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FRV *Scotia*

Cruise 0411S

## **REPORT**

6 April – 3 May

### **Personnel**

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### **Objectives**

1. To undertake a nationally co-ordinated demersal trawling survey of anglerfish on the Rockall Plateau, west of Hebrides and North Sea.
2. To undertake counts of anglerfish and determine coral density using the Seatronics TV chariot.
3. To undertake counts of anglerfish (using the Seatronics TV chariot) in two areas regarded as unsuitable for towing of fishing gear.
4. To obtain temperature and salinity profiles at each trawling station.

**Out-turn days per project:** 28 days – MF01T

### **Narrative**

Scotia sailed from Aberdeen at 1215hrs on 6th April 2011 and set a course for a recognised trawling location east of Peterhead where a shakedown deployment of both trawl and TV chariot was to be undertaken. During post sailing safety drills it was discovered that Scotia had sailed without a vital piece of release mechanism for the liferaft davits. Arrangements were made for a replacement item to be dispatched to Peterhead. Scotia entered Peterhead basin at 1615hrs

and collected a replacement release mechanism from Peterhead pilot launch. Approximately 1 hour out of Peterhead a problem was identified with the main engine sea-water cooling system. Engineering staff managed to rectify cooling system problem after 4 hours. Scotia then undertook a trial deployment of the sampling trawl, before making way for first scheduled TV station near Sule Skerry. Scotia arrived at the first TV site at 1330hrs on the 7<sup>th</sup> April but unfortunately weather conditions were not suitable for TV deployment. Scotia then set course for Rockall plateau, arriving on station at 2300hrs on the 8<sup>th</sup> April, where TV operations began. After a successful night of TV operation fishing began at 0630hrs on the 9<sup>th</sup> April. TV operations were also carried out during the nights of the 9<sup>th</sup> and 10<sup>th</sup> with trawling events taking place during the hours of 0630 – 2130hrs. No TV work was undertaken on the nights of the 11<sup>th</sup> and 12<sup>th</sup> due to swell height however, it was possible to TV survey a proposed closed area during the night of the 13<sup>th</sup>. With all scheduled trawling stations attempted, Scotia left the Rockall sea area at 1800hrs on the 14<sup>th</sup> and made way for the first trawling station on the west of Scotland sector of this survey.

Scotia arrived at the first trawl site to the west of Harris and resumed surveying at 0715hrs on the 15<sup>th</sup>. Trawling and TV work (in areas unsuitable for trawling) continued up until the evening of the 19<sup>th</sup> when Scotia made way for Greenock for the scheduled half landing. Scotia docked at Greenock on the morning of the 20<sup>th</sup> where the opportunity was taken to exchange staff and also take onboard additional net repair spares and to return the TV chariot and associated equipment to Aberdeen. Scotia sailed from Greenock on the morning of the 21<sup>st</sup> and set sail for the first trawl station of the North Sea sector of this survey, located to the south east of Orkney.

Scotia arrived at the first trawl site to the south east of Orkney at 0130hrs on the 23<sup>rd</sup> where surveying resumed. Weather conditions were incredibly good for the time of year and resulted in Scotia being able to make very good time around the North Sea sector of the survey design and enabled us to complete the scheduled trawl stations and an additional number of 'extra' stations before returning to port in Aberdeen on the afternoon of Monday the 2<sup>nd</sup> May.

## **Results**

This was the longest survey ever undertaken by Scotia and saw the ship travel 4330 nautical miles over the course of the voyage. This survey also saw the largest number of trawl hauls undertaken on any one cruise and was a tremendous achievement for both Marine Scotland Science and Marine Scotland Compliance staff involved.

The trawl gear performed very well during the majority of trawls undertaken. Scanmar units were used throughout the cruise to monitor headline height, wing spread, door spread, net depth and haul duration with data logged for each of the hauls. A bottom contact sensor was attached to the trawl to provide information relating to the actual time of contact between net and seabed. A data storage tag was attached to the net to record temperature at depth. We encountered 6 foul hauls in total with considerable damage done to the gear on these events. Great efforts were put in by the Fishing Master, Fishing Mate and deck crew in keeping the single BT195 trawl that we had onboard in a fit state to carryout the 108 hauls achieved.

From 8 hauls completed in "deep-water" (>500 metres) all species were sorted, measured and weighed. Genetic sampling was also undertaken on a handful of selected species.

A total of 706 anglerfish were caught with the total live weight being 2120 kilograms.

A total of 2238 megrim, weighing 757 kilograms was achieved for the cruise. Additional biological data on sex, maturity, total weight and gutted weight was collected from 820 megrim to supplement coverage for the DCF (Data Collection Framework) requirements with individual total weights also collected for 90 Four-spot megrim. Length frequency data was also recorded for cod, haddock, whiting, saithe and nephrops from each haul at the Rockall sea area where encountered.

### **Camera Visual Survey**

Due to adverse weather conditions it was not possible to deploy the Underwater Camera system at the planned station near Sule Skerry. Continuing variable weather conditions meant it was only possible to conduct the Visual Camera Survey in 5 of the 8 sites identified at Rockall. However 2 additional TV survey sites were attempted in the Clyde, where trawling was questionable. Unfortunately visibility was so poor in the Clyde that no usable footage was obtained. 16 hours of usable footage was obtained from Rockall TV stations.

**Table 1. Summary of camera deployment.**

North Rockall Bank	58.10 N	13.41 W
North Rockall Bank	58.24 N	14.96 W
West Rockall Bank	57.04 N	14.87 W
East Rockall Bank	57.19 N	13.50 W
East Rockall Bank	57.27 N	13.08 W
Clyde	55.09 N	5.21 W
Clyde	55.67 N	5.08 W

All data relating to Scanmar sensors, bottom contact sensors and DST will be downloaded to MSS' systems on return to the laboratory.

C.G.Davis  
1<sup>st</sup> July 2011

