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R1/12

SM

FRV "Scotia"

9SR85

Cruise 9/85
6-26 September 1985

REPORT

Personnel

M Walsh SSO
J Dunn HSO
P Hopkins SO
P Copland SO (6-16 September)
I Leaver ASO

Objectives

- 1) To participate in the ICES coordinated herring larval surveys of the north western North Sea and Division VIa (N).
- 2) To collect water samples for radio-caesium monitoring.
- 3) To check the new Scanmar depth monitoring equipment and to provide operating instructions for its use during subsequent surveys.

Narrative

"Scotia" departed from Aberdeen at 1530 on 6 September. A radio-caesium station and a calibration of the Scanmar depth monitoring system were carried out in Aberdeen Bay before making passage to the west of Scotland herring larval survey grid. This was commenced at 0900 on 7 September after a flowmeter calibration. The 100 stations of the grid were completed, without interruption, by 1100 on 12 September. The Cape Wrath radio-caesium station and 7 additional plankton stations to the west of the Orkneys were completed, to supplement data collected on a previous "Clupea" cruise, prior to commencing the Orkney-Shetland grid at 2100 the same day. Forty one stations in this grid, together with a third radio-caesium station at Fair Isle, and a further flowmeter calibration were completed before docking in Lerwick at 0800 on 16 September for the half landing, where P Copland departed for Aberdeen.

During this latter period when the programme was held up by bad weather for brief spells on 14 and 15 September the Scanmar depth monitor was shifted from a side-mounted to a top-mounted position to afford extra protection.

"Scotia" sailed from Lerwick at 0930 on 17 September to recommence the Orkney-Shetland grid. All 97 stations south of 60°N were completed by 0730 on 22 September together with five additional stations in the area of greatest larval abundance. During the remaining period of the cruise 31 selected high abundance stations in the west Scotland grid were sampled a second time as were the seven additional stations west of the Orkneys. Cumulative equipment failures of the Scanmar depth monitor and the ships echosounders resulted in a curtailment of the work programme at 0300 on 24 September when "Scotia" returned to Aberdeen to dock at 0800 on 25 September. Cruise tracks are attached.

Results

Herring larvae were picked out and counted from all hauls. During the first west of Scotland grid, concentrations were found in the traditional areas north of Cape Wrath and west of the Hebrides in numbers roughly comparable to those encountered in 1984.

During the first Orkney-Shetland survey a very heavy concentration of larvae was found on 15 September on the eastern boundary of the grid in an area south east of Sumburgh Head which is not usually typified by high larval abundance. During the second Orkney-Shetland survey the main concentration of herring larvae was found on 20 September, again on the eastern boundary of the survey grid but with its centre some forty miles south of that observed on the 15th.

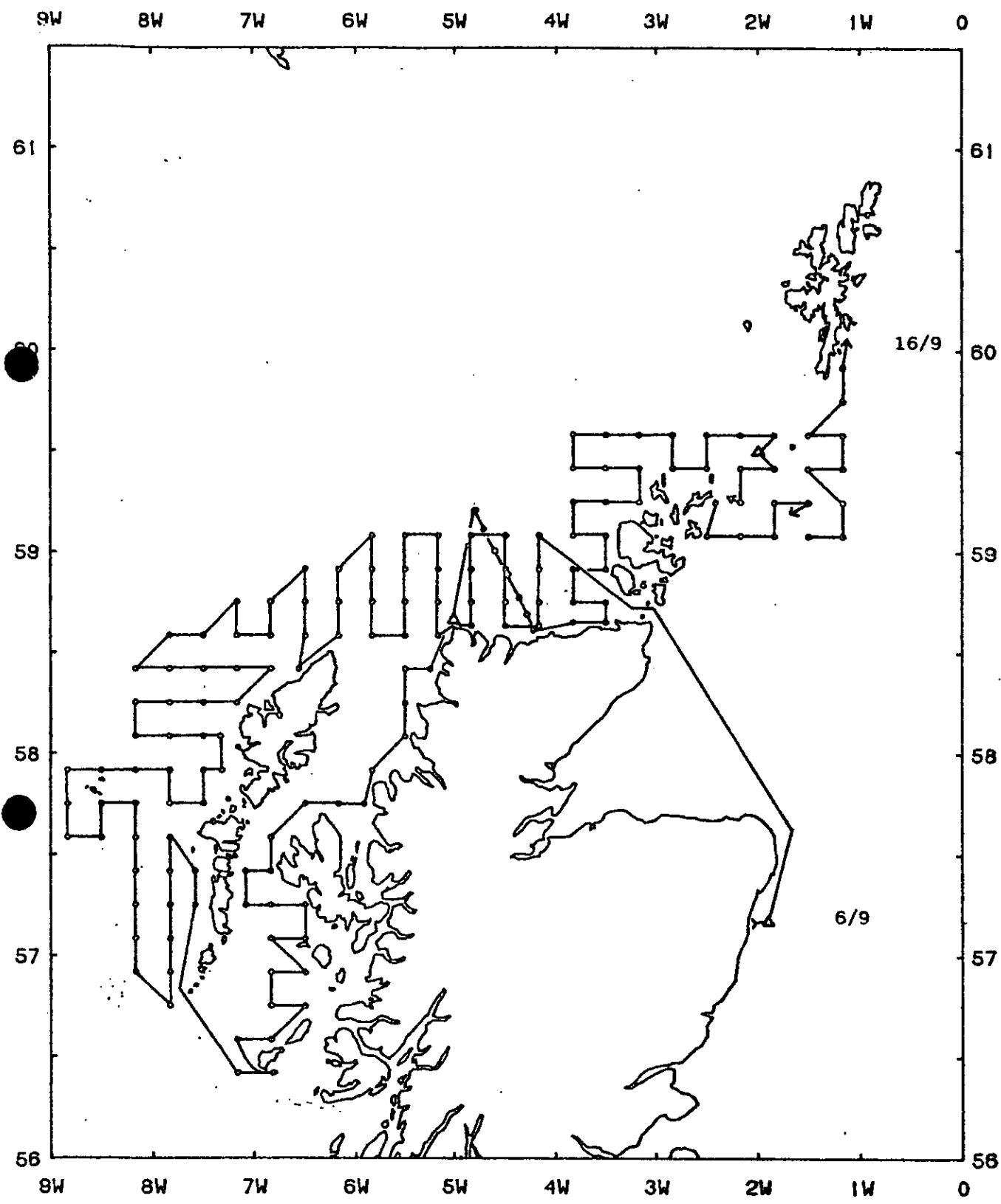
In the second west of Scotland survey the distribution of larvae remained similar to that in the first survey but abundance had declined slightly.

Surface temperature and salinity data were collected at each station. A weak front was present in the Sumburgh Head-Fair Isle region as observed between 20 September - 4 October 1984. Surface temperatures over the Orkney-Shetland grid were roughly 0.3°C lower than they were a week later in 1984.

The Scanmar depth monitoring system worked effectively for most of the cruise before the upward facing transducer developed a fault. The transducer unit was found to function satisfactorily in the top mounted position provided holes were bored in the plankton sampler casing below the downward facing transducer. A list of operating instructions has been prepared.

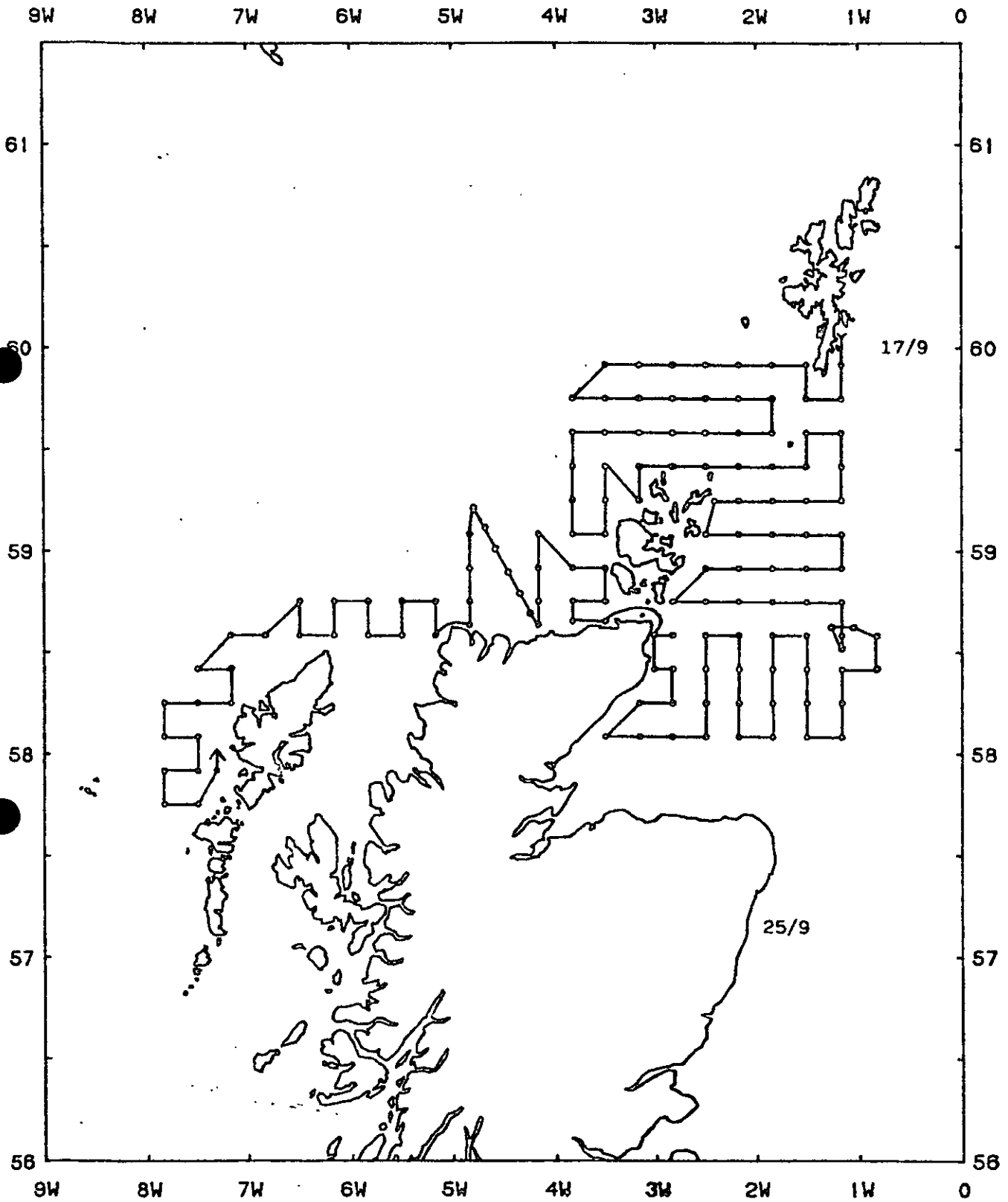
M Walsh
21 October 1985

seen in draft by
W Findlay



SCOTIA 6/9 - 16/9/85 (part 1) 9SR 85

- Plankton/Hydro Station
- ▲ Radio-Caesium Stations



SCOTIA 17/9 - 25/9/85 (part 2) 9SR 85

• Plankton/Hydro Station