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FRV 'Explorer'

Cruise 2/79

Report

February 19 - March 8 1979

Objectives:

1. To take part in the International Young Herring and Gadoid Pre-recruit Survey in the North Sea.
2. To determine the age composition of cod, haddock, saithe and whiting for each block of squares.
3. To commission the new computer system.
4. To obtain echosounder records while crossing selected sections of pipeline routes.

Narrative:

The dates of the scheduled survey of 5-27 February were amended to 14 February-8 March due to delays in the completion of the refit. Further problems with the boiler tubes again delayed the sailing and the cruise did not commence until 1300 hours on the 19 February. On leaving Leith, 'Explorer' sailed for the Danish Coast completing one daylight haul en route on the Dogger Bank. Apart from considerable icing of the sea surface off Heligoland weather conditions were perfect. The 12 hauls off the Danish Coast were completed on the forenoon of the 23 February and 'Explorer' steamed for Leith, as instructed, for the mid-cruise break. 'Explorer' sailed from Leith on the afternoon of the 27 February and commenced work on the Dogger Bank on the forenoon of the 28 February. The 7 hauls in this area were completed by the 2 March in perfect weather conditions. 'Explorer' then steamed north to the area south of the Fladen Ground. Weather conditions were deteriorating rapidly and only one haul was completed on the 3rd March before gale force winds (SW 9-10) forced 'Explorer' to seek shelter in the Moray Firth. With no prospect of work offshore, it was decided to repeat stations already undertaken by FRV 'Clupea'. While in the sheltered waters of the Moray Firth 6 hauls were repeated plus one haul over the dumping ground for the British Aluminium smelter sludge. Weather conditions improved on the 7 March, too late for further work to be undertaken offshore. 'Explorer' steamed for Aberdeen docking at 0000 hours on the 8 March.

Trawling:

Thirty-two trawl hauls of one hours duration were made using a French trawl with a 20mm codend. The trawl hauls included 6 hauls which had already been undertaken by 'Clupea', 4 foul hauls and 1 pollution haul.

Catches varied from $\frac{1}{4}$ - $37\frac{3}{4}$ baskets, the average per haul being $5\frac{1}{2}$ baskets.

1922 otoliths, taken from cod, haddock and whiting during this cruise and from the 'Clupea' cruise were read at sea. The age composition of cod, haddock and whiting caught by 'Explorer' is shown in Table 1a.

The numbers of herring and sprats are shown in Table 1b.

When bad weather interrupted the 'Explorer' programme the opportunity was taken to repeat hauls made by 'Clupea', 6 hauls were completed in the sheltered waters of the Moray Firth and off Buchan.

Of the industrial species Norway pout (T. esmarkii) were present only in the Moray Firth and Buchan areas where catches of 221 and 257 per 1 hours fishing respectively were taken.

Catches of all other species tended to be low but the occasional haul did produce larger numbers eg common dab 37F2 (3162 fish) and 38F6 (2056 fish), lemon sole 46E7 (73 fish) and dragonet 45E6 (92 fish).

A Lump sucker of 50cm length was caught in square 44E7. The gonad was preserved and the subsequent egg count gave a figure of 143995.

Heavy icing of the sea surface was encountered off the Danish and German coasts which made sampling with the Isaacs-Kidd midwater trawl (IKMT) impossible. Only four hauls were made before the shackle, attaching the IKMT to the plankton were, parted and the complete trawl was lost. A report has been produced by Mr R S T Ferro with some suggestions for changes in the design and operation of the trawl.

Pollution:

Adverse weather conditions allowed 'Explorer' to make a haul in the inner Moray Firth on the dumping ground for the British Aluminium smelter sludge. Samples of selected tissue of all species were taken for detailed analysis at the laboratory. Various benthic animals were also preserved for examination.

Hydrography:

Surface and bottom temperatures and salinities were taken at all but one station. Off the Danish Coast a surface temperature of -1.85°C was recorded. Four hydrographic stations which were completed in square 38F7 had a mean surface temperature of -1.65°C and a bottom temperature of -1.47°C .

General:

Two stations selected from the recommended list of stations were found to be on a German traffic lane. This matter has been reported.

Due to the delays in the completion of the refit and bad weather, no echosounding work over oil/gas pipelines was possible.

The commissioning of the new computer progressed satisfactorily but a substantial amount of work has yet to be done.

A S Jermyn
25 April 1979

Seen in draft: W Watt Officer in charge 'Explorer'

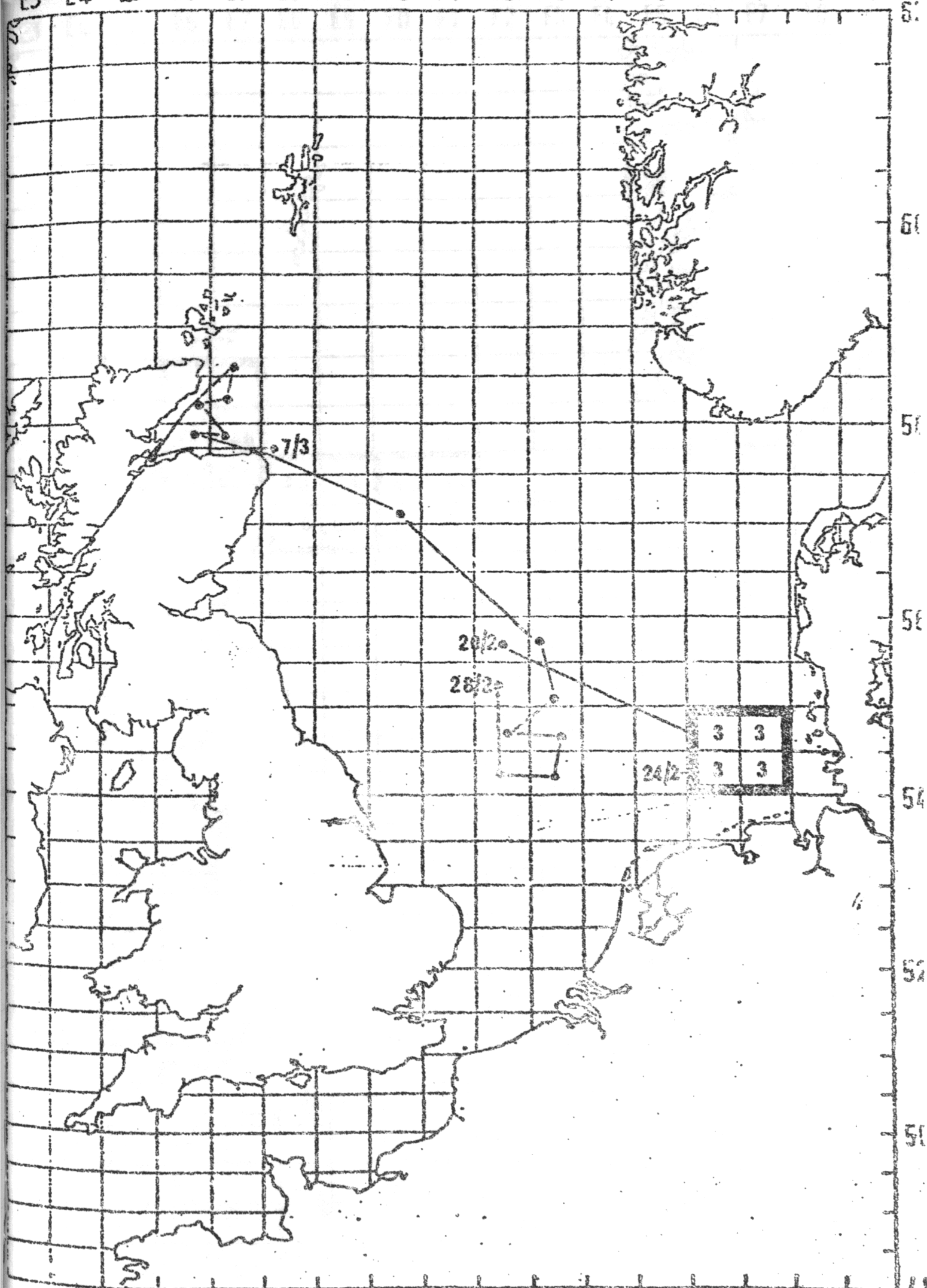
TABLE 1a Estimated numbers of different ages caught per 1 hours fishing by
 1) blocks of statistical squares

| Species Block | Cod | | | Haddock | | | Whiting | | |
|-------------------|-----------|------------|-------|-----------|------------|-------|-----------|------------|-------|
| | I 1978 | II 1977 | Older | I 1978 | II 1977 | Older | I 1978 | II 1977 | Older |
| 37, 38, F6, F7 | 76 | 24 | 4 | N | N | - | 257 | 246 | 120 |
| 37, 38 F2, F3 | 3 | - | 2 | 2 | N | N | 122 | 4 | N |
| 39, 40, F2, F3 | 19 | 3 | 10 | 3 | 6 | 2 | 570 | 10 | 1 |
| 43, 44, F0, F1 | - | 1 | 2 | 1840 | 32 | 3 | 251 | 3 | 1 |
| 44-46, E6, E7 | 3 | 2 | 10 | 284 | 399 | 358 | 849 | 61 | 52 |
| 43, 44, E8, E9 | 7 | 61 | 8 | 111 | 320 | 56 | 128 | 16 | 8 |

1) See attached chart

TABLE 1b Estimated numbers of herring and sprats caught per 1 hours fishing by ¹⁾ blocks of statistical squares

| Species | Herring | Sprat |
|----------------|---------|-------|
| Block | | |
| 37, 38, F6, F7 | 265 | 553 |
| 37, 38, F2, F3 | 16 | 780 |
| 39, 40, F2, F3 | 111 | 1612 |
| 43, 44, F0, F1 | 1 | 2 |
| 44-46, E6, E7 | 181 | 170 |
| 43, 44, E8, E9 | 25 | 92 |



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E3 E4 E5 E6 E7 E8 E9 F0 F1 F2 F3 F4 F5 F6 F7 F8 F9

