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CRUISE REPORT

F.R.S. "SCOTIA"

13th-24th June, 1959.

Narrative

The cruise was postponed from 4th to 13th June to allow installation of the new trawl winch. In addition, arrangements had been made for alterations to the plankton winch to be carried out at Aberdeen on the 16th. Under these circumstances the nearer grounds were selected for the comparative trawling work. Buchan Deep was worked from 13th to 15th, 'Scotia' returning to Aberdeen at 2000 hours, 15th, and sailing again at 1000 hours, 16th. A north-westerly gale precluded continuing operations at Buchan Deep but it was found possible to work off Cove until 18th when, with declining catches and improvement in weather conditions, fresh grounds were sought and located in area C11. Trawling was continued there until the 22nd when "Scotia" proceeded to the Forth on the nephrops survey on completing which the vessel docked at Leith at 0500 hours, 24th June.

Comparative Trawling

A total of 37 hauls was taken, viz: Net A/B - Buchan Deep 6/6; Cove 5/5; C11 6/6; other grounds 3. The chief marketable species on all grounds were small whiting and haddock with the addition of plaice and lemon soles at Cove and these plus codling and larger-sized haddock in C11. Appropriate-sized cod-ends for mesh selection of the small whiting and haddock were used; the data of these, comprising measurements of 8730 whiting and 7530 haddock are being analysed. All other marketable species were also measured and comprised codling (460) plaice (460) and lemon soles (370). The overall quantitative results of marketable species gave indications that Net A (normal trawl) exceeded Net B (headline and footrope of equal length) in the ratio of 1.3:1. Species ratios were, A:B:- whiting 1:1; haddock 1.8:1; cod 2:1; plaice 1.3:1; lemon soles 1:1.1.

This year's brood of haddock was represented in the hauls at Cove (38 specimens, 7-10 cm) and in area C11 (3, 10-11 cm). The unusual occurrence of two halibut was noted at Cove.

Nephrops survey

Nephrops occurred at only two of the four stations (Stn. 1, outside the estuary, 34, all males, sizes 39-64 mm, and Stn. 4, east of Inchkeith, 14, all males, sizes 40-58 mm). Large haddock were taken at Stn. 1 but within the Firth Aurelia occurred to the exclusion of all whitefish. At Stn. 4, however, and to a lesser extent at Stn. 2, concentrations of small herring (12-16 cm) and sprats (7-10 cm) were encountered.

Other work

(i) Hydrography: Chemistry

Temperatures and salinity samples were taken at all standard depths and oxygen, phosphate and nitrate samples at surface and bottom at the three main centres of trawling operations. Surface temperatures ranged from 10.75°C to 11.82°C and bottom readings from 8.21°C to 10.29°C.

(ii) Plankton:

Standard and 1 m silk oblique hauls were taken south of Aberdeen and off the entrance to the Forth; the 1 m silk collection consisted almost exclusively of Pleurobrachia.

(iii) Scale samples were taken of haddock and lemon soles and otoliths of plaice and whiting. The greater number of cod was examined for worm infestation or preserved for laboratory examination. One hundred haddock gall-bladders were preserved.

J. M. LAMONT
16th July, 1959.

CIRCULATION:

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