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CRUISE REPORT

F.R.S. "SCOTIA"

26th February-16th April, 1960

"Scotia" sailed from Aberdeen on the 26th February and proceeded to the Moray Firth to carry out the stations in that area and at the same time to develop a satisfactory method of handling the Vinge Trawl. "Scotia" returned to Aberdeen on the 29th to land Mr. Dickson having completed six stations and accustomed the crew to handling the new gear. Resailing was delayed until the 2nd March by shortage of crew. Thereafter eight more stations were completed before a trawl winch defect made it necessary to return to Aberdeen. Repairing this, and a prolonged period of bad weather kept the ship in port until the 12th. Work then continued uninterruptedly, although under rather marginal weather conditions, up to the 16th when a call was made at Lerwick for water. The onset of further south-east gales kept "Scotia" at anchor in Lerwick harbour until the 22nd. Seven more hauls were then completed before docking at Aberdeen on the morning of the 25th March.

The ship sailed again on the 29th and worked three more trawls of the survey on the 30th. Productivity work over the Norwegian Deep was started on the 31st March and carried on until the 3rd April, including two trawls. The weather deteriorated and so the ship went to Bergen for water on the 4th. This was the beginning of a prolonged period of gales which reached force 10 at times. On the 7th and again on the 8-9th, "Scotia" attempted to start work but on both occasions conditions made this impracticable. On the 11th a line of stations was worked towards the trawling grounds and three trawls were completed on the next day. On the 12th the weather again worsened and so "Scotia" steamed for Aberdeen docking on the 13th April.

Hydrography

Temperature and salinity observations were made at surface mid-water and bottom at all the stations occupied whilst oxygen phosphate and silicate samples were collected from surface and bottom only. Surface temperatures ranged from 7.6°C to the north-east of Flugga to 5.7°C off Aberdeen. There was little variation of temperature with depth. Large samples of water were collected for Dr. Johnston and Dr. Smith and a group of 25 drift indicators were released about 58°N 1°W.

Plankton

Due to weather and other delays only a few tow-net samples and standard samples were taken during the trawling. In both types of samples the catches were extremely small but were otherwise unremarkable.

Trawling

The Vinge trawl fished well throughout the cruise, giving good catches of all types of fish and 42 trawls were completed without any serious damage to the net. Whiting were rather scarce at all stations north of 60°N, but south of this good catches were taken between 0°-1°E and in the inner Moray Firth. In the latter area the 1959 brood predominated whilst further east the 1958 and 1957 broods made up the bulk of the whiting catches. Haddock were scarce off the Aberdeenshire coast, in the Moray Firth and the Fladen area. Elsewhere fairly good catches were obtained. The 1959 brood was very scarce north of 58°N but the 1958 brood was prominent in all the catches. Small hake were taken in considerable numbers in the Moray Firth and some fair catches of cod were taken, particularly between 0°-1°E and between 58°N and 59°30'N. All the cod examined were free of flesh parasites.

The largest catches of G. esmarkii were also taken between 0°-1°E and south of 59°30'N. Fair hauls of nephrops were made off Tarbet Ness, to the north of Turbot Bank and to the east of the Fladen. Herring were caught in two distinct areas, in the inner Moray Firth where the population was a mixture of 0 and 1 group fish typical of this area and east of a line from Kinnaird Head to 60°N 1°E. Although herring were generally distributed in small numbers throughout the latter area, there appeared to be two distinct centres of greater abundance where up to two baskets per hour's fishing were taken. The first of these was a single haul 10 miles north of Bressay Bank, whilst the second lay between the western edge of the Fladen Ground and the northern edge of Turbot Bank. In the former area the catch was composed of about equal proportions of fish maturing for the first time, recovering spents and fish in an advanced stage of maturity. Over the rest of the area the fish were roughly 2/3rd first maturing fish and 1/3rd recovering spents with only a few fish in advanced maturity stages.

Productivity

The relation between the distribution of echo traces and hydrographic conditions was once more evident this year. An extra relation, tentatively noted in last year's data, was confirmed this year when it was shown that the euphausiid distribution also corresponds to the hydrographic edge. Unfortunately due to the combination of bad weather and very poor catches, no herring samples were collected from the drifters this year.

General

The echo-sounder was run continuously during the trawling survey but no traces of any note were recorded. A series of bottom core samples were taken in the Fladen area for Mr. McIntyre.

A. SAVILLE
J. H. STEELE
25th April, 1960.

CIRCULATION:

Mr. R. G. R. Wall	Capt. E. A. Bruce
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Mr. J. R. Gordon	Dr. Lucas
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