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MV ARDENT LK 472

REPORT

15-22 August 1989

Personnel

J Gauld	HSO
J Hutcheon	SO

Objective

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

Narrative

Scientific staff joined MV *Ardent* at Scalloway at 0840 on 15 August. On completion of loading stores and gear, *Ardent* sailed at 1020 and proceeded to Foula to commence sampling. Sampling continued through 15-21 August. Two trawl hauls of approximately 30 minutes duration were made, using a commercial sandeel trawl, on each of the 15 of the 16 sandeel fishing grounds shown in Figure 1. The remaining ground (South Foula) was not sampled due to unfavourable sea conditions. Echosounder observations were made on all 16 grounds using the vessel's black and white Atlas 701 (57 kz) and Koden CUS 887 (28 kz/200 kz) colour sounders.

*Ardent* returned to Scalloway on the evening of 21 August. Gear was offloaded the following day and scientific staff returned to Aberdeen.

Results

Trawling

Replicate catches made on individual grounds were similar in volume and in species composition. The highest catch rates, >17 tonnes per haul, were made on the SE mainland grounds at Mousa and Braeside. Few *A. marinus* were caught on the westerly and northerly grounds. The age composition in *A. marinus* differed between grounds with large numbers of recently recruited O-group (1989 year class) being present on the SE mainland grounds from Clumlie to South Sands. Elsewhere O-group tended to be few compared with older age groups. At Breckin catches consisted entirely of older age groups. This pattern of age distribution is similar to that reported in previous surveys carried out during August-September on these grounds. Estimated catch rate per ground (mean of two hauls each adjusted to 30 minutes duration) and the numbers and percentage composition by number of recruits (age group-O) and adult (age group 1-9) *A. marinus* are given in Table 1.

In addition to *A. marinus*, large numbers of *Gymnammodytes semisquamatus* and *Hyperoplus lanceolatus* were also present in several hauls.

## **Echosounding**

Few sandeel marks were observed on either the black and white or colour echosounders except on these grounds where large catches were made ie at Mousa and Braeside. On these grounds the sandeel marks were not widely distributed but restricted to particular areas, the marks being dense and extending as broken streaks from the sea bed to the surface. Gannets were observed to be feeding heavily over these marks.

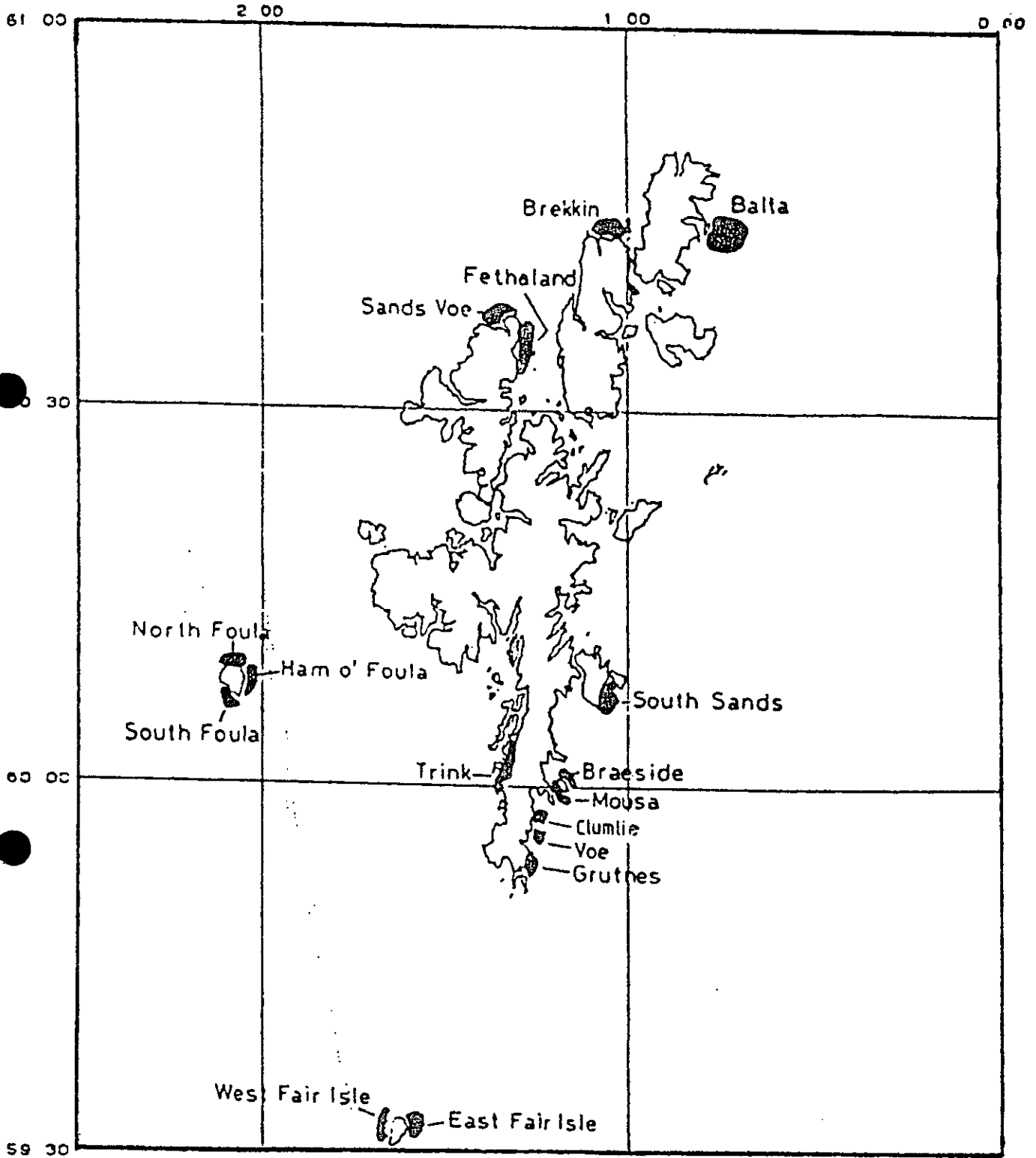
**J A Gauld**

**8 January 1990**

Table 1

Mean total catch (tonnes) caught per 30 minute trawl haul, the number ('000s) and percentage composition of *A. marinus* by age group per fishing ground

Fishing ground	Estimated catch per 30 minutes (tonnes)	<i>Ammodytes marinus</i>		
		Mean number caught ('000s) per 30 mins	% composition by age	
			O-group	1-9 group
South Sand	1.6	619	99.6	0.3
Braeside	18.1	6064	97.5	2.5
Mousa Sound	19.3	6308	99.3	0.7
Clumlie Ba'as	0.3	123	91.0	9.0
Boddam/Voe	0.1	37	3.0	97.0
Grutnes	+	1	77.5	22.5
E Fair Isle	+	+	+	+
W Fair Isle	+	+	+	+
Trink	0.6	77	47.6	52.4
N Foula	+	+	0	+
Ham o'Foula	0.3	16	0.7	99.3
Sands Voe	0.1	2	84.1	15.6
Fethaland	+	+	+	+
Brekkin	0.3	16	0	100.0
Balta	+	+	0	+
South Foula	No fishing			



Ardent

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