

CONFIDENTIAL: Not to be quoted without reference to the Laboratory

S.16

4SR57.

CRUISE REPORT

F.R.S. "SCOTIA"

7th - 23rd May 1957

"Scotia" sailed from Aberdeen on the evening tide of the 7th May. About an hour later a defect in the main engine made it necessary to return for repair. Sailing was then delayed until the morning of the 9th May when the ship proceeded to the Clyde, working fifteen stations en route. Work commenced in the Clyde in the evening of the 12th and continued uninterrupted until the 16th when a call was made at Campbeltown for water and stores. "Scotia" was on the point of leaving Campbeltown, at mid-day on the 17th, when the steam pipe to the windlass burst; resulting in another delay of twenty-four hours. Thereafter work proceeded smoothly until the 19th when the brake band on the port barrel of the trawl winch broke, putting a stop to any further trawling. A call was made at Millport for about an hour on the 20th to collect the samples taken by "Calanus". The ship docked on the evening of the 23rd having made a direct passage back to Aberdeen.

Hydrography

Hydrographical observations were made only at those stations carried out on passage to the Clyde. Temperatures throughout showed little variation with depth. Within the North Sea surface temperatures ranged from 7.65-8.00°C, between Fair Isle and Cape Wrath from 8.14 to 8.68, in the North Minch from 8.23 to 8.40 and in the South Minch and Clyde estuary from 8.88 to 9.40°C.

Plankton

In addition to the stations listed in the cruise programme over 80 stations were occupied in the Clyde area.

A rich plankton population predominantly composed of Calanus and euphausian furcilia was present across the outer boundary of the Moray Firth and in the Minch. In the latter area Limacina was also present in some abundance. Between these two areas, that is between Fair Isle and Cape Wrath, the plankton was entirely different. Here the crustaceous component was very small and a rich phytoplankton outburst was in evidence dominated by Thalassiothrix, Biddulphia, and Halosphaera; Cosmetira was also prominent in these samples. Herring larvae was noted in small numbers at scattered positions, namely off Tirree, off Cape Wrath, and on both sides of the Orkney Islands.

Over most of the Clyde area the plankton samples were large and dominated by Calanus and euphausian furcilia but in the entrances to the Firth, west of 5°30'W and in the North Channel south of 55°W, the samples were lighter with Pleurobrachia, Aurelia and Parsiphae as the characteristic forms. The rich crustaceous population in the main body of the Firth extended for a considerable distance into the lochs but gradually diminishing in abundance was replaced in the upper reaches by a poor plankton dominated by abundant ctenophores. Neoturris pileata was prominent in the region to the east of Arran; S. elegans was the dominant chaetognath over the whole area but S. setosa was also present at two stations in the upper reaches of Loch Long.

Herring larvae were present in two distinct concentrations - one extending from the Ballantrae Bank area westwards towards the Mull of Kintyre and the southern entrance of Kilbrennan Sound, and the other around Bute and more particularly in upper Loch Fyne.

Trawling

Only five of the ten scheduled trawls were completed; one of the positions given proved unworkable because of the strength of the tide. The other four had to be omitted because of the defect in the winch. Maddock was the dominant species in all hauls with the 1+ and 2+ groups making up the preponderance of the catches. These two age groups also dominated the catches of whiting. Small hake were well represented in the hauls from XX14b and XX12a. In the Ballantrae Bank haul eleven common sole and ten sprats were taken. Sprats were also present in the catch from XX14b.

General

The echo-sounder was run continuously during the cruise but no traces worthy of note were observed. Several hauls were made at various positions in the Clyde with the Corbin Net and the young Fish Trawl without result. Shore seining in upper Loch Fyne, Kilbride Bay and Kilchattan Bay also failed to provide any adolescent herring.

ALAN SAVILLE
5th June, 1957