FRV "Clupea"

Cruise 6/89 6CR89

REPORT

15 May-2 June 1989

Personnel

P A Kunzlik	HSO
J A Gauld	HSO
J Dunn	HSO (15 May only)
J R Hutcheon	SO
Ms P Monaghan	Glasgow University (15-23 May)
D Raffaelli	Aberdeen University (15-23 May)

Objectives

1. To carry out a survey of larval, post larval and pre-recruit sandeels around Shetland.

2. To determine the feasibility of seabird feeding studies in relation to the distribution of sandeels.

Narrative

"Clupea" worked out of Buckie during the late afternoon of 15 May to familiarise the crew and Laboratory staff with the deployment and retrieval of the Methot net. J Dunn left the boat in the evening of 15 May and "Clupea" steamed to the sampling area. Catch rate and flowmeter calibrations were carried out at North Sound (Orkney) on 17 May as poor weather prevented the sampling grid from being worked. A short seabird feeding transect and echo sounder watch was also carried out at this time.

Methot net, Gulf III and hydrographic samples were taken at each of 20 stations prior to the half-landing at Lerwick on 23 May (see Figure 1). In addition, seabird feeding observations were made at each station and, on 21 May, a seabird feeding and echo sounder watch was maintained on a transect around Foula with the Methot net deployed at one extra station. The visiting University staff disembarked at the half landing. A further 21 grid stations were worked during the second half of the survey and the Methot net alone was deployed at 3 additional inshore stations. The sampling gear was changed over to the sandeel trawl on 30 June and 5 trawl hauls were made on inshore fishing grounds at Shetland and one at North Sound to sample sandeels for age and length. "Clupea" steamed to Buckie on 1 June arriving in the late evening. The remaining staff unloaded and disembarked on the morning of 2 June.

Results

Wind direction was variable and the cruise track (Figure 1) was largely determined by the need to work in relatively calm conditions in the lee of the islands. In total, 41 of the 57 grid stations were sampled. Those remaining were not sampled due to the constraints of the weather and time lost. Four additional stations in inshore areas were sampled with the Methot net alone. Time and weather permitted trawl samples to be taken only at south east Shetland, Fair Isle and North Sound.

0-group Ammodytes marinus (3.0-4.5 cm) were caught at North Sound in large numbers and in lesser numbers at only a few stations around Shetland and Fair Isle. No sandeels less than 9.5 cm were caught in the trawl at North Sound. At Mousa Sound (Shetland) few 0-group sandeels were caught in the Methot net; however, large numbers of the 0-group (4.0-7.5 cm) were caught in the trawl.

The Methot failed to catch any 0-group sandeels at Foula when shot over echo sounder marks similar to those publicised in the Shetland press (and which were speculatively thought to be 0-group sandeels). However, no trawl haul could be made in the vicinity of these marks and the possibility that they were larger 0-group sandeels could not be ruled out. No statement regarding the strength of the 1989 year class entering the stock can be made as a result of this survey, only that "needle" sandeels were appearing in some areas earlier than would be expected from their appearance in commercial and survey catches in previous years.

Counting seabirds from the vessel at sampling stations presented no logistic problems. Seabird counting in association with an echo sound watch was practicable and it appears feasible to study the association of foraging seabirds and their prey in this way. It would be preferable to utilise a towed rather than hull mounted transducer to allow as much as possible of the upper water column to be sounded. Identification of echo marks by trawling would be necessary.

P A Kunzlik

15 August 1989

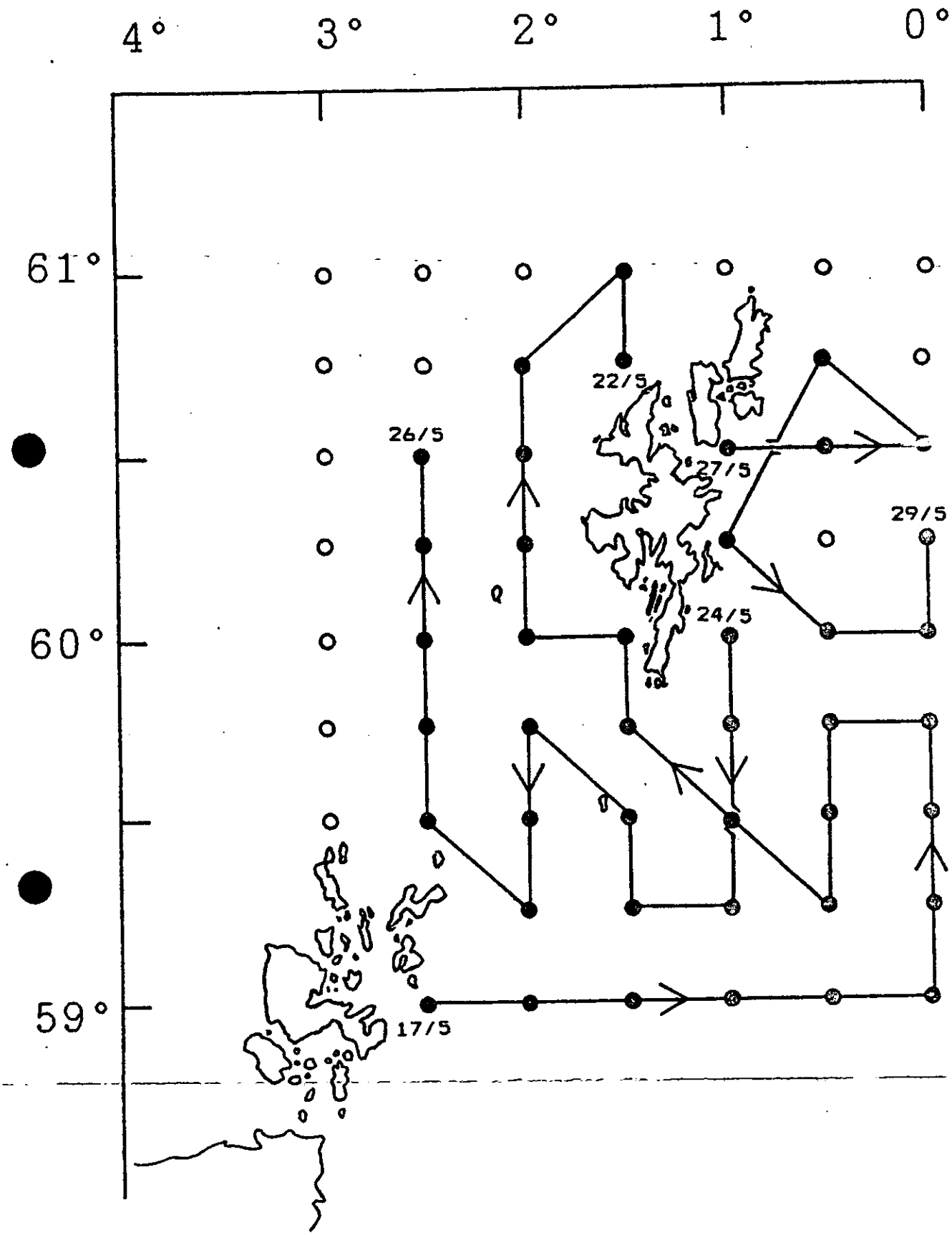

Figure 1. "Clupea" cruise track and stations where Methot net, Gulf III and hydrography samples were taken (⊙). Unsampled stations (O).