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FRV *Scotia*

Cruise 0811S

REPORT

6 – 26 July 2011

Ports

Departure: Aberdeen, 6 July

Half-landing: Lerwick, 15 July

Arrival and unloading: Aberdeen, 26 July

Personnel

P Copland	(In Charge)
Emma Hatfield	
J Hunter	
Susan Lusseau	
S Keltz	
O Goudie	
Jessica Hommelhof	(Part 1 6-15 July)
Rui Catarino	(Part 2 15- 26 July)
G Slessor	(6 July – mooring deployment)
M Geldart	(6 July – mooring deployment)

Estimated days by project: 21 days - RV1009 (10728)

Fishing Gear

Midwater trawl PT160 x 3.

Multisampling pelagic cod-end with one fine mesh cod-end.

Seabird 911 CTD

Objectives

- To conduct an acoustic survey to estimate the abundance and distribution of herring in the north western North Sea and north of Scotland between 58°30'-62°N and 4°W to 2°E, excluding Faroese waters.
- To obtain biological samples for echosounder trace identification using a pelagic trawl.
- To obtain samples of herring for biological analysis, including age, length, weight, sex, maturity and ichthyophonus infection.

- To obtain hydrographic data for comparison with the horizontal and vertical distribution of herring.
- To deploy Stonehaven hydrographic mooring

Narrative

All gear was loaded in Aberdeen on 4th & 5th July. Scotia departed at 0730 on 6th July and made passage to Stonehaven where the hydrographic mooring was deployed. Hydrographic staff were transferred ashore using the FRC from FPV Hirta. A short meeting was held with all scientists to explain the objectives of the survey, to describe general operating procedures and discuss risk assessments for tasks. A small boat transfer of a deckhand was made from FPV Minna in the Moray Firth. A deployment of the PT160 pelagic trawl was conducted en route to Scapa Flow to familiarise bridge and deck staff with the handling of the equipment.

Calibration of the hull mounted transducers took place in Scapa Flow between 0500 and 1200 on 7th July. Scotia then made her way to east of the Pentland Firth to the first survey transect beginning the survey at 1500. Transects extended as far east as 1° 45E, and as far as safely possible to the west, on approaching the coast. Fish traces were abundant in the area and fishing operations were carried out very successfully up to the half landing with all of the 15 hauls conducted catching significant quantities of herring. Two hauls were also made, using the fine mesh codend on the multisampler, to identify thick mid water layers. These were found to consist mainly of Mysid shrimp, fish larvae and copepods. The use of the multisampler was restricted to areas where small shoals were in evidence after a 3 tonne haul damaged one of the net dropper bars which required replacement.

On the afternoon of 13th July a hydraulic leak was found in one of the large diameter pipes leading to the starboard netsonde winch. The survey continued while the engineering staff explored the possibilities for repair. As this repair could not be effected at sea, and as fishing operations were not possible, surveying continued until 2300 when Scotia made passage to Lerwick for replacement of the pipe.

The opportunity was taken to move the half landing date forward. Staff changes were made on the 15th July with Jessica Hommelhoff leaving the vessel and Rui Catarino joining.

Scotia departed Lerwick at 1230 on 15th July and made passage to Elvis Bay in N. Bressay where a 2nd calibration of acoustic transducers took place until 1745. Scotia made passage to the position where the survey had been halted on the 13th July. Surveying work re-commenced at 0300 on the 16th July.

Surveying continued to the North of Shetland to the shelf edge at 250m. Unlike previous years significant numbers of herring shoals were noted and 4 hauls were made resulting in herring and mackerel being caught. In some cases fish shoals were so large that no trawls were carried out as they might have been damaged by the size of the catch.

Very few shoals were seen down the West side of the survey area. Hauls were very poor and only 1 herring sample was caught West of the 4 degree line. The top sheet of the trawl was lost on 22nd July. The trawl was replaced by the spare one with little lost survey time. The survey finished West of the Pentland Firth at 1445 on 25th July.

Scotia docked for unloading in Aberdeen at 0800 on 26th July.

Results

The planned survey track was completed as per figure 1. The total mileage surveyed was approximately 2400 nmiles with 920, 15 minute acoustic log intervals recorded, providing approximately 40 GB of data (*.raw files). All acoustic data were scrutinised on board to assign

species allocation to fish traces using Myriax Echoview software version 4.7. Fishing exercises were generally very successful; 34 trawl hauls were carried out of which 20 contained herring. Trawling positions are shown in Figure 2.

To provide length frequency data, over 9000 herring were measured of which 2300 were further sampled for weight, sex, maturity and age. All otoliths collected were aged on board. No incidence of ichthyophonous was observed. One sample for West coast analysis was obtained consisting of 102 fish.

30 vertical deployments of the seabird 911 CTD were made. Hydrographic data was collected from the surface thermosalinograph which ran continuously throughout the cruise.

Contact was maintained with the Pelagic charter vessel FV Sunbeam by VHF radio and e.mail.

Submitted:
P Copland
26 July 2011

Figure 1. Scotia cruise track 0811S. (Charter vessel track in broken line)

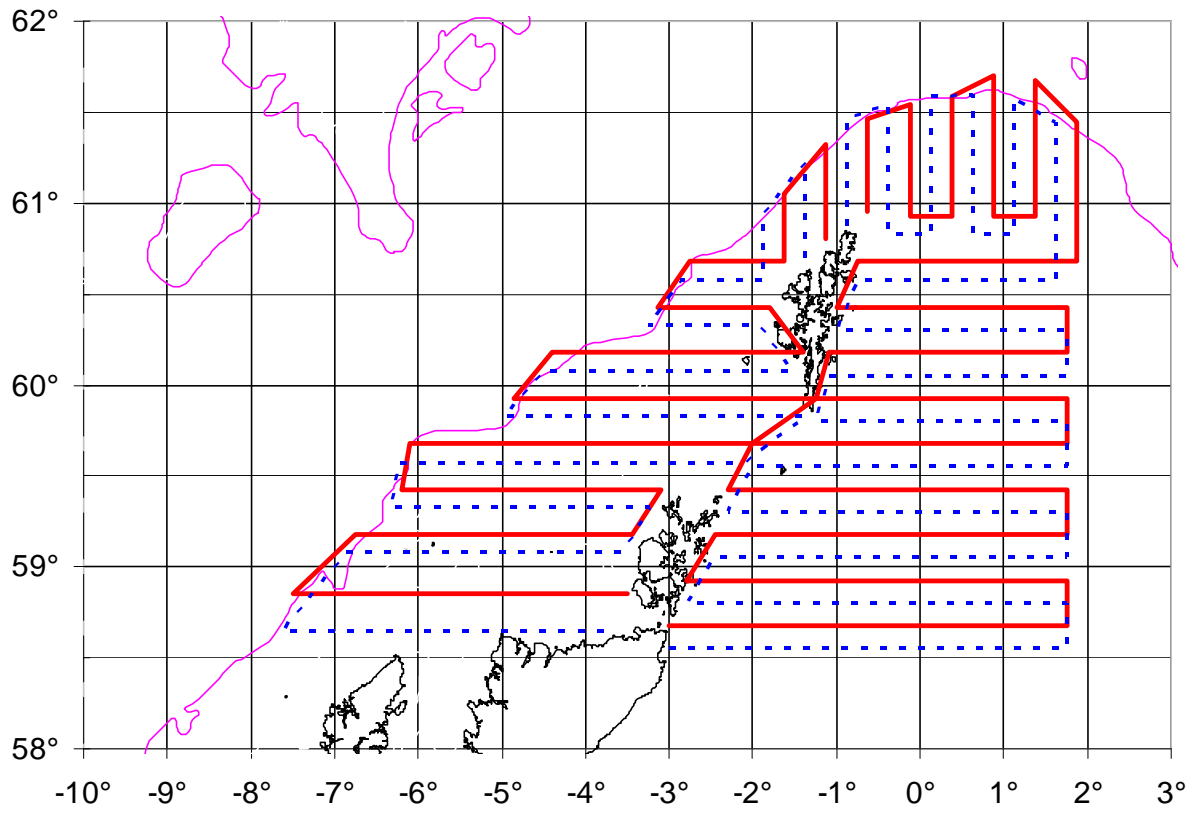


Figure 2. Trawl Haul positions 0811S.

