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FRV *Clupea*

Cruise 1593C

REPORT

2-23 August 1993

Personnel

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Objectives

To determine the distribution and relative abundance of sandeel (*Ammodytes marinus*) on inshore fishing grounds at Shetland and to the west of Scotland.

To obtain quantities of sandeel for use as fish food by the Fish Behaviour Section of the Laboratory.

Narrative

Scientific staff joined *Clupea* in Fraserburgh at 1030 on 2 August and sailed to Shetland to commence sampling the following day. Sampling continued until the afternoon of 12 August when the programme for Shetland was completed and *Clupea* sailed south to commence the western part of the survey on 15 August after the half landing. Sampling to the west of Scotland continued until 21 August when all the targeted grounds had been covered. *Clupea* then headed for Fraserburgh docking at 0100 on 22 August.

Only one half of a day was lost due to bad weather during the cruise. Scientific staff left *Clupea* at 1200 on 22 August.

Results

Between 3 and 12 August, a total of 43 valid hauls were made on commercial sandeel fishing grounds around Shetland. All of the targeted grounds were sampled at least twice and 11 grounds were sampled three times. A total of 15 valid trawl hauls were made on six fishing grounds to the west of Scotland. Four of these grounds were sampled on three occasions.

Catch rates up to 9.2 tonnes and 2.7 tonnes per 30 minute haul were achieved at Shetland and on the west of Scotland grounds respectively. Table 1 gives the catch rate by time of day in kilograms raised to a standard 30 minute haul. The number at age of *Ammodytes marinus* caught per 30 minute haul are given in Table 2. Table 3 shows the abundance indices of 0-group *A. marinus* from 1984-1993. The attached charts show the grounds fished and the number of hauls made on each ground.

Approximately two tonnes of sandeels were obtained for fish food on 9 August and transported to the Laboratory by P & O Ferries.

J R Hutcheon
29 September 1993

TABLE 1

A. marinus Clupea August 1993

kg caught per 30 minute haul during different time periods

Fishing ground	0700-1100	1100-1500	1500-1900
Voe	414	2,205	-
Grutnes	117	15	-
Ba'as	816	4,736	-
South Sands	1,912	7,360	9,280
Braeside	1,026	1,950	1,227
Mousa	2,142	7,310	4,038
Balta	18	-	3
Fethaland	0	0	0
Sands Voe	16	96	161
Brekkin	577	800	910
Ham of Foula	3,818	6,366	93
North Foula	80	0	+
South Foula	670	516	1,326
Trink	932	1,579	+
East Fair Isle	1,256	2,788	64
West Fair Isle	16	64	16
Loch Erribol	0	52	+
Cellar Head	14	228	99
Shingle Edge	48	260	34
Clash	0	-	-
North Rona	2,152	2,756	769
Wineglass	0	-	0

+ = <10 kg

- = No sampling

TABLE 2

A. marinus Clupea August 1993

Number at age raised to 30 minute haul

Fishing ground	0+	1+	2++	Total	No of hauls
Voe	48,824	31,812	130,356	210,992	2
Grutnes	680	1,064	7,613	9,356	2
Ba'as	2,254,138	2,266	2,266	2,258,670	2
South Sands	4,563,960	14,224	1,997	4,580,181	3
Braeside	158,650	36,509	127,726	322,885	3
Mousa	1,939,877	130,395	97,163	2,167,435	3
Balta	0	8	1,178	1,186	2
Fethaland	0	36	0	36	3
Sands Voe	383	73	10,920	11,376	3
Brekkin	0	0	91,209	91,209	3
Ham of Foula	186,465	47,212	451,835	685,512	3
North Foula	139	32	3,217	3,388	3
South Foula	434,010	14,655	55,665	504,330	3
Trink	573,450	1,130	83,418	657,998	2
East Fair Isle	2,219	9,522	142,886	154,627	3
West Fair Isle	40	512	3,330	3,882	3
Loch Erribol	104	7,628	430	8,162	2
Cellar Head	64,454	1,704	1,410	67,568	3
Shingle Edge	50	59	8,904	9,013	3
Clash	0	0	0	0	1
North Rona	0	285	156,523	156,808	3
Wineglass	0	0	0	0	2

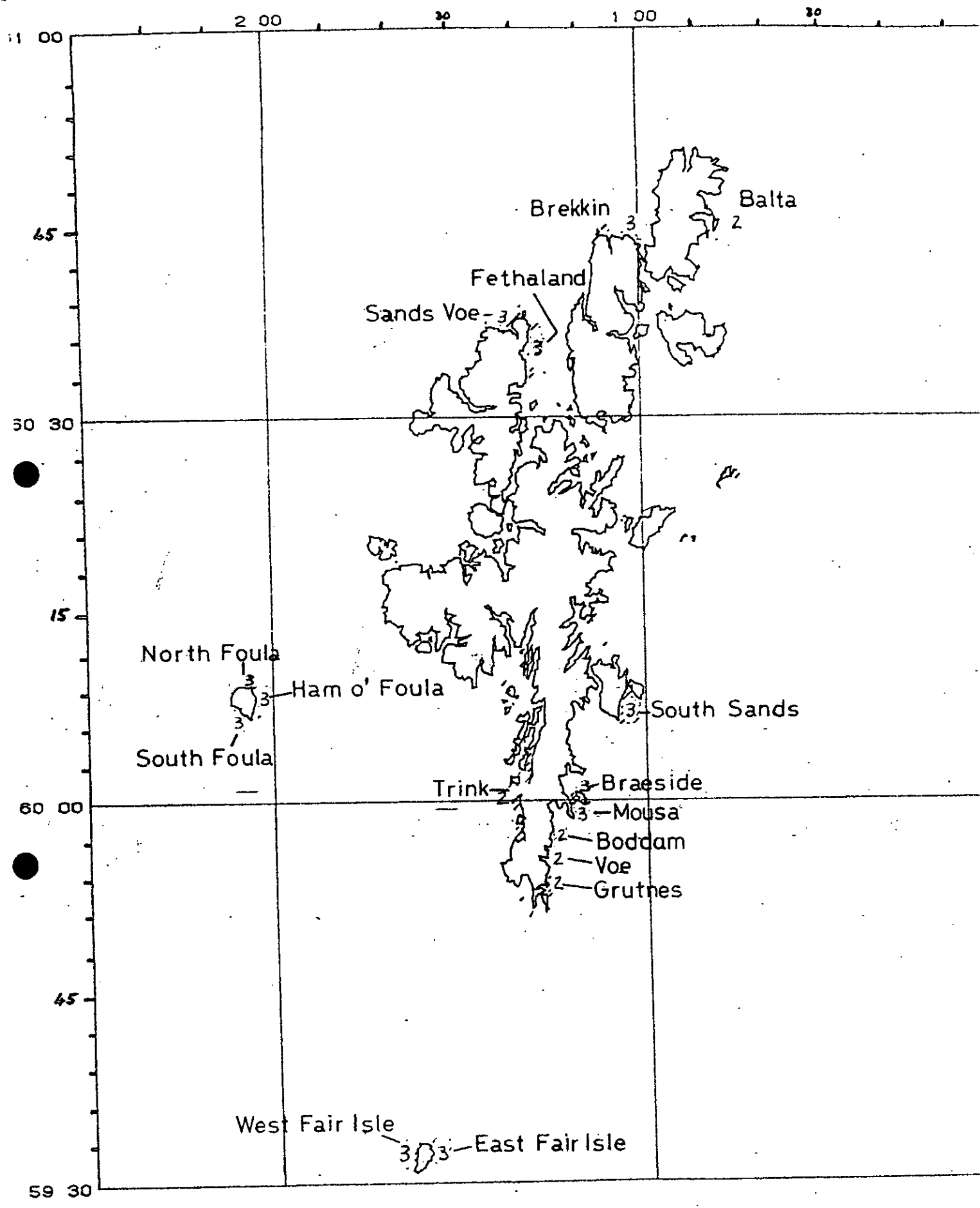
TABLE 3

Ammodytes marinus abundance indices of 0-group (000s), August surveys 1984-93

Number is per 30 minute trawl haul

Fishing ground	1984	1985	1986	1988	1989	1990	1991	1992	1993
South Sands	105	109	91	11	617	1	571	434	4,564
Braeside	1,816	30	1,198	-	5,912	485	183	461	159
Mousa Sound	2,022	336	521	1,121	6,266	930	1,730	1,951	1,940
Clumlie Ba'as	94	-	637	-	112	1	163	90	2,254
Boddam/Voe	5	888	-	0	1	+	20	14	49
Grutnes	20	0	1	-	1	0	6	0	1
East Fair Isle	+	16	1	+	+	+	63	+	2
West Fair Isle	1	+	1	-	+	+	-	+	+
Trink	405	307	11	-	37	7	-	7	573
South Foula	398	59	4,941	-	-	7	-	33	434
Ham of Foula	50	52	2,737	-	+	2	-	159	186
North Foula	1	5	1	-	0	+	310	40	+
Sands Voe	14	71	764	-	1	9	251	0	+
Fethaland	626	+	5	+	+	+	186	0	0
Brekkin	0	+	+	8	0	+	118	+	0
Balta	0	0	0	0	0	0	8	1	0
Colsay	9,630	1,371	21	-	-	-	-	-	-
Index for all grounds combined	892	203	683	141	863	90	301	199	635

Sandeel Grounds at Shetland



SANDEEL FISHING GROUNDS - VIa

