

CRUISE REPORT.F.R.S. "SCOTIA",June, 1950.AIMS:

The object of this cruise was to make a detailed hydrographic, plankton, and trawling survey of the Faroe shelf, and to carry out the usual hydrographic and plankton survey of the sections Butt of Lewis - Faroe Bank, Faroe due North, and the Faroe - Shetland channel.

GENERAL:

The "SCOTIA" sailed from Aberdeen at 00.30 hours on the 15th June, and proceeded northwards to carry out the Butt of Lewis - Faroe line, and the line Faroe due North, before bad weather made it necessary to shelter in Klakksvik. The Faroe survey, and Faroe - Shetland line was then completed in fine weather, before arriving in Lerwick, where the "SCOTIA" received a surprise visit from Sir Frederick Bell and representatives of the Herring Industry Board. "SCOTIA" finally left Lerwick on the 1st July, and arrived back in Aberdeen on the 2nd with the entire programme almost completed.

HYDROGRAPHY:

Temperatures were observed at all stations, and water samples were taken for determination of salinities, oxygen, and phosphate. Drift bottles were released in groups of five where indicated on the programme. Surface temperatures ranged from 11.7°C. at Flugga to 9.0°C. at the north end of the Enniberg line, with intermediary temperatures of 9.2°C. and 9.3°C. at north and south Faroe respectively. The corresponding temperatures at a depth of 100 m. were 8.9°C - 7.7°C. and 7.7°C. and 7.8°C. Bathythermograph trials were carried out in the Moray Firth to determine whether it was possible to use this instrument at high speeds. At 10 knots, the bathythermograph failed to dive properly, but at 2 - 3 knots, satisfactory results were obtained, and the instrument was used in this manner at 10 mile intervals from Duncansby Head to the Butt of Lewis. These experiments were done with the heavy townet wire, as it was not possible to lead the thin hydrographic wire over the after davit, without undue friction on the midships block.

PLANKTON:

Sampling with the Standard, Hensen, 2 m. and 1 m. silk nets was carried out as indicated on the programme. The flow meter, which was to be used with the 2 m. silk net on the Faroe survey, was found to cause serious tears in the net and, although rubber coverings were lashed around stationary parts, it became necessary to abandon this instrument. Plankton concentrations were found to be dense at all stations, the principal species found being Calanus finmarchicus. Other species present were Sagitta, Euphausiids, Ctenophores, Limacina, Doliolum, Salpa, Hyperia, and Aurelia. Several Benthoosema mulleri were taken in the deep townet in the Faroe Shetland Channel.

TRAWLING:

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The principal species caught in the trawl was haddock, of which an average of some 13 were taken per hours fishing. These fish were almost entirely composed of haddock born in 1949 and 1948, with a very small proportion (10 - 15%) of older fish. These results are not in agreement with the commercial fishery statistics, which reveal a much higher proportion of older fish than are shown here, and the possible causes of this discrepancy should be carefully investigated before drawing definite conclusions from either set of data. An almost exactly 50:50 sex ratio was found in these haddock, which were all spent and recovering spents, indicating that the spawning season at Faroe, as in the North Sea, is completed. A total of 90 haddock were successfully marked with hydrostatic tags, and liberated in Faroese waters, while one fish was transported to Flugga before liberation. It was noticed that the smaller haddock survived better than the larger fish, but the great difficulty was the loss of marked fish due to gulls, which picked them up, long before any attempt was made to dive down into deep water. It is suggested that marking during the hours of darkness may help to overcome this difficulty. During daylight, other measures must be tried.

During the cruise, daylight persisted throughout each 24 hours, and no significant difference was found between the numbers of haddock caught at different times of the day.

FLATFISH:

An average of 8 Lemon Sole were taken per hours fishing, all of which (apart from small fish less than 25 cms. in length) were in a mature or ripe condition.

In addition, 6 Megrim, 6 Plaice, 8 Halibut, and a number of long Rough and Common Dabs were taken during the Faroe survey.

OTHER FISH:

In addition to the fish mentioned above are two species worthy of mention, namely Cod and Whiting, of which an average of 19 and 10 respectively were caught per hours fishing.

R. JONES.

9th September, 1950.

Circulation:

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" F.S. Russell	" A. Ritchie	Spare 5.