

In Confidence - not to be quoted without reference to the Laboratory 5CR80

FRV CLUPEA

Cruise 5/80

REPORT

3-26 June 1980

Objectives

- 1 To tag sandeels (Ammodytes marisus) in areas around Shetland important to the commercial fishery
- 2 To make observations of sea birds (Dr B Blake, NCC)

Narrative

FRV CLUPEA left Buckie at 1445, 03.06.80 and made passage north to Shetland. After consultations with the Fishery Officer at Lerwick on 04.06 it became clear that at that time the local sandeel fishery was being prosecuted almost exclusively at Mousa, Foula and Fair Isle. The first of these areas was chosen as a suitable site for tagging. Sandeel boats were observed fishing along narrow tracks, both in Mousa Sound and to the north-east of the island, throughout the duration of the cruise. Approximately 250 fish were tagged and released before two sandeel nets were severely damaged and the CLUPEA was forced to return to Buckie, where she docked at 0645, 06.06. On 09.06 three replacement nets and different trawl doors were loaded and the ship again made for Shetland, arriving at Mousa at 1030 the following day. Dr B Blake left CLUPEA on 11.06. Arrangements were made with the manager of the Bressay fish meal plant (Herring By Products Ltd) to put one man ashore in order to conduct magnetic tag recovery experiments at the factory. In consequence, seeding operations were carried out on 13.06 and again on 19.06, on the first occasion by the scientist-in-charge. On both occasions the remaining members of the team continued to tag fish at Mousa throughout the day.

The weekends of 14-15 and 21-22 June were spent in Lerwick.

On 23.06 the net became fouled in the ship's propeller on shooting and the day was spent in clearing the screw. The next day three hauls were made at Mousa, and one at Fair Isle on the way to a night anchorage at Sinclair Bay. Following two hauls on Smith Bank CLUPEA put into Buckie at 2030 hours on 25.06.80.

Results

Tagging

27 hauls were taken. A total of 506⁴ sandeels were tagged during the course of the cruise. Of these, 2396 were released to the north-east of Mousa Island (Figure 1, area A), 1716 in Mousa Sound (area B), 856 at Helliness Holm (area C), and 96 at Hoswick (area D).

Tagging mortality

30 tagged and 30 untagged fish were maintained in a darkened tagging tank on deck provided with flowing seawater and an auxiliary oxygen supply. After 12 days the total mortality was 7% for the tagged fish and 0% for untagged fish. However, by day 15 total mortality for the two groups had risen to 23% and 3% respectively. This sudden increase was attributed to the appearance of what was probably a bacterial (Vibrio?) infection, which induced haemorrhage and swelling of the snout and flanks. The tagging wounds had in most cases healed well and were not obvious sites of infection.

Tag recovery efficiency

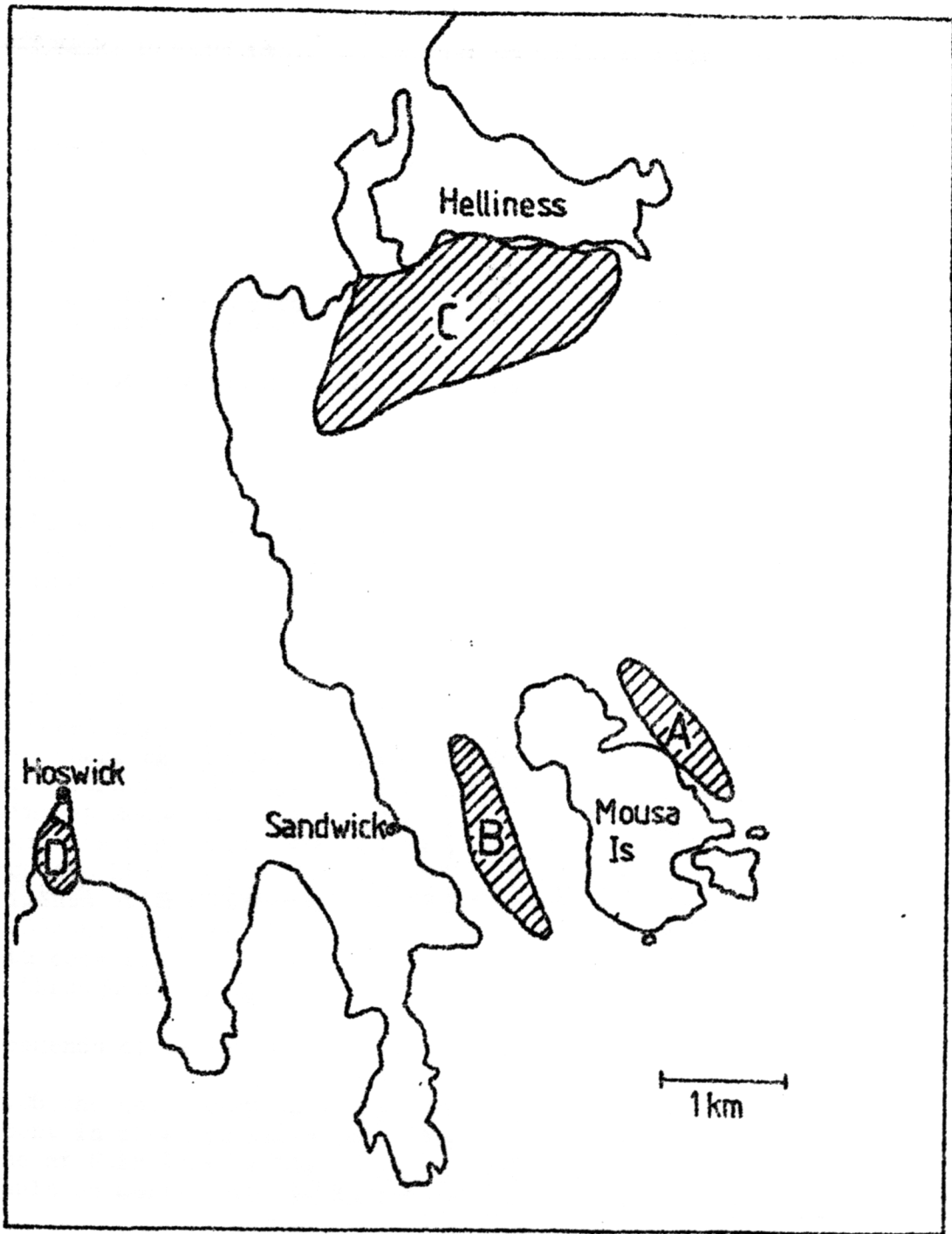
940 sandeels, separated into various-sized batches each of 10-113 fish, were introduced into the conveyors of the Bressay fish meal plant. A mean recovery efficiency of 61.9% was calculated. Percentage recovery was apparently unrelaxed for either batch size or the time elapsed between seeding and collection from the magnetic screens.

Tag returns

9 tags collected during the visits to the Bressay fish meal factory on 13 and 19 June were from fish released to the north-east of Mousa Island. A further 4 were from Mousa Sound and 2 more were from Holliness Holm. These 15 fish were tagged at various dates between 5 and 17 June.

Kevin warburton
19 August 1980

Seen in draft G Geddes



FRV Clupea 3/6—26/6/80

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