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MRV *Scotia*

Survey 0812S

REPORT

30 June – 19 July 2012

Ports

Departure: Aberdeen, 30 June

Half-landing: Lerwick, 9 July

Arrival and unloading: Aberdeen, 19 July

Personnel

P Copland (SIC)
J Hunter
E Hatfield
S Lusseau
O Goudie
L Ritchie
B Scoulding (Aberdeen University)
R Catarino (Part 2)

Out turn days by project: 20 days - RV1206 (20090)

Sampling Gear

Midwater trawl PT160 x 3.
Multisampling pelagic cod-end with one fine mesh cod-end.
Seabird 911 CTD
Scanmar wing end distance pair

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 from the shelf edge 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.

Narrative

Scotia departed Aberdeen at 0900 on 30 June and made passage for Scapa Flow, Orkney Islands, to commence calibration of acoustic systems. Two trial deployments of fishing gear took place en route to familiarize crew with fishing gear and to set up the new netsonde systems onboard. Scanmar distance units were used to confirm that the addition of dropper chains to the footrope of the gear had no significant effect on the net geometry.

Calibration took place between 0030 and 0800 on 1 July. The survey commenced at 1200 on the first Eastwards transect as shown on the survey track map (Figure 1). Numerous fish traces were seen throughout the South Eastern area in particular and fishing took place as appropriate. Fishing was generally successful throughout the first half of the survey and herring were caught in all hauls. Poor weather on 7 July restricted the vessel speed and precluded fishing operations for 24 hours. (The netsonde cable having parted due to the swell height when fishing had been attempted). In order to avoid the poor weather an attempt was made at a second calibration of acoustic systems in the evening of 8 July in Hope Wick at the South end of Bressay. Unfortunately, there was insufficient shelter from the 40 knot winds and the calibration was abandoned in the early hours of 9 July. *Scotia* made her way into Lerwick at 0900 on 9 July for her 24 hour half landing and to change scientific and compliance staff. R Catarino also joined the vessel during this period.

Scotia departed Lerwick at 0900 on 10 July and was able to recommence surveying as the weather had greatly improved. *Scotia's* planned survey track had to be reduced in the Northern part of the survey area to compensate for the time lost to weather. However, transects undertaken by the accompanying charter vessel ensured that sampling densities still met the required minimum for the survey in this area. As in previous surveys, few fish traces were seen through the Northern area.

Few traces were seen on the western side of the survey area and these were fished where tidal conditions and seabed topography allowed.

Results

A total of 27 hauls were completed during the entire survey of which 21 contained herring in adequate numbers to be used in the stock analysis. One haul contained significant quantities of Norway pout. Four of these hauls were made in the area V1a South (4° W to 200m shelf contour) but only two of these contained herring in adequate quantities or of the correct size range to meet the criteria of the SGHerrway protocol. (Figure 2 shows the locations of all trawl hauls).

A total of 5490 herring were sampled to obtain length frequency data and a further 1498 were sampled for additional biological parameters such as ageing, gonad and liver weight and inspected for presence of *ichthyophonus* infection. (Only five fish were found to have *ichthyophonus*).

In addition 240 herring, from two hauls, were examined using the SGHerrway protocol which included photographing individuals. In order to maintain compatible length frequency/maturity and age data for the analysis software an additional 55 individuals were sampled from these hauls. Overall 761 herring were used for length frequency data in area V1a (South).

Acoustic data was collected from 951 Elementary Distance Sampling Units (EDSU) and the completed survey track was approximately 2400nmi.

A total of 40 vertical hydrographic deployments were carried out to ensure one station in each ICES rectangle. The ships thermosalinograph was run continuously to obtain sea surface temperature and salinity throughout the survey area. Data from the hydrographic deployments were uploaded on a daily basis to the METOCEAN site.

Observations

In general herring were plentiful particularly in the SE region of the survey area as per previous surveys. The first haul in the southern most transect caught juvenile herring with a mean length of only 17 cm. This is smaller than any fish encountered during previous surveys in this area. Although herring were present it was observed that fish traces were generally smaller than last year and more scattered. Also it was noted that although fish greater than 30 cm were present in catches they were in far less numbers than in 2011 and that East coast hauls in general produced very similar length ranges with a mean length around 27 cm.

On the West Coast one haul also caught juvenile herring and this hasn't been seen in recent years.

Normal contact was maintained with the Marine Laboratory, the charter vessel and other vessels taking part in the internationally co-ordinated survey.

Scotia returned to Aberdeen at 1700 on Wednesday 18 July but could not berth until 0200 on 19 July. Unloading of fishing and scientific gear took place on 19 July as scheduled.

P Copland
19 July 2012

Figure 1: Survey track 0812S.

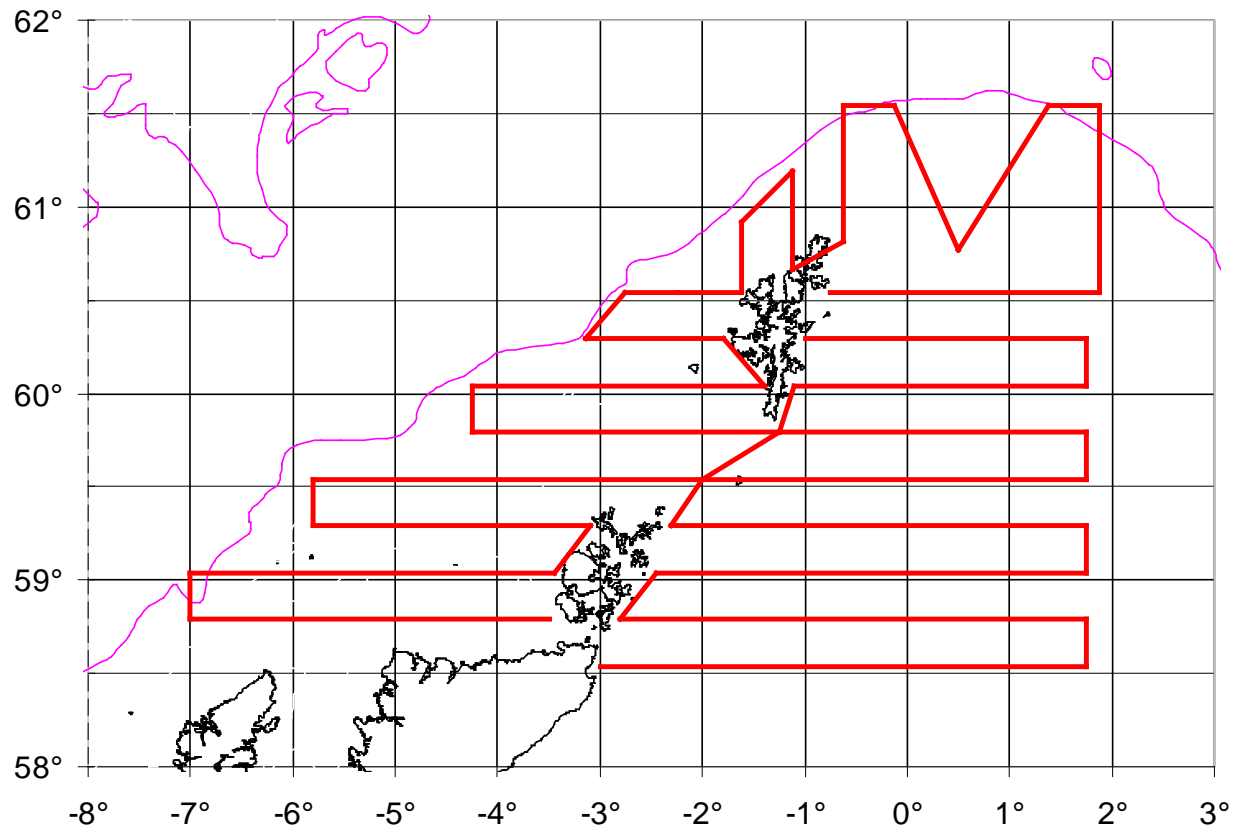
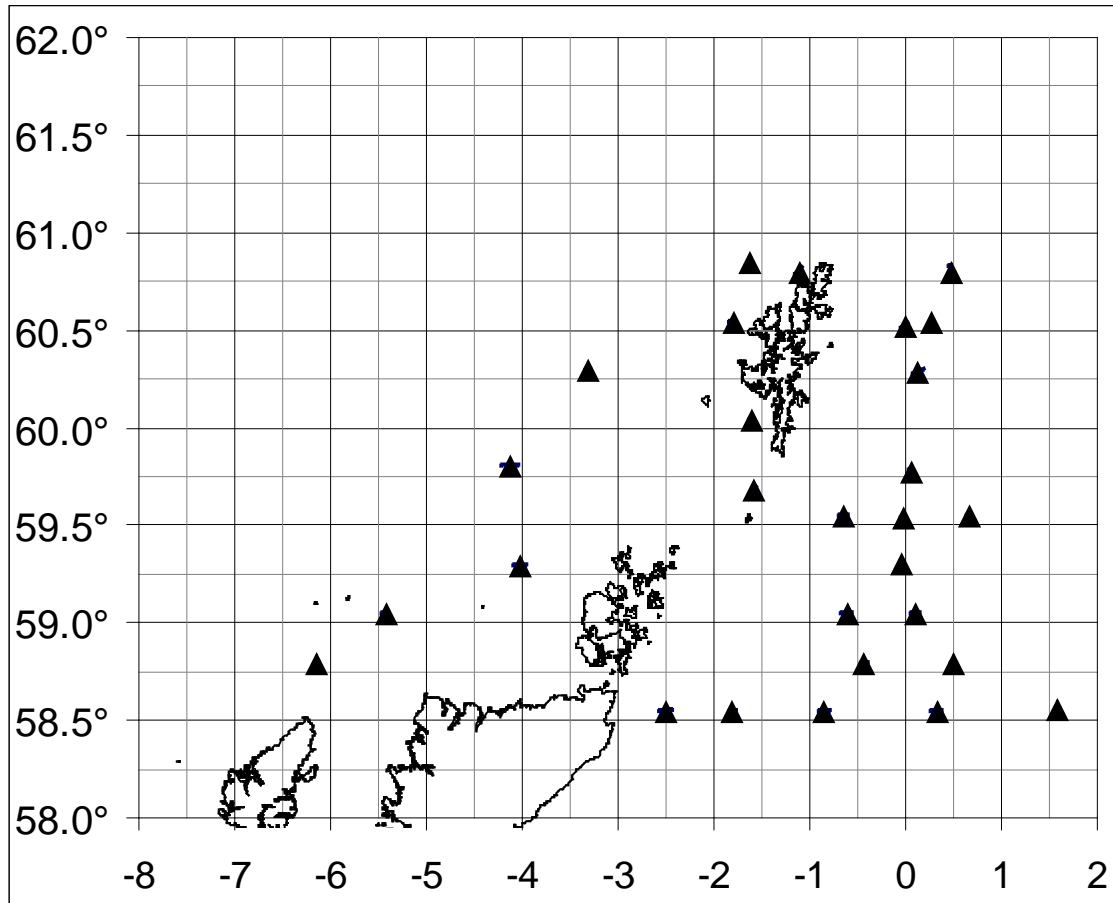


Figure 2: Trawl hauls 0812S.



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