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CRUISE REPORT

F.R.S. "SCOTIA"

6th to 17th August, 1957.

Objectives (1) 6th - 10th or 11th August, productivity and carbon-14 experiments.

(2) Remainder of period, herring larvae survey.

Objective (1) "Scotia" sailed on the evening of 6th August and on the following day carbon-14 experiments were completed and productivity assessed for the period noon till dusk at 58°20'N 0°30'E (Fladen Ground).

Next day a similar programme was fulfilled at 58°00'N 1°00'W.

On the 9th, in view of an adverse weather forecast, work was begun at dawn at the third station 58°12'N 2°54'W, on Smith Bank. On completion of the sampling at noon, the journey was made to Aberdeen, in gale force winds.

Objective (2) "Scotia" sailed again at midday, 12th August, and by the evening of the 17th had completed the scheduled grid of 83 stations. Progress was interrupted only for some 7 hours hove to on the 15th, dodging the worst of a gale. During most of the trip, working conditions were made uncomfortable by a strong northerly swell which did not die down until the last two days of the trip.

Hydrography

Surface temperatures increased and bottom temperatures decreased with distance from the coast. The limit of water warmer than 13°C lay some 10-15 miles off the coast in the Peterhead region, about 30 miles off Aberdeen and 30-35 miles off Arbroath, the southernmost limit of the grid. Surface water of temperature above 14°C was situated some 40, 20 and 10 miles further seaward at these places.

Plankton

Crustaceous plankton was poorly represented. Large numbers of Cyanea, Beroe, Aurelia, and Pleurobrachia were present in many collections. At C14a, C14b, C14d and E14b, Cosmetira was taken in quantity; the sample at C14b also contained Stauropaura. Sagitta elegans and Sagitta setosa were common to many of the collections.

A preliminary check for the occurrence of larval herring has shown them to be present at only one station, D12C.

Forty-two hauls were made with the plankton indicator for the S.M.B.A., Oceanographical Laboratory, Edinburgh.

Drift Indicators

Twenty drift indicators were released on 13th August, at regular intervals between 57°42'N 0°35.5'W and 57°43.5'N 0°42'W. The indicator drogues were carried alternately on 5 fathoms and 40 fathoms of nylon twine.

Echosounding

A large number of small "fish" traces in mid-water and near the bottom was recorded for inshore waters north of Aberdeen, along latitude $57^{\circ}20'N$ between $1^{\circ}30'W$ and $0^{\circ}40'W$ and at roughly 30 miles E to 15 miles SE of Aberdeen. Diffuse traces referring to the upper water were confined to the northern boundary of the grid. A region giving rise to very dense "scattering layer" traces lay in the south-east corner of the grid.

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R. Johnston
27th August, 1957.