

AMM

R1/4

2ER80, 3ER80

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

FRV EXPLORER

CRUISE REPORT

January 30 - March 6 1980

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 - see attached chart.
- 3 To undertake, on the completion of the International Survey, two trawls per statistical square in the blocks numbered 1-3, see attached chart.

Narrative

EXPLORER sailed from Aberdeen at 1000 hours on the 30 January and proceeded to the Danish coast where the 12 stations in that area were completed without interruption. EXPLORER then steamed to the English coast (Wash area) and commenced work there on the morning of the 5 February. Apart from a short break on the 8th February due to bad weather EXPLORER worked continuously until the afternoon of the 9 February and then proceeded to Aberdeen for the cruise break. On leaving Aberdeen on the 15th February EXPLORER steamed to the Farn Deep to complete the 3 remaining stations in that area. A further 8 stations were completed in the Fladens - Shetland area before bad weather prevented further work. EXPLORER dodged towards Fetlar and anchored in the Wick of Gruting on the afternoon of the 20th February. Southerly force 9 winds prevented work until the afternoon of the 22nd February.

Due to the heavy seas off Shetland no work was possible and EXPLORER steamed to the Orkneys and work commenced on the morning of the 23rd February. Only 6 trawls were completed in the Orkney and Moray Firth areas before the mid-cruise break on the 25th February. EXPLORER sailed again on the morning of the 26th February and did one trawl haul before bad weather forced her to shelter. With the gales being of a south-westerly direction it was decided to attempt the stations on the east coast of Shetland. Four stations were completed before the weather interrupted work. EXPLORER anchored in Leven Wick on the afternoon of the 29th February. The winds moderated on the 3rd March and EXPLORER worked continuously until the end of the allotted time of the cruise and proceeded to Aberdeen docking at 0700 hours on the 6th March.

Trawling

Fifty-seven valid hauls were made using the GOV trawl. Hauls were of one hours duration with the exception of one haul, which was 45 minutes.

Catches varied from $\frac{1}{4}$ -153 $\frac{3}{4}$ baskets, the average per haul being 15 $\frac{1}{2}$ baskets.

2912 otoliths taken from cod, haddock and whiting during the cruise were read at sea. The age composition per one hours fishing of these species by blocks of statistical squares is shown in Table 1a.

The numbers of herring, sprats and Norway pout for the same areas are shown in Table 1b.

Catches of all other species tended to be low but the occasional haul did produce larger numbers eg common dab 37F7 (19539 fish), T. luscus 36F1 (286 fish), T. minutus 40E9 (157 fish), dragonets 45E6 (118 fish) and ling 48E6 (65 fish). One very large haul of Squalus acanthias was made in the rectangle 47E6. The estimated number caught was 3832 (153 baskets).

As part of the programme to collect material for use in multispecies models the stomachs of 5456 fish were examined and samples preserved. They comprised 827 cod, 152 saithe, 3161 whiting and 1316 Norway pout.

Maturities of haddock and whiting to determine the age at first spawning were recorded at stations north of 57°30'. 5224 haddock and 3821 whiting were examined and the ages of 4055 of the haddock and 3212 of the whiting were read.

Invertebrates were taken in very small numbers throughout most of the cruise. Alloteuthis were recorded in the area around the NW Rough (39F1) where catches of around 850 animals were taken. Pandalus were recorded in only two localities 39E8 (98 animals) and 45E9 (246 animals) while nephrops were taken in only 39E8 (130 animals).

Sampling was carried out with the Isaacs-Kidd midwater trawl at 34 stations.

Parasitology

Samples of haddock from the Orkney and Shetland areas were deep frozen for Dr McVicar.

Hydrography

Surface and bottom temperature and salinities were taken at all but one station on the survey.

General

Samples of haddock, hake, ling and whiting for the measurement of total nitrogen content were deep frozen for Dr Mackie of the Torry Research Station.

Only one siting of cetaceans was made throughout the cruise, approximately 8 white sided dolphins being recorded at 59°33'N 01°05'W.

Seen in draft T Henderson

Arthur S Jermyn

6 May 1980

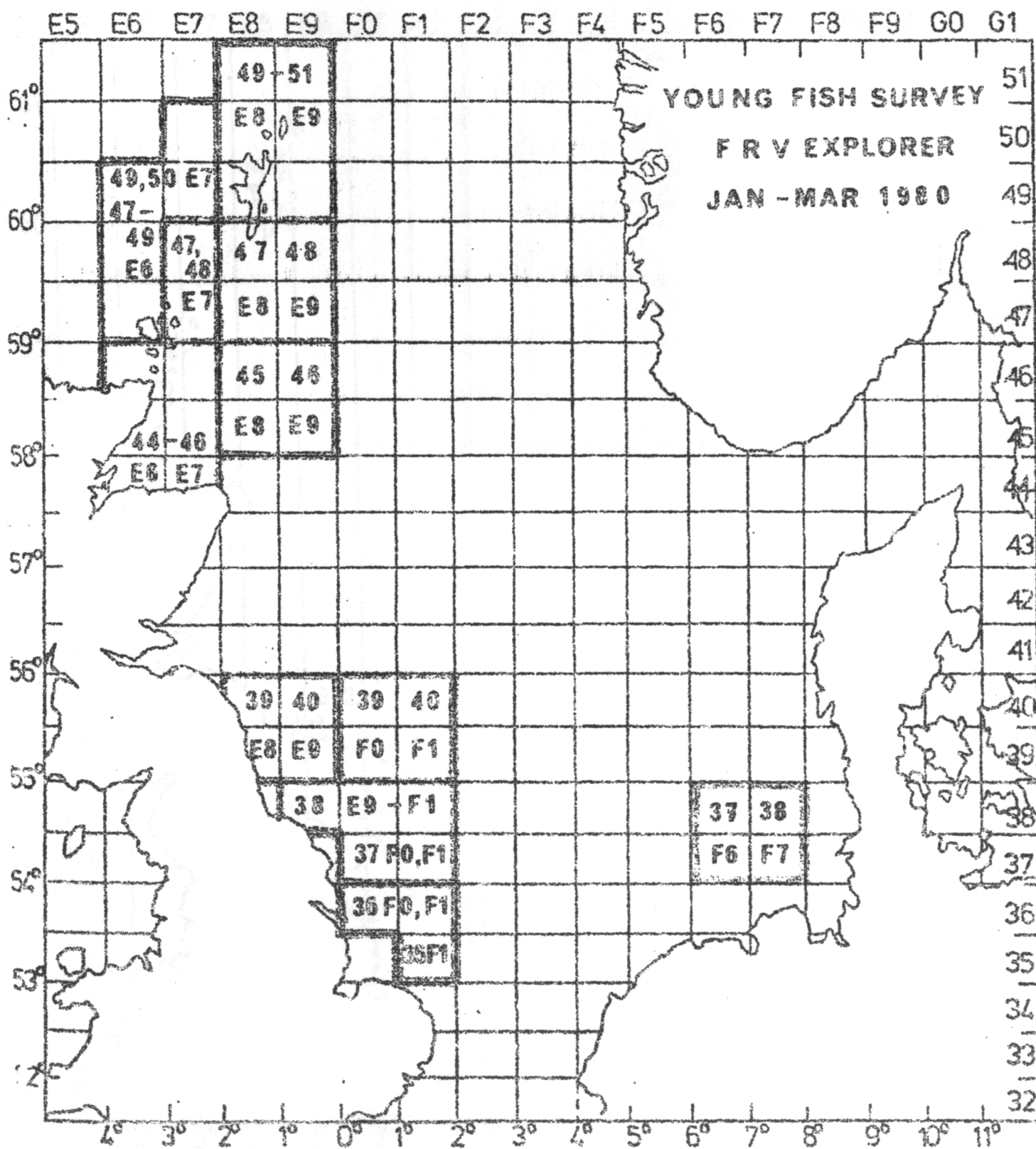
Table 1a ESTIMATED NUMBERS OF DIFFERENT AGES CAUGHT PER 1 HOURS FISHING BY ¹⁾BLOCKS OF STATISTICAL SQUARES

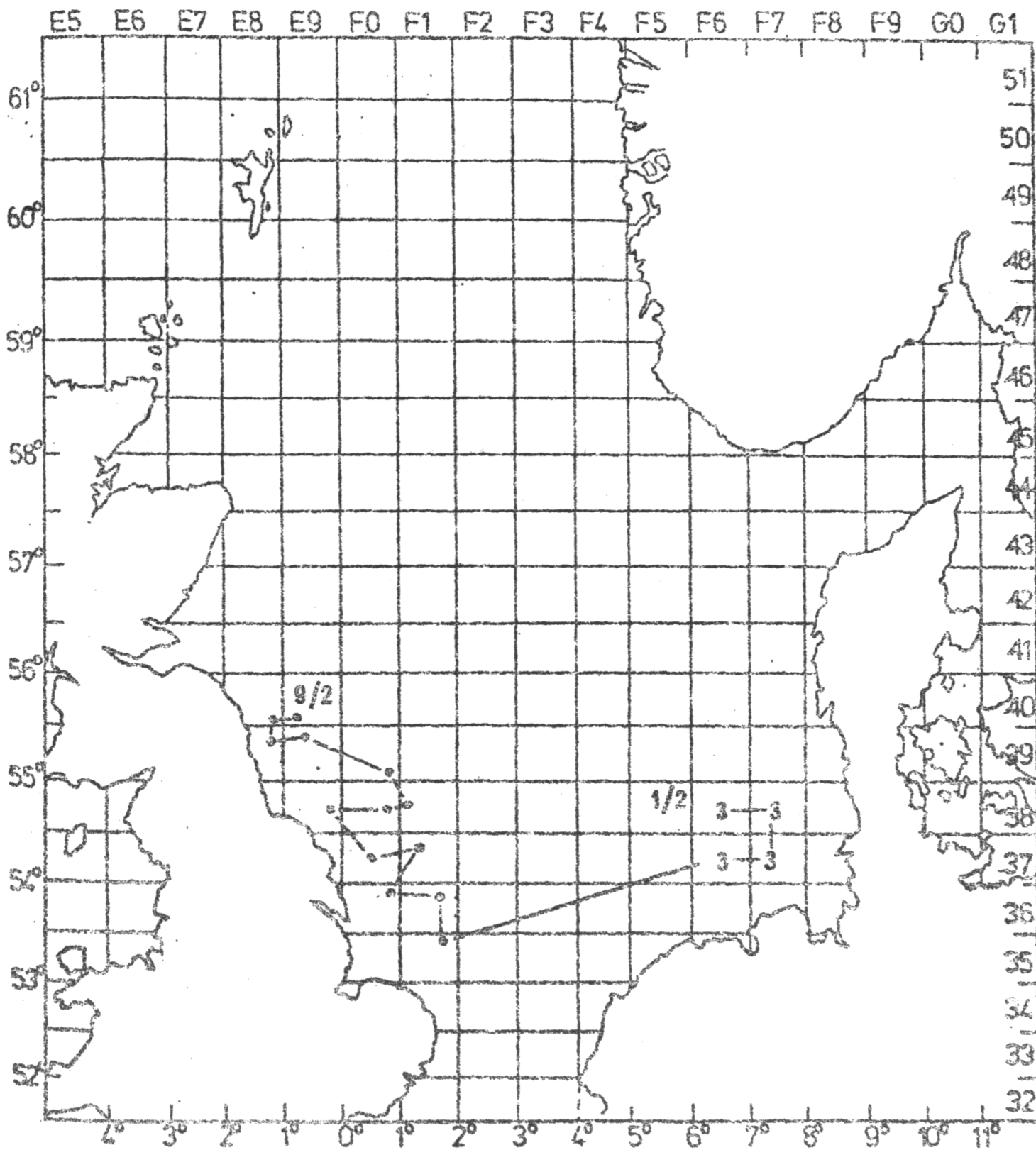
Species	COD			HADDOCK			WHITING		
Age	I	II	Older	I	II	Older	I	II	Older
Year Class	1979	1978		1979	1978		1979	1978	
Block									
37, 38/F6, F7	39	47	2	2	1	+	224	296	220
35F1 36/FO, F1	5	-	1	2	+	-	400	2	3
37/FO, F1 38/E9, FO, F1	26	+	1	3	2	-	2774	7	1
39, 40/E8, E9	10	2	3	761	92	1	3355	1035	184
39, 40/FO, F1	28	14	6	668	40	9	5492	90	42
44-46/E6, E7	1	1	5	2390	580	37	2625	167	21
45, 46/E8, E9	-	2	4	1941	588	40	118	1124	395
47, 48/E8, E9	-	15	5	2188	804	216	29	1174	1140
47, 48/E7	-	9	-	909	1586	56	330	648	101
49-51/E8, E9	-	145	16	971	732	238	43	75	151
49, 50/E7 57-49/E6	-	2	16	264	95	116	2	101	155

1) See attached chart

Table 1b ESTIMATED NUMBERS OF HERRING, SPRATS AND NORWAY POUT CAUGHT PER 1
HOURS FISHING BY 1 BLOCKS OF STATISTICAL SQUARES

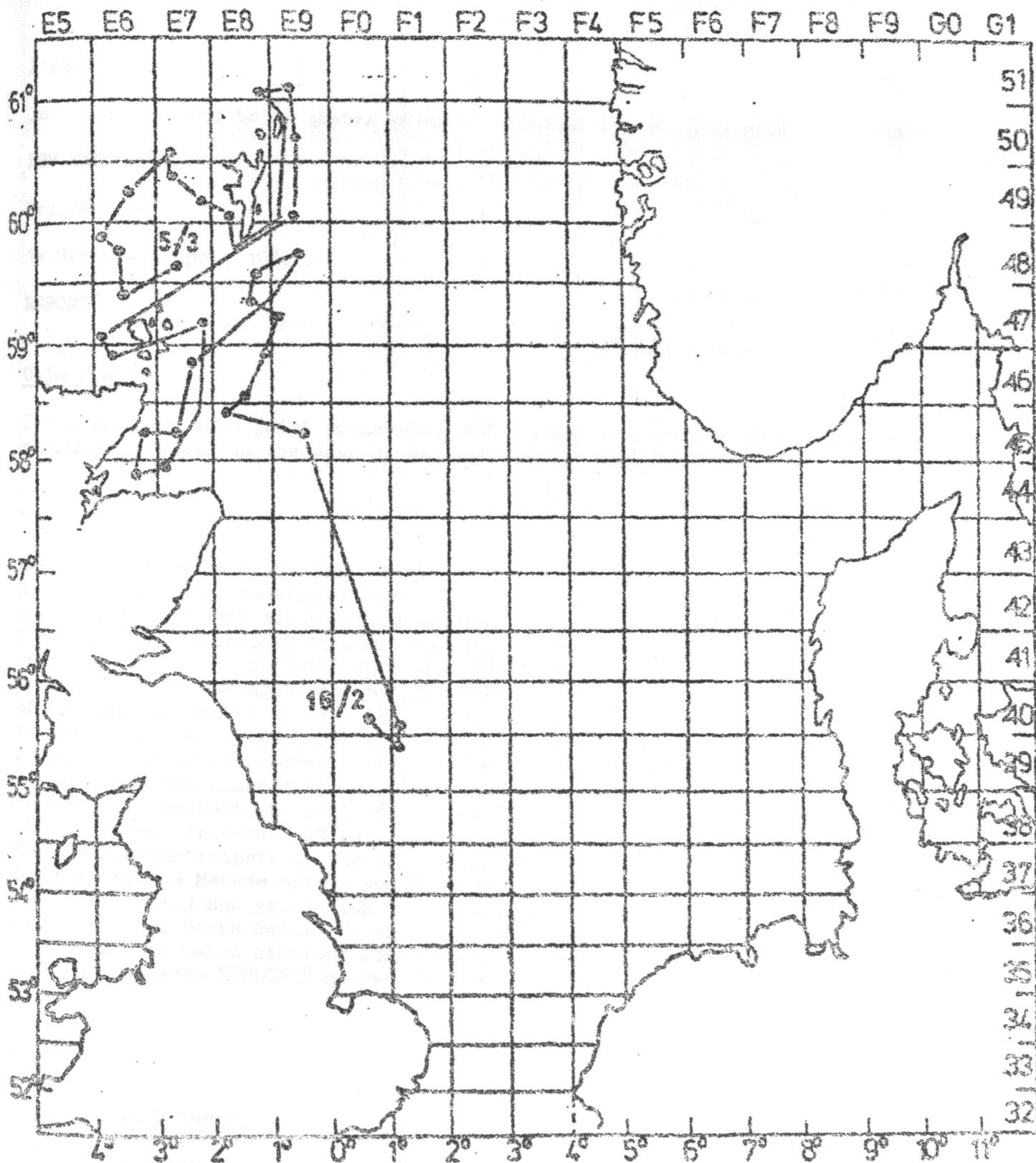
Species Block	HERRING	SPRAT	NORWAY POUT
37, 38/F6, F7	677	737	+
35 F1 36/F0, F1	50	1181	-
37/F0, F1 38/E9, F0, F1	281	838	10
39, 40/E8, E9	43	182	310
39, 40/F0, F1	16	106	60
44-46/E6, E7	202	167	3670
45, 46/E8, E9	26	45	3767
47, 48/E8, E9	2	+	10150
47, 48/E7	-	-	-
49-51/E8, E9	-	1	31799
49, 50/E7 47-49/E6	5	11	12615





EXPLORER 1/2 - 9/2/80

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EXPLORER 16/2 - 5/3/80 3EP80