to address the velvet crab stock issues and appreciate the extent of implementation of the management plan in relation to P3 conditions. The good progress seen against conditions under P2 suggests the P2 contributions can be delivered remotely.

4.4 Conclusions

Sourced from original assessment

Table 3: Summary of progress on conditions/recommendations

Binding Conditions / Recommendations	Descriptions	Status of Progress
Condition 1 (velvet crab, brown crab and scallops)	During the second year of certification SSMO has continued to engage with the NAFC Marine Centre in order to address the definition of limit and target reference points which are set at levels consistent with avoiding recruitment overfishing and maintaining the stock at BMSY.	In Progress
Condition 2 (creels)	Evidence of observer coverage that records discarding of all species in the creel fisheries on a routinely basis and is used to shape future strategy where appropriate	Closed at year 1
Condition 3 (creels)	Evidence of an implemented Code of Conduct outlining action to be taken should incidental entanglement occur with ETP species	On target
Condition 4 (scallop)	Evidence of an implemented Code of Conduct outlining action to be taken should interactions occur with ETP species	On target
Condition 5 (scallop)	Evidence that a vessel log for recording encounters with vulnerable seabed habitats	On target
Condition 6 (crab, velvet, scallop)	Short & long term objectives explicit within the management plan	On target
Condition 7 (crab, velvet, scallop)	Decision-making processes well-defined with clear communication of outcomes.	On target
Condition 8 (crab, velvet, scallop)	Monitoring and evaluation of management performance (HCR)	Condition closed
Condition 9 (velvet crab)	Continue to implement rebuilding strategies to ensure that the stock rebuild toward the target reference point is the shortest practicable rebuilding timeframe	In progress
Recommendation 1 (creel)	Code of practice for handling live catch on board	Closed
Recommendation 2 (creel)	Strategy to record lost gear	Closed
Recommendation 3 (creel)	Mitigation of lost gear impacts	Closed
Recommendation 4 (creel)	Survivability of discarded fish	Closed
Recommendation 5 (creel)	Mitigation to minimize mortality of ETP interactions	Closed
Recommendation 6 (creel)	Storing pots 'open' on land	Closed
Recommendation 1 (dredge)	Bycatch monitoring	Closed

4.5 Status of Certification

The surveillance team proposes that the fisheries continue to be certified.

5. Catch Data

Table 5 - Catch Data

Total TAC for most recent fishing year:		2012
Unit of Certification share of the total TAC established for the fishery in most recent fishing year *		
Scallop Unit of Certification	UoC 1	3530820 shells
Velvet crab unit of Certification	UoC 2	171.8 tonnes
Brown crab Unit of Certification	UoC 3	241.8 tonnes
Client share of the total TAC established for the fishery in most recent fishing year:		N/A
Total greenweight catch taken by the client group in the two most recent calendar years:		N/A

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

Source: Fishery client

Appendix 1 – Written Submissions from Stakeholders

None received.

Appendix 2 - Surveillance Plan

Table A2.1: Fishery Surveillance Plan

Score from CR Table C3	Surveillance Category	Year 1	Year 2	Year 3	Year 4
6	Normal Surveillance	On-site surveillance audit	Remote surveillance audit	On-site surveillance audit	[e.g. On-site surveillance audit & recertification site visit]

Appendix 2.1 Rationale for determining surveillance score

According to table C3 in certification requirements version 1.3, the fishery scored 6 as more than 5 conditions remain open, principle scores remain below 85 and outcome PIs (velvet crab 1.1.1) have open conditions (condition 9). As a result, an on-site surveillance is proposed for year 3 (see section 4.3 for suggested attendance).

Appendix 3 - Changes to Client Action Plan

The Client Action Plan has not been changed, but additional measures have been introduced to address condition 9 introduced after last year's surveillance.

Appendix 4 - References

- » Hamilton, M., 2014. Ghost fishing mitigation measures in creel fisheries. NAFC Marine Centre.
- » NAFC Marine Centre, 2013. Habitats Regulations Appraisal of the Shetland Islands' Marine Spatial Plan Draft Record – November 2013
- » NAFC Marine Centre, 2013b. The occurrence of bycatch in the *Pecten maximus*, *Cancer pagurus* and *Necora puber* fishery around Shetland. April 2013.
- » NAFC Marine Centre (2013c). Assessment of the appropriateness of areas closed to protect priority marine features from scallop dredging around Shetland. Report produced by the NAFC Marine Centre on February 2013. 65 pages. See: <http://www.nafc.ac.uk/WebData/Files/ReportFebruary2013Closed%20areas%20to%20scallop%20fishingReport.pdf>
- » NAFC Marine Centre, 2014. Shetland Shellfish Management Organisation MSC Audit 6-7th March 2014. Powerpoint presentation and accompanying documents.
- » SIC and NAFC Marine Centre, 2013. Supplementary Guidance Shetland Islands' Marine Spatial Plan. Draft Fourth Edition, November 2013
- » SSMO, 2014. SSMO Code of Conduct. Last updated 04 March 2014
- » SSMO, 2014b SSMO Management Plan (draft)