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IN CONFIDENCE: Not to be quoted without prior reference to the Laboratory

FRV EXPLORER

Cruise 11/83

REPORT

4-24 November 1983

11ER83

Objectives

- 1 To carry out a midwater trawling survey for 0-group sprats in the western part of the central North Sea and Moray Firth.
- 2 To collect sprat larvae for otolith studies.
- 3 To collect water samples for radio caesium monitoring.

Narrative

EXPLORER sailed from Aberdeen at 1500 on 4 November and headed for the Moray Firth area. The survey was begun at station 47 (off Nairn) at 0800 on 5 November. On 8 November sampling of the stations to the east of Scotland began, but was interrupted by a short docking at Aberdeen on the morning of 9 November. Sampling was resumed at station 15 (off Aberdeen) but during the night of 9 November one of the deckhands became unwell and was subsequently transferred ashore. EXPLORER then headed for station 17 (off Tod Head) to continue the survey. The survey continued to the east of Scotland and the Firth of Forth until 13 November when EXPLORER headed for Aberdeen for the half-landing.

After the half-landing EXPLORER headed for station 46 (Dogger Bank) to recommence the survey. However strengthening NW winds caused a change of plan and the survey was recommenced at station 34 (off the Tyne) at 0800 on 16 November. The survey continued in the area off the northeast coast of England until PM on 19 November when freshening winds caused EXPLORER to seek shelter in Alnwick Bay. Sampling was recommenced at station 33 (off Farne Is) at 1000 on 20 November and the final trawl station was completed at 1500 on that day. EXPLORER then headed northwards and searched the area east of Montrose for the large fish traces seen earlier in the cruise. Unsuccessful attempts had been made to sample these traces, thought to be herring, earlier in the cruise and the intention was to try once more at higher towing speeds. Traces were again located in the Marr Bank area but weather conditions had deteriorated making it impossible to shoot.

EXPLORER then headed for the Firth of Forth to carry out a number of hauls in one small area to determine if the time of day made a marked difference to the catches of sprat. On 22 November, 6 hauls were made in the area north of Fidra. The ship docked on the morning of 23 November.

Results

During the cruise 58 valid and one foul haul were made with the midwater trawl. Of these 39 contained catches of 0-group sprat and a further 5 contained catches of older sprat. The main centres of distribution were in the Moray Firth (off Burghead and off Buckie), Aberdeen Bay from the Ythan north to Cruden Bay, Firth of Forth, off NE England from the Tyne south to the Tees. Of these areas those in the Moray Firth gave by far the highest catches. The sprat in the Moray Firth were also larger (6-8cm compared with 4-6cm elsewhere). In all the areas except Aberdeen Bay catches of 0-group herring were much lower than in previous years. The additional hauls in the Firth of Forth gave poor catches of sprat - about half a basket for a one hour tow. These sprat were also very small (3.5-6cm long).

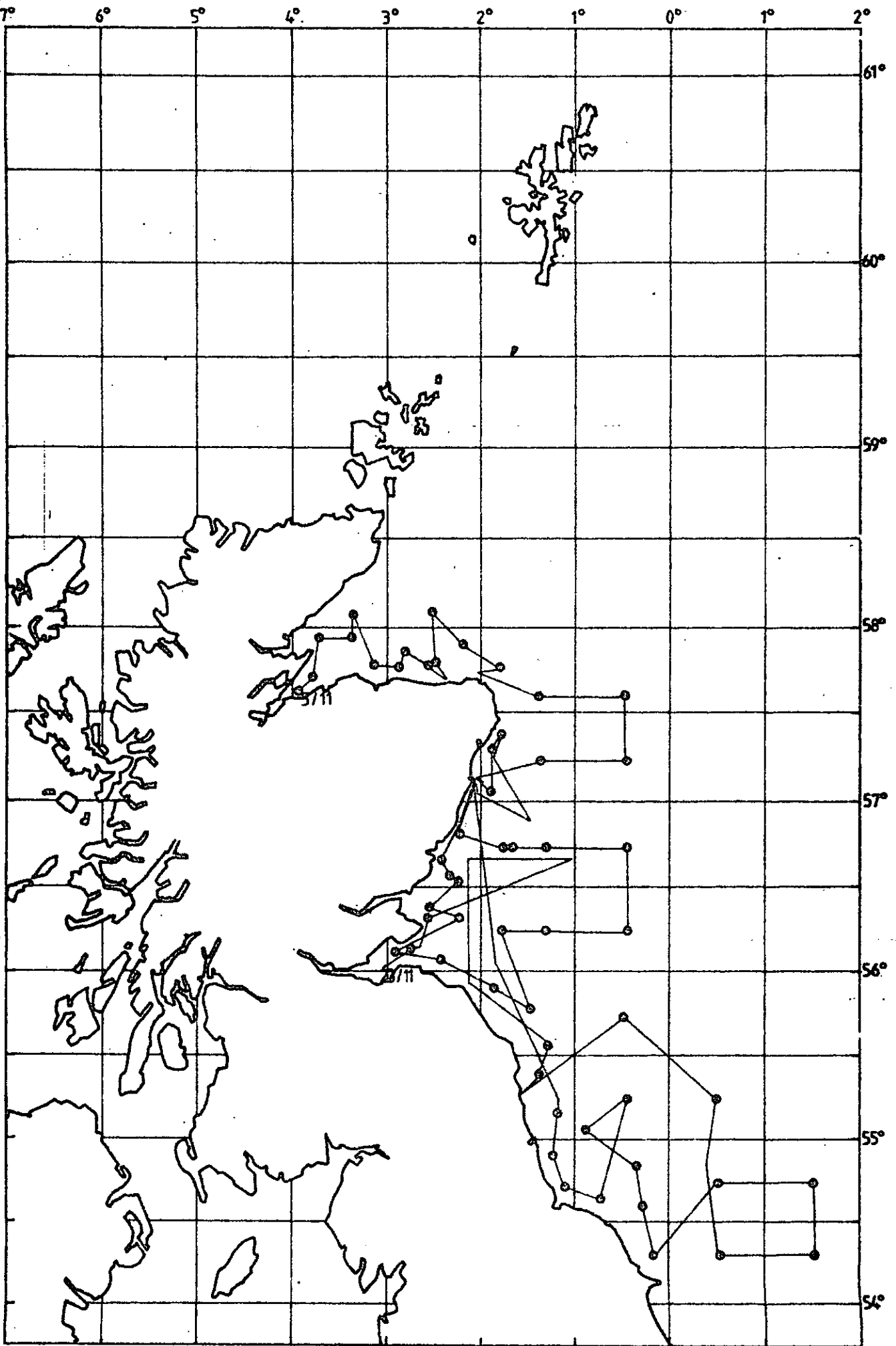
During the cruise a number of large fish trace were seen on the echosounder in between the trawl stations. These traces were commonest in the area east of Montrose and off Whitby. The trace proved to be difficult to catch during the day with the gear available but hauls in these areas during darkness gave catches of predominantly 1-group herring.

During the cruise, 45 hauls were made using the Isaac-Kidd trawl. Catches were largely made up of large herring larvae but some small metamorphosing sprats were obtained off the east of Scotland and NE England. Samples of these were preserved in alcohol for further study.

One sample of water for radio caesium monitoring was collected off Arbroath.

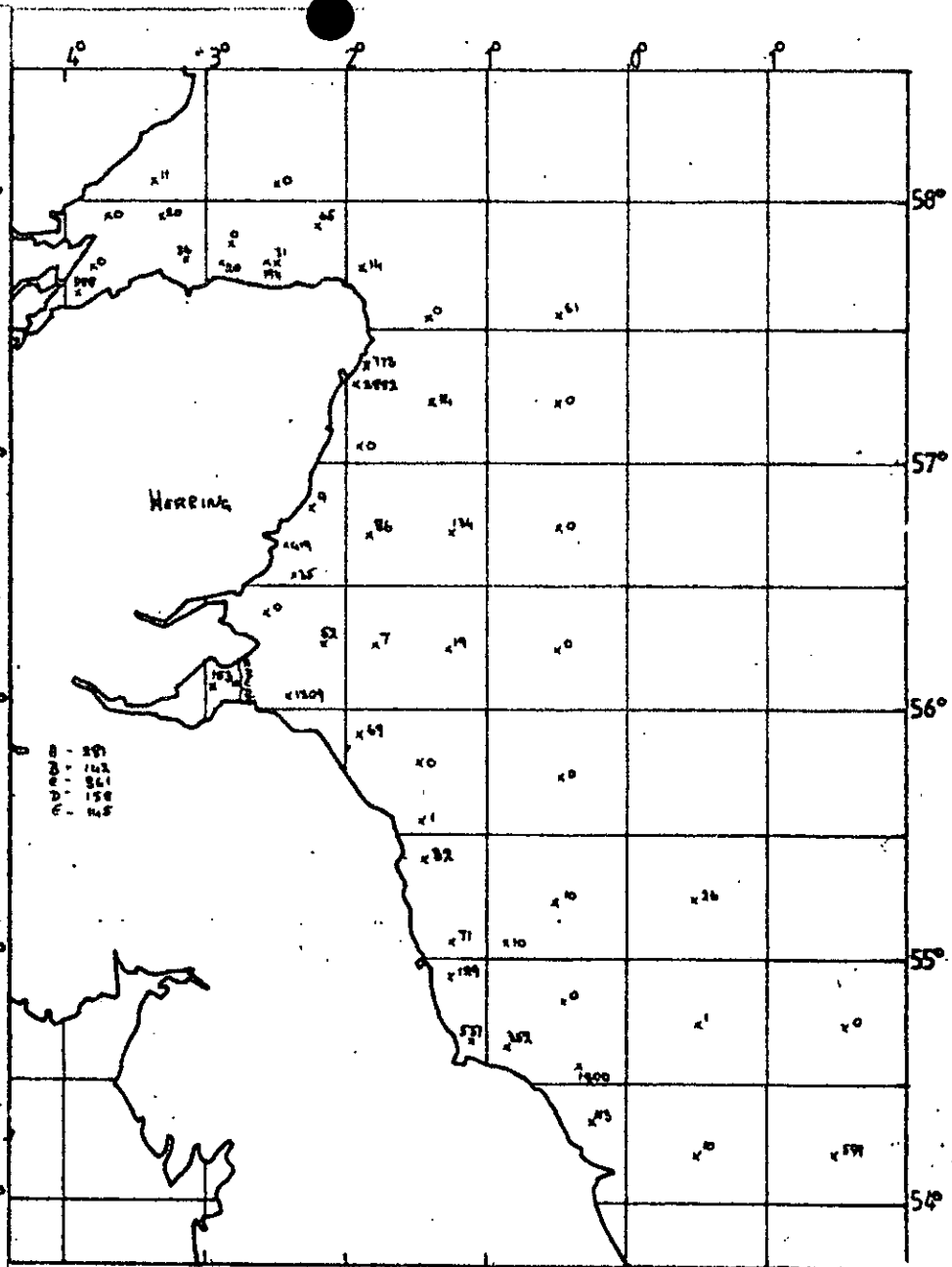
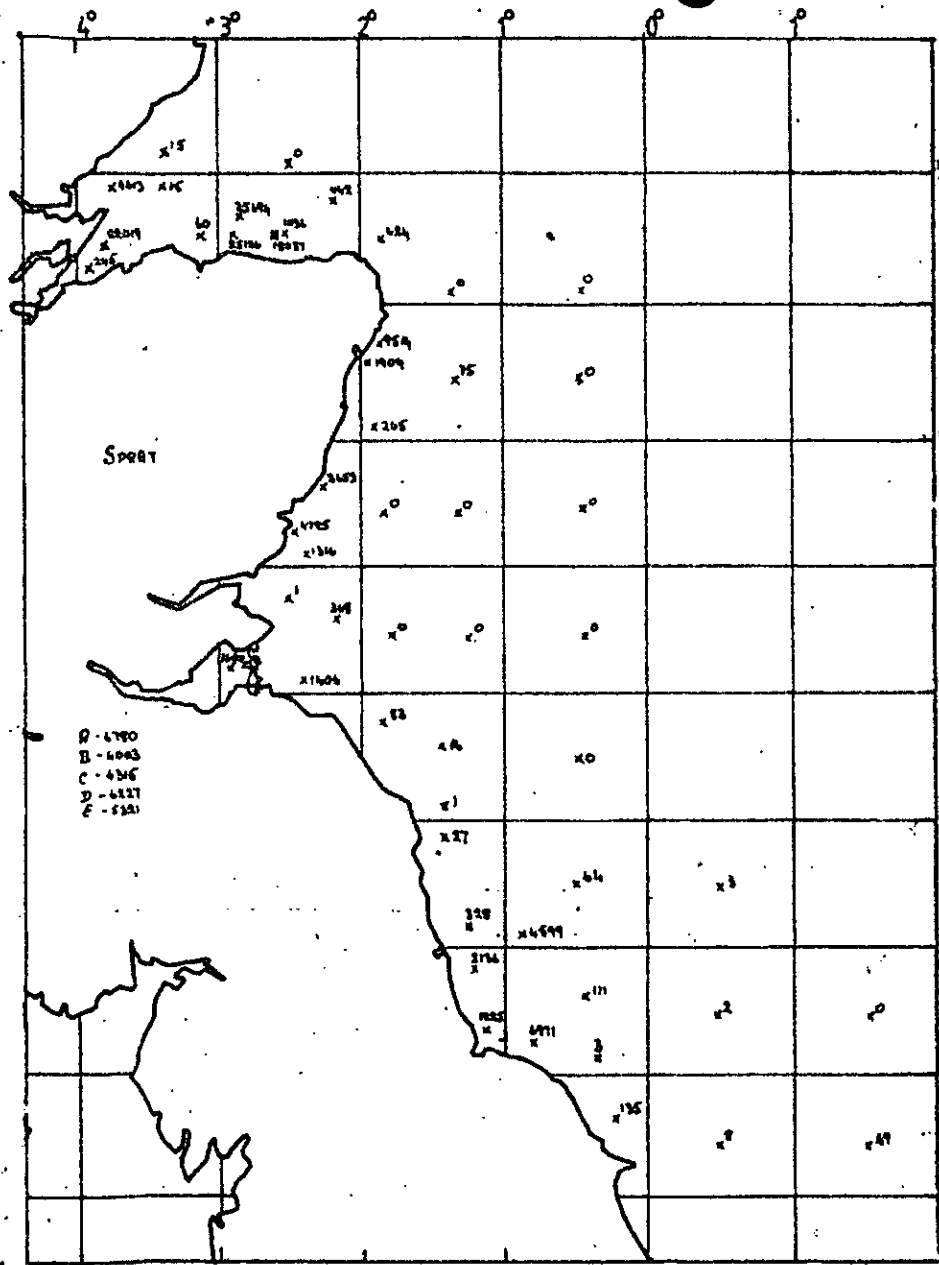
David W McKay
20 November 1983

Seen in draft: T Hall for N I McInnes (O-I-C) 14 12 83



Explorer 5-23/11/83

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