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IN CONFIDENCE: Not to be quoted without reference to the Laboratory.

CRUISE REPORT

FRV MARA

13 - 30 May 1974

OBJECTIVES:

1. To carry out a bottom trawl survey for sandeels in the northern part of the Moray Firth, east of Orkney and south and east of Shetland, and to investigate the limits of distribution of any major concentrations found.
2. To determine catch-rates of sandeels obtainable in the survey area.
3. To carry out biological sampling of sprats and sandeels.

NARRATIVE:

"Mara" left Buckie at 1040 on 13 May and steamed north to Smith Bank. Owing to a south-east gale trawling was not possible so a course was made for Orkney, and "Mara" anchored north of Shapinsay at 2215. Apart from one trawl haul east of Auskerry, trawling in the first week was confined by south-east winds to North Sound, Orkney.

On 20 May "Mara" completed five hauls in the Fair Isle area. The following day gales were again forecast, but one haul was completed before steaming to North Sound. The remainder of the week was spent trawling to the east and south-east of the Orkneys.

"Mara" sailed from Kirkwall at 0630 on 27 May and worked towards the south. After completing two hauls on Smith Bank on 28 May westerly gales ruled out further trawling in this area. The following day trawling was only possible close to land off Clyth Ness. On 30 May two hauls were made in Mairn Bay before docking in Buckie at 1500.

TRAWLING SURVEY:

A total of 30 trawl hauls were completed during the cruise, 16 east of Orkney, 7 in North Sound, 5 in the Moray Firth and 2 in the Fair Isle area. Owing to bad weather in the first week no work was possible around the Shetlands. In general only small catches of sandeels were made; negligible quantities were caught in the Fair Isle area and east of Orkney. Catches in North Sound ranged from $\frac{1}{4}$ - 2 baskets. As on previous cruises, the two hauls on Smith Bank resulted in larger catches. One at $58^{\circ} 09.5' N$ $02^{\circ} 51.8' W$ contained 20 baskets. Investigation of the limits of the concentrations, however, were not possible owing to bad weather.

In North Sound both Gymnammodytes semisquamatus and Ammodytes marinus were caught, with modal lengths of 16.5 and 9.5 cm respectively. Hyperoplus lanceolatus and H. immaculatus were also recorded. Around Smith Bank A. marinus predominated, with a modal length of 10.0 - 10.5 cm. A few H. lanceolatus were also caught there.

To the east of Orkney catches contained mostly mixed haddock and whiting with modal lengths of 18 and 23 cm, respectively.

One haul in Nairn Bay contained 0-Group herring at a modal length of 6.5 cm, and the other contained mixed sprat and herring with modal lengths of 9 and 13 cm for sprat and 16 cm for herring.

BIOLOGICAL SAMPLING:

Otoliths were taken and sex and maturity noted for sandeels. Samples of sprat and herring were preserved for stomach content analysis. Sprat gonads were also preserved for fecundity and maturity studies. Two hauls were made with a plankton indicator for the Oceanographic Laboratory, Edinburgh

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