

In Confidence: Not to be quoted without reference to the Laboratory.

R.1/7

3SR63

CRUISE REPORT

F.R.S. "SCOTIA"

March 13-April 6, 1963

The work of this cruise was seriously hampered by heavy seas sustained by strong to gale force winds. Gales were severe on March 14-16 and were imminent on April 6 when work had to be abandoned and further work in the area Forth would certainly have been impossible during the remaining two days. On March 13, with Mr. McIntyre in charge, "Scotia" set off to take bottom samples in the Fladen area. However, a violent storm rose which forced the vessel to turn back and seek shelter and "Scotia" could not make Aberdeen again until the 18th, with the Fladen sampling still undone. Next day the trawling survey got under way with Dr. Johnston in charge and good progress was made until the 24th. Thereafter a series of interruptions for heavy seas and also to permit change of crew allowed only two more trawls before the 30th. Another let-up in the weather enabled more or less continuous working until the afternoon of April 5 when trawling became difficult because of a heavy easterly swell and with gale to severe S.E. gales forecast it was clear that further work could not be expected. "Scotia" docked at Aberdeen at 0005 hours, 6/4/63. Of the 67 trawls on the programme, 34 were successfully completed and one trawl additional to the programme was worked in Dunnet Bay when strong winds prevented work on more exposed grounds.

Hydrography

Surface temperatures were near to 5°C and there was little difference between surface and bottom temperature over most of the northern North Sea. The extreme range of surface temperature was 4.88°C at 59°06'N 01°45'E one of the most easterly stations worked to 7.08°C to the west of the Orkney Is. at 59°12'N 04°15'W. Samples for salinity, oxygen, phosphate, nitrate and silicate taken at all trawl positions remain to be analysed.

Plankton

Samples with the Gulf III tow-net were taken at all stations and several additional hauls were made for preservation in alcohol. The additional hauls with 1-metre silk nets and the Standard net were made as directed. As expected, zooplankton catches were small. The phytoplankton is perhaps best gauged from routine chlorophyll measurements which indicated in general meagre or slight crops except for high spots in the inner Moray Firth and moderate crops west of the Orkney Islands.

Fishing

No damage to gear was sustained. Catches averaged about 5 or 6 baskets with haddock (15-19 cm) by far the largest component by volume.

Haddock

Small haddock (15-19 cm) amounted to one or two baskets in many hauls with 18 baskets A14b; 7 baskets C16d; 9 baskets B16b; 42 baskets C17b; 6 baskets D17a; 8 baskets D13b and several hauls of 4 or 5 baskets.

Haddock (27-33 cm) were the next important size group though much less abundant, and larger haddock were scarce.

Whiting

Whiting was much less abundant than haddock with notable catches only in the Moray Firth (mainly 14-22 cm size group) and C17b, D17a (23-28 cm and some larger fish).

Cod

Very few cod were taken.

Small gadoids

Very few small gadoids were taken; so few that it was difficult to secure the necessary samples for preservation.

Flatfish

Lemon sole, plaice, megrim, witch and other flatfish were caught in small numbers. Fairly large numbers of common dab were caught at F17a, G16c, and E13c.

Herring

Herring catches were better than usual in the Moray Firth and in areas F16c and D13b.

Catches in the Moray Firth were 228 (18-23 cm); 460 (18-29 cm); 49 (16-25 cm); 66 (19-21 cm); 256 (20-24 cm), all for 1 hour haul. Several small catches were obtained east of the Orkney Islands and at F16c where several foreign vessels were fishing. The best herring catch, however, was an unusual one in D13b where about 8 baskets were taken. These fish were small and immature, predominantly autumn spawners of size 22-26 cm.

Nephrops

Only one good haul of 447 Nephrops was obtained. This was at 57°56'N 2°12'W on the outer fringe of the Moray Firth.

Echosounder record

A continuous record was maintained where weather permitted. Very few mid-water traces were encountered.

Other items

A new large plastic sampler was tested and found to operate satisfactorily.

R. JOHNSTON
19th April, 1963.