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FRV *Clupea*

Cruise 1203C

**REPORT**

25 July - 6 August 2003

**Personnel**

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N Morrison

**Objectives**

1. To determine the distribution and relative abundance of sandeel on inshore fishing grounds around the Shetland Isles and Fair Isle. With particular emphasis on both *Ammodytes marinus* and *Gymnammodytes semisquamatus*.

**Out-turn days per project:** 13 days, MFO1TA

**Narrative**

Scientific staff joined *Clupea* in Fraserburgh at 0930 hours on Friday 25 July. *Clupea* sailed from Fraserburgh at 1200 hours and made way for Fair Isle, where the vessel anchored at 2330 hours. Fishing began and the survey commenced at 0700 hours on the East Fair Isle grounds on the morning of 26 July. The survey continued up and around the Shetland Isles and Foula, with no weather or gear related difficulties, until the morning of 5 August, when *Clupea* made way for Fraserburgh. *Clupea* berthed alongside in Fraserburgh at 2100 hours the same evening.

All survey gear was unloaded and scientific staff disembarked on the morning of 6 August, returning to FRS.

**Results**

Between 26 July and 5 August, a total of 60 valid hauls were made of commercial (historically) sandeel grounds around the Shetland Isles and Fair Isle, using the 'Sunbeam' sandeel trawl. All targeted grounds were surveyed on three occasions, during different time periods (0700-1100, 1100-1500, 1500-1900 hours) and where practical, on different dates. Repeat tows were carried out at the historically important commercial grounds (Mousa, Braeside and South Sands), to verify the exceptionally poor results achieved there during the initial tows, undertaken at the beginning of the survey.

Catch rates of up to 8.319 tonnes per 30 minute haul for *A. marinus* and up to 10.515 tonnes per 30 minute haul for *G. semisquamatus* were achieved at the Shetland grounds. Once again, this year saw a decline in *A. marinus* abundance and another disastrous recruit year. *G. semisquamatus* appear to have now firmly established themselves as the dominant species of eel on a large number of grounds and for the second time only in the history of this survey. *G. semisquamatus* 'O' group individuals were found on certain grounds.

Further analysis of the data gathered for both species will be carried out at FRS.

A total of 2003 *A. marinus* were scored for age / length data.

Figure 1 gives the catch rate by time of day in kilogrammes, raised to a standard 30 minute haul for *A. marinus*.

The catch rate for *G. semisquamatus*, in kilogrammes, raised to a standard 30 minute haul can be seen on Figure 2.

The numbers at age for *A. marinus* caught per standard 30 minute haul are shown in Figure 3.

Grounds surveyed are shown on Figure 4.

C G Davis  
1 October 2003

Seen in draft: A Simpson, OIC *Clupea*

## Kg caught per 30 minute haul during different time periods

Fishing Ground	0700-1100	1100-1500	1500-1900	Total
East Fair Isle	1	0	0	1
West Fair Isle	<1	<1	<1	<1
Grutnes	5	0	0	5
Voe	46	62	65	173
Boddam	84	26	4	114
Mousa	410	389	738	1537
Braeside	504	690	264	1458
South Sands	500	359	114	973
Balta	5	2	0	7
Brekkin	<1	28	39	67
Fethaland	<1	<1	1	1
Sands Voe	382	<1	207	589
North Foula	<1	0	0	<1
South Foula	149	293	423	865
Ham O Foula	<1	13	2	15
Trink	<1	0	0	<1
Mousa (repeat)	165	599	149	913
Braeside (repeat)	710	215	488	1413
S.Sands (repeat)	135	*	53	188
E.F. Isle (repeat)	0	*	<1	<1
W.F. Isle (repeat)	0	*	0	0
				8319
	3096	2676	2547	

\* = No haul undertaken

G.semisquamatus "Clupea" August 2003

Figure 2

Kg caught per 30 minute haul during different time periods

Fishing Ground	0700-1100	1100-1500	1500-1900	Total
East Fair Isle	31	0	0	31
West Fair Isle	1	0	0	1
Grutnes	2	0	0	2
Voe	18	212	223	453
Boddam	38	44	2	84
Mousa	500	505	312	1317
Braeside	2215	699	220	3134
South Sands	51	58	8	117
Balta	<1	20	0	20
Brekkin	0	417	411	828
Fethaland	0	0	<1	<1
Sands Voe	<1	<1	3	3
North Foula	<1	<1	34	34
South Foula	589	326	473	1388
Ham O Foula	<1	474	103	577
Trink	<1	0	0	<1
Mousa (repeat)	115	311	93	519
Braeside (repeat)	1010	220	562	1792
S.Sands (repeat)	<1	*	<1	<1
E.F.Isle (repeat)	<1	*	215	215
W.F.Isle (repeat)	<1	*	0	<1
				<u>10515</u>
	4570	3286	2659	

\* = No haul undertaken

Shetland sandeel survey, August 2003

Figure 3

Mean catch rate by ground	Age									
	0	1	2	3	4	5	6	7	8	9
1 SSA	72426	22724	2410	0	260	93	93	0	0	0
2 BRA	0	29272	7489	1659	6137	1026	342	338	0	0
3 MOU	97107	23523	10971	651	3020	756	385	82	0	0
4 BAS	2026	2117	686	670	2068	451	77	155	0	0
5 BOD	14532	888	240	94	224	70	40	0	0	0
6 GRU	0	242	38	10	32	7	2	0	0	0
7 EFI	0	10	0	6	28	0	2	0	0	0
8 WFI	0	17	0	1	1	1	0	0	0	0
9 TRI	0	0	0	1	0	0	0	0	0	0
10 SFO	320	17257	6139	4689	2409	2197	551	552	300	0
11 HAM	97	229	138	27	17	0	4	0	0	0
12 NFO	0	0	0	0	0	0	0	0	0	0
13 SVO	24298	17098	5983	1715	192	83	0	83	0	0
14 FET	49	0	0	0	0	0	0	0	0	0
15 BRE	0	14	21	496	138	78	126	71	9	0
16 BAL	0	125	95	51	27	0	5	1	0	0
Yclass	2003	2002	2001	2000	1999	1998	1997	1996		

