

IN CONFIDENCE: NOT TO BE QUOTED WITHOUT REFERENCE TO THE LABORATORY

CRUISE REPORT

FRS "SCARBA"

October 14 - November 3 1971

OBJECTIVES:

1. To carry out a pre-recruit demersal fish and environmental survey of the Northern North Sea.
2. To bring back live fish to the aquarium.

NARRATIVE:

"Scarba" sailed from Aberdeen at 2345 hours on October 14 and proceeded eastwards intending to start work some 40 miles offshore. Strong winds made work in this area impossible and the ship moved into the inner Moray Firth and began trawling there at 1950 hours on October 15. Six stations were completed in the Moray Firth, and North Central A areas, during the period October 15 to 17 before gales interrupted work. After dodging for two days "Scarba" began trawling again on the morning of October 19 and three stations were worked in the Northern A and North Central A areas. The respite in the weather was short; a further 24 hours were spent dodging before another station was completed on October 21. A severe westerly gale prevented further operations and "Scarba" then put into Lerwick on the afternoon of October 22 for water and to change scientific staff. Sailing was delayed until 1100 hours on October 25 due to severe gales. After leaving Lerwick "Scarba" proceeded to 61°01'N and began trawling at 2300 hours on October 25. Bad weather interrupted work on October 28 and "Scarba" went to Deer Sound for shelter. Work started again on October 29 at 1900 hours. Stations around Orkney and in Moray Firth ~~stations~~ were completed before weather again interfered with work on October 30 and "Scarba" anchored in Gamrie Bay. A slight improvement in the weather allowed work to recommence at 1500 hours on October 31. "Scarba" anchored off Cruden Bay on the evening of November 1 with the intention of trawling for live fish for the aquarium early on November 2 but weather conditions deteriorated during the night and, as a SW gale force 9-10 was blowing and there was no hope of further fishing, "Scarba" steamed to Aberdeen and tied up at 1100 hours on November 2.

RESULTS:

a) Trawling.

26 trawl hauls, each of one hours duration were completed during the cruise. Haddock dominated in nearly all hauls, the largest catches of this species being taken in squares C17b, D14d, C13d and B14a. Most of these fish were members of the 1970 and 1971 year-classes. Whiting catches were small except in the Moray Firth, East Coast and Orkney areas, where catches averaged 375 fish per haul. As for haddock, the whiting were mainly members of the 1970 and 1971 year classes. Other species taken occasionally in large numbers were: T. esmarkii, B14b (1917 fish), C13c (1511 fish), Common dab, B16b (3228 fish), Long rough dab, E16c (660 fish), C13c (540 fish), Lemon sole, B16b (286 fish), B15c (118 fish), Grey gurnard, C17b (489 fish). Nephrops were taken in quantity in B14b (1535 animals) and 2730 Pandalus were caught in E16c. Two unusual species were recorded; a pearl fish (Echiodon drummondii) in E21d and a red mullet in B15c.

b) Heavy metal and pesticide sampling.

Samples of cod and haddock of different ages were preserved as detailed in instructions. Plankton and bottom sediment samples were taken at two of the four groups of stations from which material was requested. Damage to the sampling equipment prevented sampling being carried out in the remaining areas.

Hydrography

Temperature measurements showed that the thermocline had broken down in the western part of the area surveyed but that it was still present in the vicinity of squares D,E,F, 16, 17, 18. Surface temperatures ranged from 10.30 to 11.94°C.

Plankton

Samples taken with the Gulf III indicated a trend towards increased abundance of zooplankton from the outer Moray Firth to an area north of 59°30'N and east of 00°30'E. Calanus was the most abundant organism, and Sagitta elegans, Pleurobrachia pileus and Thysanoessa sp. were prominent in most of the samples.

Sightings of cetaceans

Only two sightings were made during the cruise. On October 16 5 unidentified dolphins were seen in rectangle C15a and on October 31 5 bottlenosed dolphins were sighted in rectangle C13b.

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