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Charter Vessel *Quantus*

Cruise 0402H

REPORT

1-22 July 2002

Personnel

P Fernandes (SIC)

P Copland

C Davis

M Harding

F Burns (1-12 July)

K Peach (12-21 July)

Objectives

1. To conduct an acoustic survey to estimate the abundance and distribution of herring in the north western North Sea and west of Scotland (ICES area VIa(N) as part of the ICES International North Sea Herring Acoustic Survey).
2. To obtain samples of herring for biological analysis, including age, length, weight, sex, maturity and ichthyophonus infection.

Out-turn days per project: MF01tb – 22 days

Narrative

All gear was transported to Peterhead on 28 June and installation was complete by the morning of 1 July. Scientific staff joined the vessel at 1100 hours on 1 July and the vessel departed at 1300 hours. A small meeting was held with all scientists, and crew taking a navigational watch, to explain the objectives of the survey and to describe general operating procedures. The vessel then proceeded to Loch Eriboll where calibration of the three transducers was carried out starting at 0500 hours on 2 July. The survey commenced in the North Minch at 1900 hours on 2 July. Zig-zag transects at a spacing of 15 nautical miles (n mi) were adopted in the Minch. On reaching the southern limit of the Minch, transects progressed northwards along lines of latitude, at spacings of 15, 7.5 or 3.75 n mi. Transect spacing was based on the results of previous surveys and transects were placed relative to ICES rectangles. Transects extended as far as the shelf edge (250 m contour) to the west, and as far as safely possible to the east, on approaching the coast. A half landing took place on 12 July in Ullapool for the exchange of personnel. The 38 kHz transducer was calibrated in Loch Broom prior to landing. The vessel resumed surveying at 1800 hours on 13 July. North of the Hebrides, transects extended from the shelf edge to longitude 2°West, progressing northwards as far as 60°04'North. The survey was completed on 20 July at 2015 hours. A second calibration was carried out at 0800 hours in Scapa Flow on 21 July. The vessel returned to Peterhead on the evening of 21 July. Scientists and gear were unloaded the following morning and returned to Aberdeen.

Results

The survey was completed successfully, with no time lost due to weather and no damage to the acoustic gear. One of the fishing nets was torn in one panel along the belly. The total mileage surveyed was approximately 2500 n mi with 1083 acoustic log intervals recorded. Three successful calibrations were carried out, which gave consistent results to within 0.02 dB. Fishing exercises were generally successful; 49 trawls were taken, of which 40 contained herring. In addition to length frequency data, a total of 2769 herring were sampled for weight, sex, maturity and otoliths. Some digital photographs of herring in various maturity stages were taken for submission to the ICES PHERS.

Preliminary indications are that more fish were detected than usual. Large schools of herring were detected all along the west of the Hebrides between the 100 and 200 m contours. Further concentrations were detected at Gallan Head and west of Papa Bank (north west of Orkney). However, very few herring were detected in the Minch and, surprisingly, virtually none were detected off Barra Head. A full stock estimate and survey report will be prepared shortly.

The MFV *Quantus* proved to be an excellent vessel for the survey. She was well equipped and her crew were experienced, competent and helpful, and also very proficient in fishing operations. The skipper, Neil MacGronald, deserves special praise for his expertise and commitment. The success of the cruise can also be ascribed to the expertise and hard work put in by the scientific crew.

P G Fernandes
16 August 2002

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