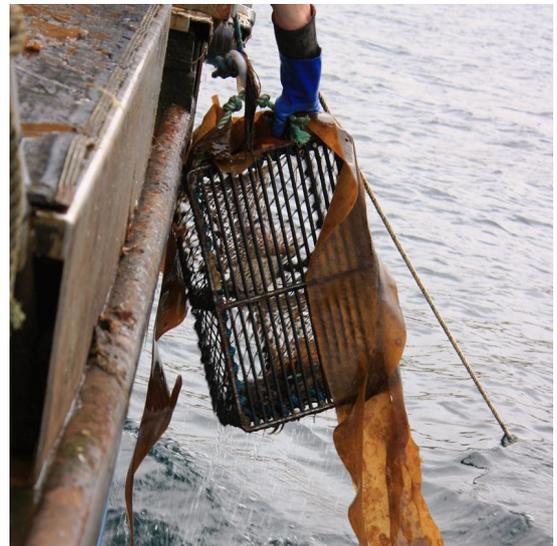


The Orkney Creel Fishery



Fishery Improvement Project Work Plan

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Introduction

This work plan has been developed as part of the Fishery Improvement Project (FIP) of the Orkney creel fishery for brown crab, European lobster and velvet crab that Orkney Sustainable Fisheries is implementing with support from Marks and Spencer plc and The World Wide Fund for Nature. This document outlines the findings of the Marine Stewardship Council (MSC) pre-assessment and provides an overview of the work that will be put in place to address weaknesses in the fishery. Appendix A provides a detailed work plan which breaks down the action tasks that will be completed as part of the FIP and relates these actions to the appropriate Performance Indicators in the MSC pre-assessment. Ultimately, it is hoped that the FIP can support the fishery in improving and demonstrating sustainability to a standard at least equivalent to that required for MSC certification.

Findings of the MSC pre-assessment 2012

The MSC pre-assessment completed in March 2012 scored the Orkney brown crab, European lobster and Velvet swimming crab fisheries in relation to the MSC risk-based framework (RBF) criteria. The RBF was used rather than the default Performance Indicators for Principles 1 (target species) and 2 (ecosystem) as there was insufficient information for using the default scoring guidelines. Specifically, no target or limit reference points for management exist for these fisheries, and it is not possible to assess their status in relation to reference points. The assessors noted that, in general terms, the fisheries appear sustainable and well managed, but three key issues would need to be addressed before they would fulfil all criteria under Principle 1 of the MSC standard:

1. There is no limit reference point defined for the fishery. Although assessment under the RBF can be applied in the absence of reference points, Performance Indicators relating to harvest control rules still require definition of a working limit. A limit reference point defines "the lowest acceptable stock biomass (or proxy measure), at which management action should be taken"/
2. There is no clear harvest control rule for the fishery. The harvest control rule is defined as "A pre-agreed rule or set of rules about management actions to be taken in relation to stock status (often in relation to reference points)". There is an absolute requirement for an MSC certified fishery to have in place a pre-agreed rule for reducing exploitation rates in response to evidence of declining stock biomass.
3. Fishing effort is not monitored. Data on fishing effort would enable catch per unit effort (CPUE) or landings per unit effort (LPUE) statistics to be calculated, potentially allowing their use as proxies for stock biomass in monitoring fishery trends and setting reference points.

In summary, the pre-assessment identified that the Orkney creel fishery requires the routine collection of monitoring data, particularly on fishing effort, and that this information be used to set criteria for management, assess stock status in relation to these, and to operate pre-

agreed rules for responses to changes in stock status. The focus of the FIP is to move the fishery towards meeting these requirements.

The Fishery Improvement Project

The Orkney Fishery Improvement Project will address the issues that were highlighted in the 2012 MSC pre-assessment. The FIP will be one part of a larger fisheries project which will provide a detailed description of the spatial patterns in the Orkney creel fishery and its target stocks. The objectives for this larger project are grouped under two headings: the first is related specifically to planning, consenting and the regulatory needs of the marine energy industry as it develops the Pentland Firth and Orkney Waters region; and the second is focused on the move towards demonstrably sustainable fisheries management.

Work Plan

The following work plan has been developed to meet the sustainable fisheries management objectives that were set out in the Orkney Sustainable Fisheries research proposal (2012). These objectives are:

1. to provide monitoring data and biological understanding to support the development and implementation of a harvest strategy and management systems for sustainable fishing;
- 2 to assess the status of Orkney crustacean stocks in relation to sustainability criteria; and
3. to satisfy shellfish consumers of Orkney's commitment to sustainable fishing.

Objective 1 – to provide monitoring data and biological understanding to support the development and implementation of a harvest strategy and management systems for sustainable fishing.

Biological and fishery specific data will be collected on an ongoing basis throughout the project, aimed both at improving our understanding of biological and fishery patterns and at providing an information base for the definition and application of management systems.

Biological data

Descriptive biological data will be collected onshore and on board participating fishing vessels by the research coordinator. Data collection will be ongoing throughout the duration of the project.

Onshore sampling will be carried out weekly, at the main landing points around Orkney. The size and sex of each individual along with the weight of the sample and total weight landed for a given catch will be recorded. Sampling will cover the main commercially fished species, namely brown crab, European lobster and velvet crab. Sampling strategies will take

account of the different fishing grounds from which catches are taken, ensuring that fishery-wide coverage is achieved.

Offshore sampling will be carried out onboard participating local vessels monthly. All individuals, undersized and legal commercial catch brought up in creels will be recorded. The size and sex of the individuals from each string of creels will be recorded along with any by-catch species. All undersized catch and by-catch will be returned unharmed to the sea. GPS co-ordinates for each string of creels hauled will also be recorded.

Working Group	OSF / The Crown Estate / Marine Scotland / M&S / WWF-UK
Priority	High
Time frame	Ongoing
Main MSC Performance Indicators	1.1.1, 1.1.2, 1.2.3, 1.2.4

Crab Tagging

Tagging of brown crab will be carried out throughout the year. The aim of the tagging scheme is to provide information on spatial stock structure, particularly with regards to inshore and offshore stock components in relation to spawning migrations by females. At least 4,000 crab will be tagged per year, by the research coordinator and participating local fishermen. Tagging will be carried out on all the major fishing grounds. Only recently moulted crabs will be used for tagging. These are more likely to retain their tag and are not landed by fishermen so will reduce the impact to their catch. Tags will be colour-coded by area of release, the GPS location of release will be recorded along with sex and size of each individual. The tagging scheme will be publicised throughout Orkney and surrounding areas to ensure that tag recoveries are returned to the research coordinator, fishermen will be asked to provide tag serial number and GPS location of the crabs recapture.

Working Group	OSF / M&S / WWF-UK
Priority	Medium-High
Time frame	Ongoing
Main MSC Performance Indicators	1.1.1, 1.2.3, 1.2.4

Fishery Specific Data

The participation of local fishermen allows fishery-specific data to be collected using a logbook system. The logbook has been designed to be as simple as possible for ease of use by the fishermen, whilst at the same time providing for collection of good quality data on all the relevant catch and effort statistics. Logbooks will be collected every two weeks and analyzed.

Fishermen are asked to provide information on:

- the number of strings the vessel is hauling on a single fishing trip
- how many creels are on each string
- soak time
- sea state
- the state of the tide

Working Group	OSF / The Crown Estate / Marine Scotland / M&S / WWF-UK
Priority	High
Time frame	Ongoing
Main MSC Performance Indicators	1.1.1, 1.2.3, 1.2.4, 2.2.3

Objective 2 – to assess the status of Orkney crustacean stocks in relation to sustainability criteria.

The assessment of the Orkney crustacean stocks is seen as ongoing part of the project. The data collected in the first year of the project will provide a baseline of knowledge and understanding on the fishery.

The biological data collected during onshore and offshore sampling will allow basic stock assessment methods such as Length Cohort Analysis to be applied to the fishery in Year 1 of the project. Continued data collection will allow stock assessment methods to be refined and make the models more representative of Orkney in future years. Biological sampling data will be linked to logbook records which will give a spatially explicit overview of the fishery.

Crab tagging data will enhance knowledge on the distribution of the stock on Orkney waters and will allow local and more extensive migrations to be understood more clearly. The data will be mapped on a GIS system.

The data from Year 1 will provide the basis of the Orkney fishery management strategy and harvest reference points. The management strategy will be reviewed and adapted to suit the fishery needs which will be highlighted by the stock assessments. Development of potential sustainability criteria, candidates for reference points that could be applied in any harvest control rules, will take place in parallel with the stock assessments.

Working Group	OSF / M&S / WWF-UK
Priority	High
Time frame	Ongoing
Main MSC Performance Indicators	1.1.1, 1.1.2, 1.2.1, 1.2.4

Objective 3 – to satisfy shellfish consumers of Orkney’s commitment to sustainable fishing.

Orkney Sustainable Fisheries will develop a Code of Practice for fishermen, which will include measures to reduce impacts to the environment, by-catch and retained species.

There will be regular fishermen’s meetings where the fishermen will be asked for feedback on the project and the data collection work. These meetings will also involve sharing results and findings with the fishermen, helping them to understand the assessment work. In addition there will be meetings with local processors and shellfish merchants to discuss the work carried out in the project.

There will be regular press releases in local and national press throughout the duration of the project providing a brief update on the progress of the project.

Code of Practice

Fishermen will be asked to agree and sign to a Code of Practice as part of the FIP. Participating fishermen will be expected to conform to guidelines on best fishing practices, handling and storage of shellfish. Best fishing practices may include:

- V-notching lobsters
- discarding soft crab
- discarding berried crab

Handling and storage guidelines for shellfish may include:

- handling shellfish in a way that minimises harm
- discarding shellfish in a way that maximises survivability
- storing crab in a way that maximises survivability

Working Group	OSF / Marine Scotland / M&S / WWF-UK
Priority	High
Time frame	Ongoing
Main MSC Performance indicators	2.1.2, 2.2.2, 3.1.4, 3.2.3

Stakeholder Engagement

The pre-assessment carried out by MacAlister Elliot and Partners Ltd was completed in March 2012. Stakeholders consulted during the pre-assessment were:

- Stewart Crichton, Orkney Fishermen's Society Ltd
- William Harris, Marine Scotland Compliance
- Fiona Matheson, Orkney Fisheries Association
- Dawson Shearer, O-Fish-Shell Ltd
- Kate Thompson, Scottish National Heritage
- Kate Walker, Orkney Sustainable Fisheries Ltd

In addition to these consultations, Orkney Sustainable Fisheries (OSF) has engaged with public by presenting information and results of crab tagging trials at the Orkney International Science Festival on 12 September 2012. Wider public engagement has subsequently been achieved through articles in local papers and industry publications.

OSF has held various meetings to engage with stakeholders who have an interest in Orkney's inshore waters. The stakeholders that were asked to attend meetings are:

- local fishermen
- newly appointed councillors for 2012
- Scottish National Heritage
- RSPB
- Orkney Fisheries Association

The meetings introduced the work that OSF has carried out over the last four years and highlighted the reasons for the current project. The methods of data collection which will be

used as part of the FIP and the data analysis were discussed. At these meetings copies of the OSF Summary Report 2011 were made available.

The meeting with the local fishermen invited all willing fishermen to get involved with the sampling process. There are three different ways in which they can be involved in sampling:

- tagging soft shelled crab
- completing a logbook
- having a researcher on board for observer trips and sampling activities

In addition to the meetings that OSF has held, the FIP has been raised at various Orkney Fishermen's Society board meetings and Orkney Fisheries Association meetings.

Working Group	OSF / The Crown Estate / Marine Scotland / M&S / WWF-UK
Priority	High
Time frame	Ongoing
Main MSC Performance indicators	2.1.2, 2.1.3, 3.1.1, 3.1.4, 3.2.1, 3.2.2, 3.2.3, 3.2.5

Reports

Bi-monthly data reports will be produced providing a summary of the data collection and analysis. In addition to this an annual report will be produced which will be released to both M&S and WWF-UK in September of each year of the project. This report will document the progress of the project and will have updates from annual stock assessments that have been carried out for the fishery. It will also highlight reference points for the fishery which will be used in the management strategy and any changes to be made to the management strategy.

Meetings

Over the course of the project, project update meetings will take place in January and July. The meetings will discuss the progress of the project to date and will focus on a management strategy being developed throughout the project.

Timeline

Task	2013												2014												2015												2016													
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
Installation of VMS	■	■	■	■	■	■	■	■	■	■																																								
VMS Data Reports																																																		
Index Fleet Selection	■	■	■	■	■																																													
Logbook Data collection																																																		
Biological sampling of landings																																																		
Collection of processor records																																																		
Observer trips																																																		
GIS data management																																																		
Crab tagging																																																		
Stakeholder meetings	■																																																	
Fishery liaison meetings		■																																																
Develop and review codes of practice																																																		
Review harvest strategy																																																		
Review biological parameters for assessment																																																		
Review impacts on bycatch species, habitat and ecosystems																																																		
Undertake stock assessment																																																		
Review and Develop future work plan																																																		

The milestones associated with the timeline include:

- Develop and review harvest strategy August (2014, 2015, 2016)
- Stock Assessment, May (2014,2015,2016)
- Review harvest strategy, August (2014,2015,2016)
- Annual reports, September (2013,2014,2015,2016)

