

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

Cruise Report
FRV EXPLORER
November 6-November 26 1979

Objectives

To undertake a North Sea pre-recruit demersal fish survey using a 48' Aberdeen trawl with a small mesh cover.

Narrative

EXPLORER sailed from Aberdeen at 1800 hours on 6 November and proceeded to the sheltered waters of the Moray Firth. Four stations were worked in this area and a further six off the Aberdeenshire coast before gale force winds restricted work. EXPLORER dodged towards the Orkneys and completed the only station in sheltered waters before anchoring in Inganess Bay on the night of 10 November. The following day, with a slight improvement in the weather, two more stations were worked before weather again interrupted operations and EXPLORER then dodged towards Shetland. Work commenced on 13 November when three stations were completed prior to the mid-cruise break on 14/15 November. On leaving Lerwick six stations off Shetland were undertaken before bad weather forced EXPLORER to shelter at Fetlar on the night of 17 November. The following night the winds moderated and EXPLORER steamed to be on station the next day. Eighteen stations were completed during the next five days in perfect weather conditions. The weather took a turn for the worse on the night of 23 November and the following day with no sign of improvement EXPLORER dodged towards the Orkneys and anchored in Inganess Bay on the night of 24 November. One station was worked on 25 November before work was again curtailed. Weather conditions deteriorated rapidly and EXPLORER steamed to the Moray Firth in the hope of working in this area. No work was possible and, with little time left, it was decided to proceed to Aberdeen. EXPLORER docked at 2300 hours on 26 November.

Trawling

Forty-one trawls of one hours duration were made using a 48' Aberdeen trawl with a small mesh cover. The mean size of the cod end was 83.2mm.

Catches varied from $4\frac{1}{2}$ to $29\frac{3}{4}$ baskets, the average per haul being 12 baskets.

4263 otoliths, taken from cod, haddock, saithe and whiting during the cruise were read at sea. The estimated numbers at age of haddock and whiting, by sampling area, are shown in Tables 1a) and 1b). The numbers of cod and saithe caught throughout the cruise were small. Table 2 gives the total North Sea age composition for these species.

Herring were caught in three areas - Moray Firth 44E6 (337 and 90 fish), Orkney 46E7 (50 fish) and Forties (west) 46FO (237 fish). The mean length for the herring from each of these areas was as follows:

Moray Firth	(44E6)	12.6cm
Orkney	(46E7)	22.0cm
Forties	(46FO)	31.7cm

All herring were deep frozen for analysis at the Laboratory.

Sprats were only taken in the Moray Firth and the catch per 10 hours fishing was 3155.

Of the industrial species only T. esmarkii were caught in large numbers. Catches of 14556 fish from 46FO and 7997 fish from 45FO were recorded. M. poutassou occurred in very small numbers. In only two hauls were larger numbers taken, 49FO (668 fish) and 50F1 (256 fish). Estimated numbers per 10 hours fishing for all industrial species are shown in Table 3.

Catches of all other species tended to be low but the occasional haul did produce larger numbers eg Squalus acanthias 47E7 (238 fish), lemon sole 43E9 (124 and 125 fish), long rough dab 45E8 (296 fish) and Sebastes viviparus 45F3 (114 fish).

Small numbers of Nephrops and Pandalus were caught during the cruise; the only exceptions being for Nephrops 45E8 (560 animals) and 44E7 (285 animals), while for Pandalus 45FO (608 animals) and 44EO (264 animals).

Parasitology

Samples of haddock from the Orkney and Shetland areas were deep frozen for Dr McVicar and samples of large squid from most sampling areas were collected for Mr Smith.

General

Samples of haddock, hake, ling and whiting were deep frozen from different areas for Dr Mackie of the Torry Research Station.

Only one sighting of cetaceans was made throughout the cruise, of approximately 20 pilot whales recorded at 59° 18' N 02° 30' W.

Arthur S Jermyn
28 November 1979

Seen in draft:- T Henderson

Table 1a)

ESTIMATED NUMBERS OF HADDOCK CAUGHT PER 10 HOURS FISHING BY SAMPLING AREA

Age *Area	0	1	2	3	4	5	6 & older
Buchan 'A'	6632	5780	537	16	13	117	5
Buchan 'B'	14198	3063	259	45	-	20	-
Moray Firth	3813	708	17	6	-	-	-
Orkney	18777	12834	2504	642	21	442	50
Central 'A'	15329	11377	1145	16	-	49	5
Central 'B'	31890	3230	892	62	12	-	-
Shetland 'A'	17983	6913	1277	324	122	87	48
Viking	13231	5868	4651	1139	118	153	21
Forties (east)	13715	5908	3177	412	41	90	10
Forties (west)	6042	982	749	140	38	86	4

* See attached chart for areas.

Table 1b)

ESTIMATED NUMBERS OF WHITING CAUGHT PER 10 HOURS FISHING BY SAMPLING AREA

Age Area	0	1	2	3	4	5	6 & older
Buchan 'A'	1245	4219	3888	528	460	93	3
Buchan 'B'	2300	2540	3494	1011	651	85	5
Moray Firth	26675	6368	536	96	62	7	-
Orkney	673	12995	3420	1916	873	21	17
Central 'A'	600	8087	3273	249	239	46	-
Central 'B'	6485	245	50	15	-	-	-
Shetland 'A'	663	119	344	327	267	137	9
Viking	3298	345	1704	896	340	98	8
Forties (east)	2932	1138	391	204	42	6	-
Forties (west)	762	1660	1914	916	213	41	-

Table 2

ESTIMATED NUMBERS OF COD AND SAITHE CAUGHT PER 10 HOURS FISHING IN THE NORTH SEA

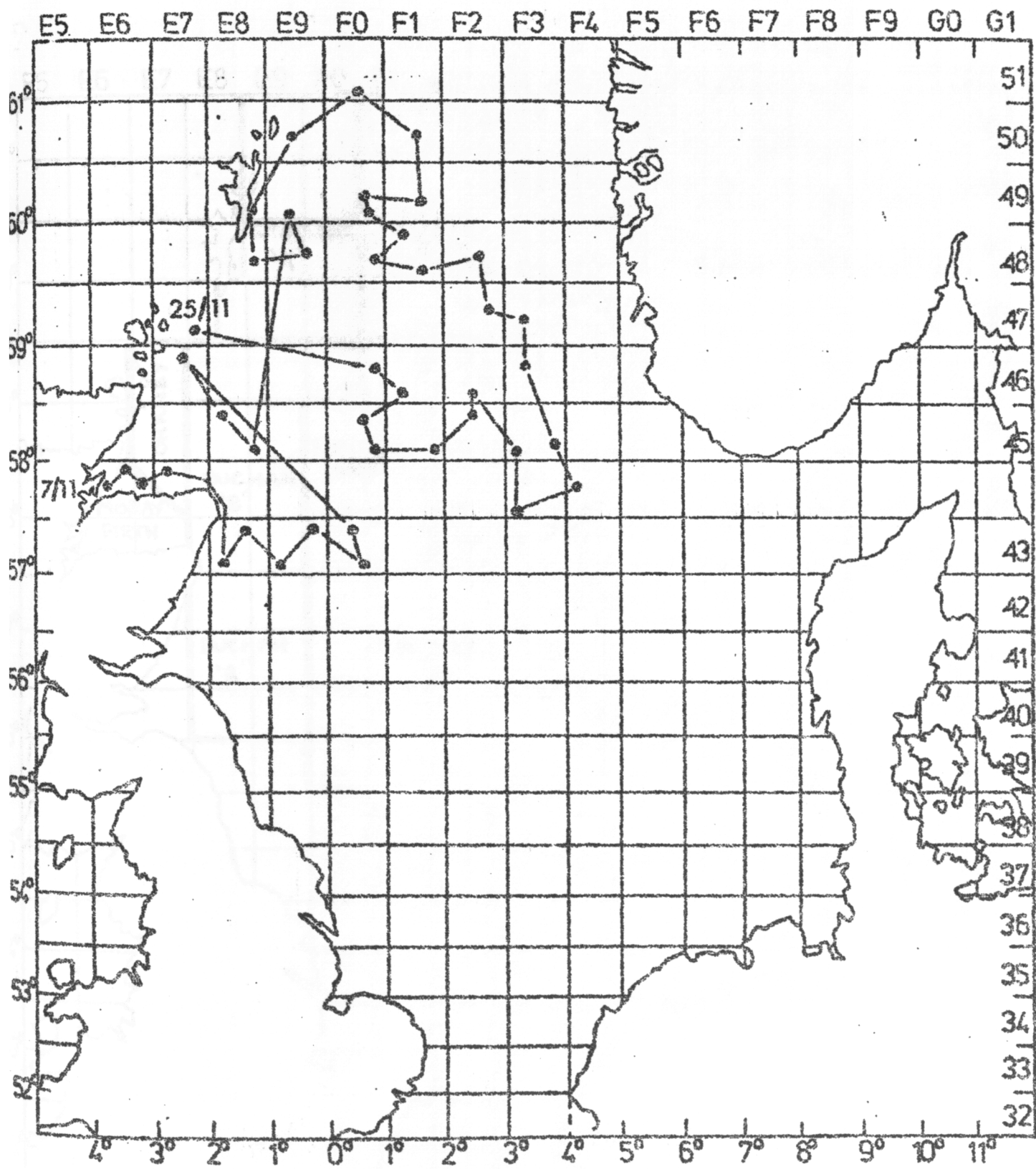
Species Age	Cod	Saithe
0	1	-
1	25	+
2	34	+
3	30	1
4	5	1
5	7	1
6 & older	1	7

Table 3

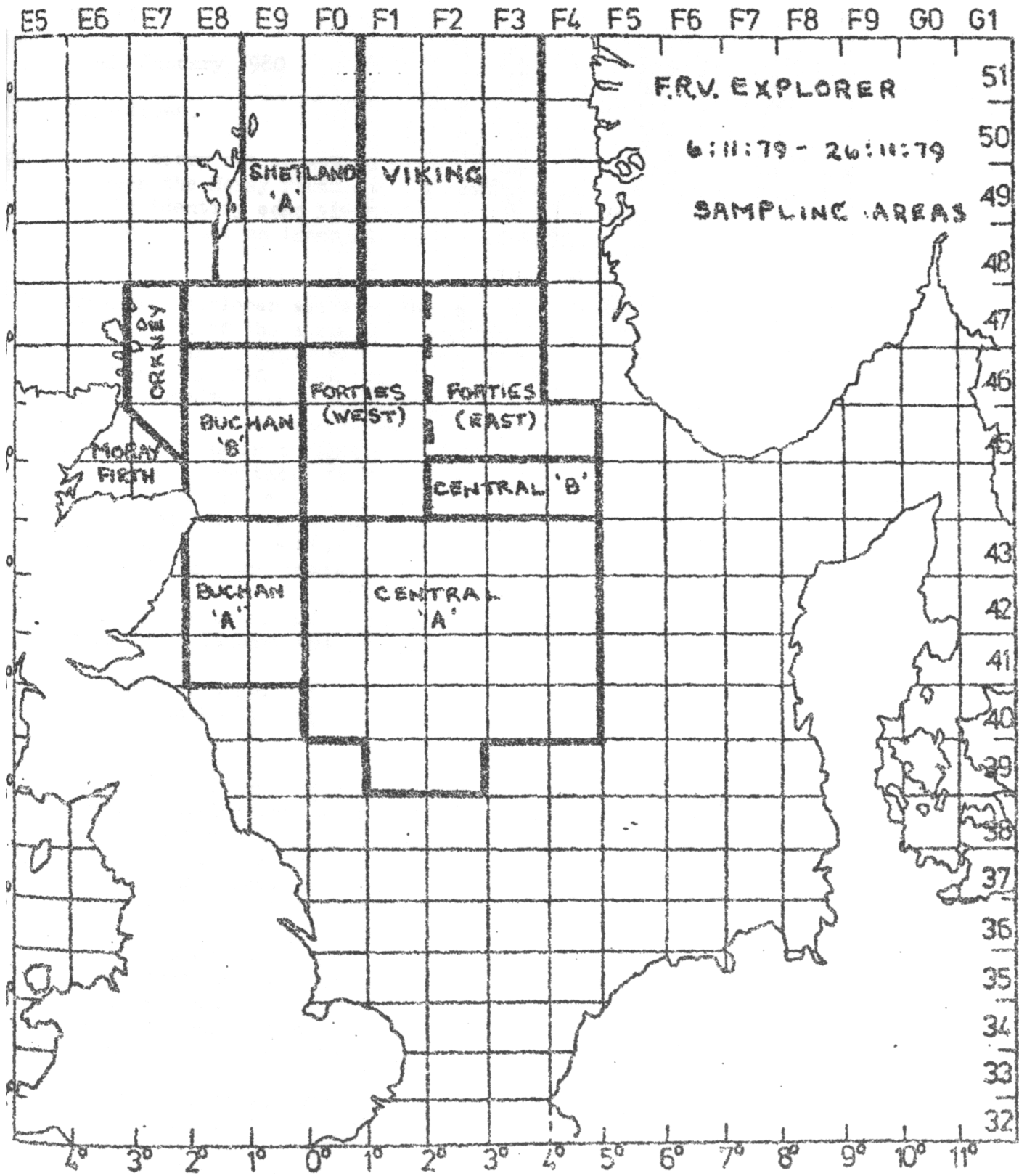
ESTIMATED NUMBERS OF INDUSTRIAL SPECIES CAUGHT PER 10 HOURS FISHING BY SAMPLING AREA

Species *Area	T. esmarkii	T. minutus	M. poutassou	A. silus	A. sphyraena	Gadiculus
Buchan 'A'	4770	452	-	-	-	-
Buchan 'B'	13405	-	-	-	5	-
Moray Firth	1368	-	-	-	-	-
Orkney	-	75	-	-	-	-
Central 'A'	1260	10	-	-	-	-
Central 'B'	11750	-	-	-	-	-
Shetland 'A'	13320	13	899	36	157	102
Viking	27622	-	520	2	104	310
Forties (east)	37348	25	-	45	5	18
Forties (west)	66220	4	-	-	10	4

* See attached chart for areas



EXPLORER 6/11 - 26/11/79 11EP79



1980

SHETLAND 'A' VIKING

ORKNEY

MORAY FIRTH

BUCHAN 'B'

FORTIES (WEST)

FORTIES (EAST)

CENTRAL 'B'

BUCHAN 'A'

CENTRAL 'A'