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CRUISE REPORT

F.R.S. "SCOTIA"

February, 1954.

Repeated delays of various types prevented "Scotia" from sailing on February 8th as scheduled, and the ship did not arrive in Aberdeen until February 17th. Mr. Steele made the passage north to test the Clarke-Bumpus net. Thereafter weather and a storm-damaged dock gate kept the ship in Aberdeen until the midday tide on Sunday, February 21st.

Mr. Levens, Electrical Engineer from Portsmouth, sailed with the ship to investigate and repair the Loran. This was successfully done and Mr. Levens was dropped at Scrabster on Monday 22nd. Work along the north coast of Scotland was successfully completed but the ship had to take shelter in Broad Bay on the night of February 23rd. With a better immediate outlook "Scotia" left Broad Bay on the 24th in an attempt to work the Butt-Faroe Line, but before the third station was reached a sudden and severe worsening of the weather forced a return to Broad Bay.

By February 26th it was no longer possible to complete the Butt-Faroe and Faroe-Shetland lines in time to return to Aberdeen by schedule, and the programme had therefore to be abandoned and a modified programme substituted. It was then decided to work a line of stations from west Orkney across the Roost and west Shetland, completing the eastern four of the Faroe-Shetland stations and as far eastwards along the 61°N line as time permitted. However, a call at Stromness became necessary to get medical advice for Mr. Sinclair (who had shingles and returned to Aberdeen by the direct steamer from Kirkwall) and for a fireman who had lumbago. The Roost crossing was satisfactorily completed but only the first two stations of the Faroe-Shetland line were worked before once more the ship had to make for shelter, this time to Busta Voe in Shetland. Continued bad weather prevented sailing again until 6 a.m. on the 2nd March, when there was no longer time to attempt any work other than on the passage home. The series of stations across to Orkney was completed but the sudden worsening of the weather so delayed "Scotia" that it was impossible to make the tide at Aberdeen and storm damage seemed very likely if the direct passage was made to Leith. It was therefore decided to seek shelter in Gamrie Bay but a change of wind to the north-east made it necessary to go to the Cromarty Firth. Dr. Fraser and Mr. Lawrie returned to Aberdeen by train from Invergordon on March 4th, the ship proceeding to Leith as soon as possible and unloading the sea gear on her return to Aberdeen prior to starting the next cruise.

Hydrography

Temperatures were mostly very uniform from top to bottom, a difference of more than $\frac{1}{2}^{\circ}$ centigrade being found on only the west of Shetland (C202). Temperatures were mostly between 7° and 8° but were less than 7° in B17a and in the Fair Isle region, and rather more than 8° north of the Butt of Lewis and north-west of Shetland. Drift bottles were liberated according to plan at stations visited.

Plankton

Standard collections along the north coast and Fair Isle area showed no evidence of a phytoplankton outburst though there was a slight tendency towards greenness west of Shetland. Hensen collections were meagre in the extreme. Tow nettings showed a fair abundance of Sagitta elegans off the north coast and north-west of Orkney but with Galetta and Meganyctiphanes south-west and north-west of Shetland and Thysanoessa in the North Minch. Fish eggs, mostly saithe but probably also with some cod and a few plaice, were moderately abundant and there were large numbers of yolk-sac stage sand-eels off the north coast and in the Orkney area.

Trawling

As "Scotia" did not reach Faroese waters and the weather conditions off the east Scottish coast made trawling impracticable, only three trawls were done; off the north coast, off the Butt, and north-east of Orkney. Catches were fairly good with good numbers of haddock and small numbers of a variety of a commercial species. About a dozen cod were taken and many of these had been feeding on sand-eels. A good catch of whiting was taken off Orkney.

Echo-sounding and General

The echo-sounder was run almost constantly while at sea and gave no trouble of any kind. The records were brought back to the laboratory. Some echoes (?herring) were observed but none were outstanding. The radar reflector screen was fitted to the dahn, and experiments carried out west of Shetland showed that it could be picked up with reliability by radar 2 $\frac{3}{4}$ to 3 miles distant even in rain and snow squalls.

Herring vessels in the Minch appeared to be getting good catches on February 24th, although our echo records in that area showed only meagre plume traces. Russian herring vessels were working near Muckle Flugga and indeed one stranded in Burra Voe in the storm.

As no deep stations were reached the new 11 mm wire on the after winch was trailed with the lead on a sandy bottom to enable the wire to be rewound more tightly, as loops on the full drum had been giving trouble. There is now a 2,000 m. working length available (2,040 altogether) on this drum.

J. H. FRASER.

9th March, 1954.

CIRCULATION

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Dr. Carruthers	Dr. Havinga	Dr. Lucas
Mr. Rose	Mr. Stefansson	Dr. Wood
Captain Champness	Mr. Rollefson	All Scientific Officers
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