

R1/6

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FRV *Clupea*

Cruise 0500C

REPORT

Part I: 20-27 March 2000

Part II: 28 March - 5 April 2000

Loading: Fraserburgh

Staff change: Montrose

Unloading: Fraserburgh

Personnel

S P R Greenstreet	(SIC; Part I)
P J Wright	(SIC; Part II)
I M Gibb	(Parts I and II)
H M Emmerson	(Part I)
P Barkel	(Part II)
F M Kennedy	(Part II)

Objectives

Part 1

To carry out a stratified random survey of sandeel density over the Wee Bankie and Marr Bank (the previous ELIFONTS project study area) using a Day grab. Sampling strata were based on a previously determined RoxAnn based habitat map. Spatial variation in the temperature and salinity profiles through the water column over the main ELIFONTS Wee Bankie/Marr Bank study area was also determined using a Seabird CTD sampler.

Part 2

To investigate the density distribution of sandeels in the vicinity of fished grounds from the Farne Deeps to Scaup bank by dredge sampling as part of contract C662. The survey repeated dredge tows from stations previously surveyed in April 1997-1999, in order to estimate local changes in abundance. Samples of sandeels were also taken for subsequent analysis of age and condition.

Out-turn days per project: 8 days MF07a; 8 days C662, 1 day MF0462.

Narrative

Part 1

The scientific equipment was loaded onto *Clupea* on 13 March. Scientific staff joined the ship on the morning of 20 March at Fraserburgh. The ship sailed at 2000 hours making straight for anchorage off St Abbs. Grab survey commenced the following night and continued over the next seven nights, with the exception of the night of 23-24 March when poor weather made working impossible. All grab survey work was carried out during the hours of darkness, generally between 1900 and 0500 hours. A total of 317 grab stations were surveyed (Fig. 1) and at 27 of these, the CTD sampler was also deployed (Fig. 2). All sandeels caught in the grab were counted, measured and weighed to determine length composition and length-weight relationships, and otoliths were taken for age determination. At each location the density of sandeels in terms of numbers at age and biomass at age could then be assessed. Sediment samples were collected at each station in order to continue the investigation into the relationship between sandeel density and sediment particle size distribution, and to improve the ground-truthing of RoxAnn based sediment maps.

The grab survey was completed by 0400 hours on 28 March and *Clupea* then sailed for Montrose to change over scientific staff.

Part 2

The change in scientific staff took place on the morning of 28 March and all equipment was made ready by the afternoon. The ship sailed at 1745 hours from Montrose to the first station on Wee Bankie. At each station a grab and replicate dredge tows were made. The camera system was deployed with all dredge deployments to provide information on the sediment over which the gear was towed. When using the camera system, dredge tow duration was monitored using SCANMAR. Temperature records were obtained during dredge tows using a minilogger. Sediment samples were frozen for subsequent analysis. All survey work was carried out during the hours of darkness, generally between 1900 and 0500 hours. All sandeels were counted and a sample from each station was frozen for latter analysis of weight, length, condition and age. A length composition and otoliths were taken for the replicate samples. By 2 April, 29 tows on grounds at the Wee, Marr, Berwick banks and near the Farne Isles had been conducted (Fig. 3). A series of grabs were also carried out off St Andrews Bay and around the northern part of Wee Bankie fishing grounds. In total 36 grab samples were taken. To complete CTD coverage, a further five CTD stations were monitored in areas where no grab work was carried out in part 1 of the cruise. Due to deteriorating weather work on the morning of 2 April had to be curtailed and the ship steamed to Montrose. The scientific crew disembarked at Montrose at 1800 hours on 4 April when it became clear that no further scientific sampling was possible because of the continuing bad weather. The ship steamed to Fraserburgh at midnight and docked on the morning of 5 April for unloading.

S P R Greenstreet
P J Wright
20 December 2000

Seen in draft: A Simpson, OIC

Figure 1: Chart showing locations of Day grab sampling (dots); March 2000. Open circles indicate sandeels catches.

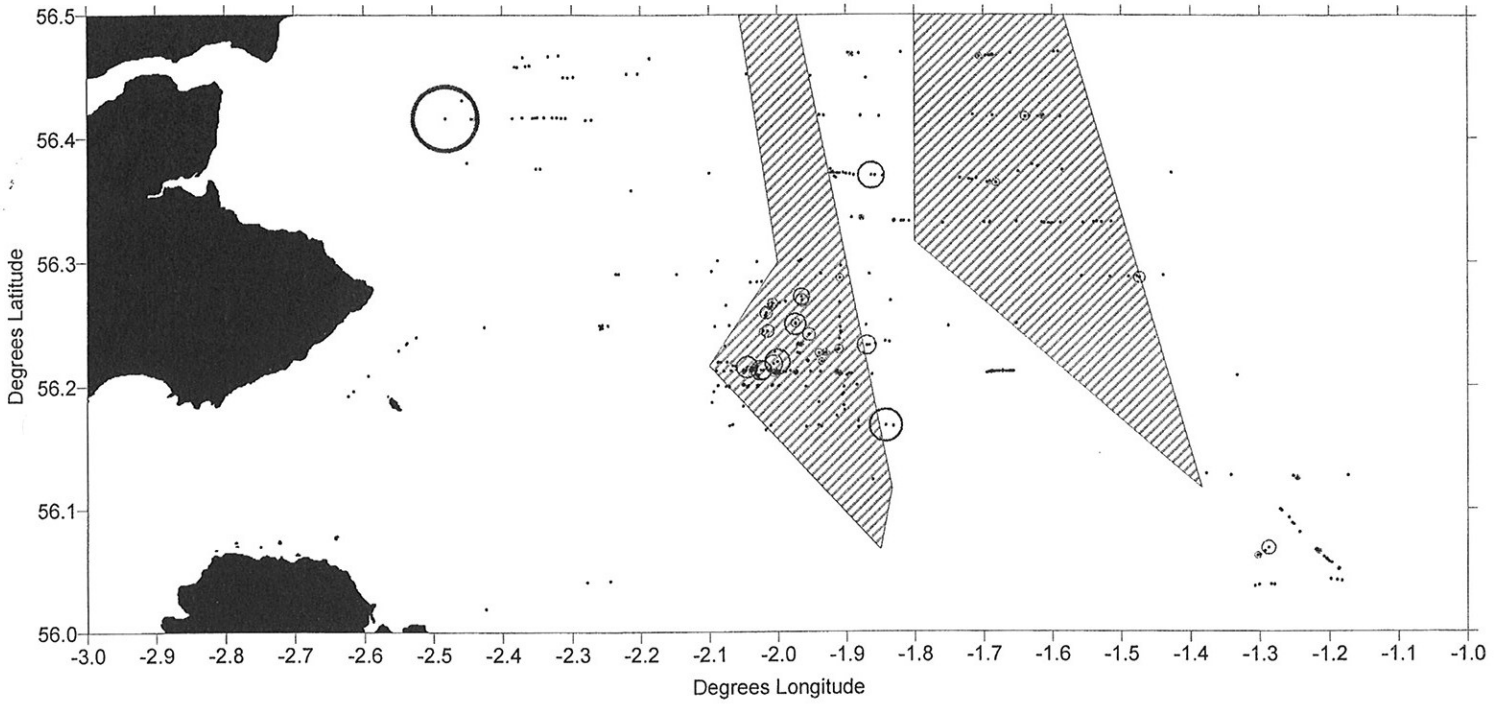
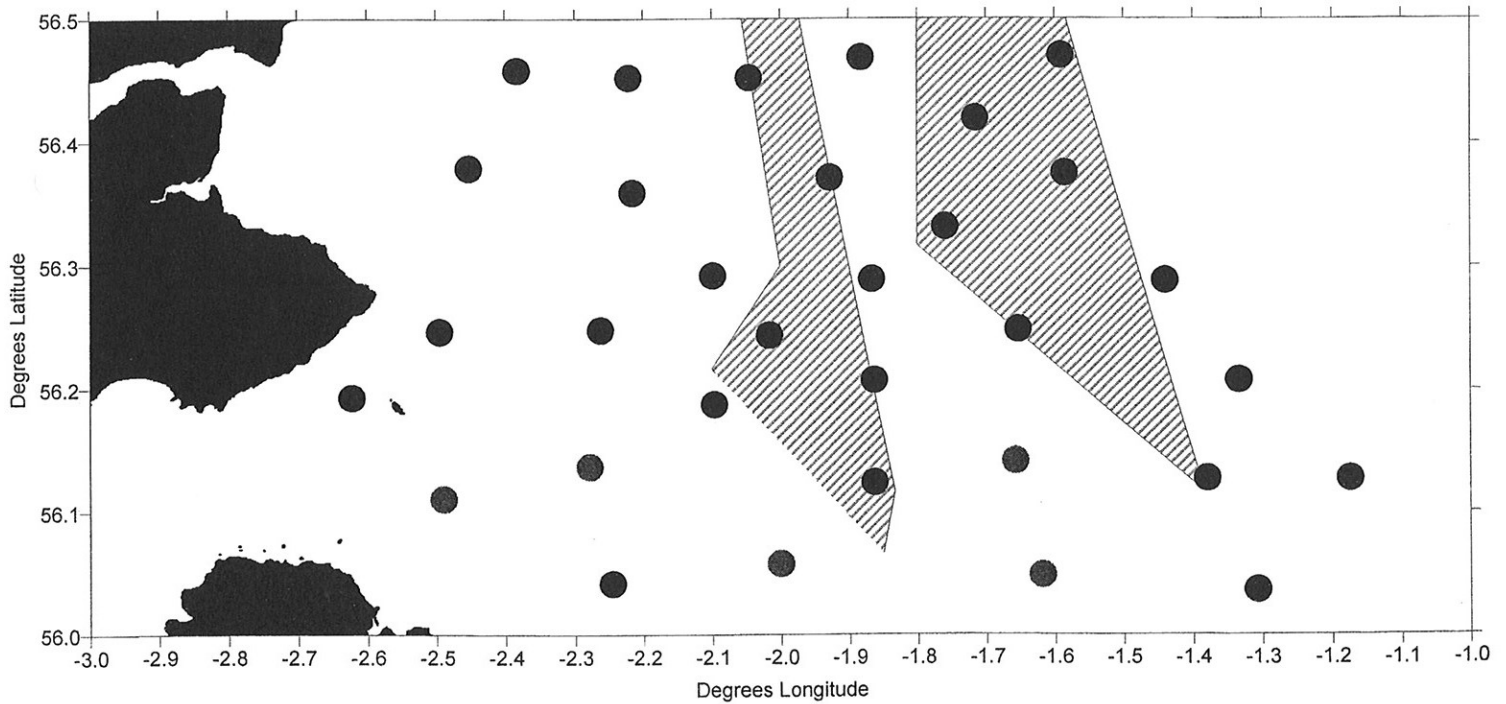


Figure 2: Chart showing locations of CTD sampling; March 2000.



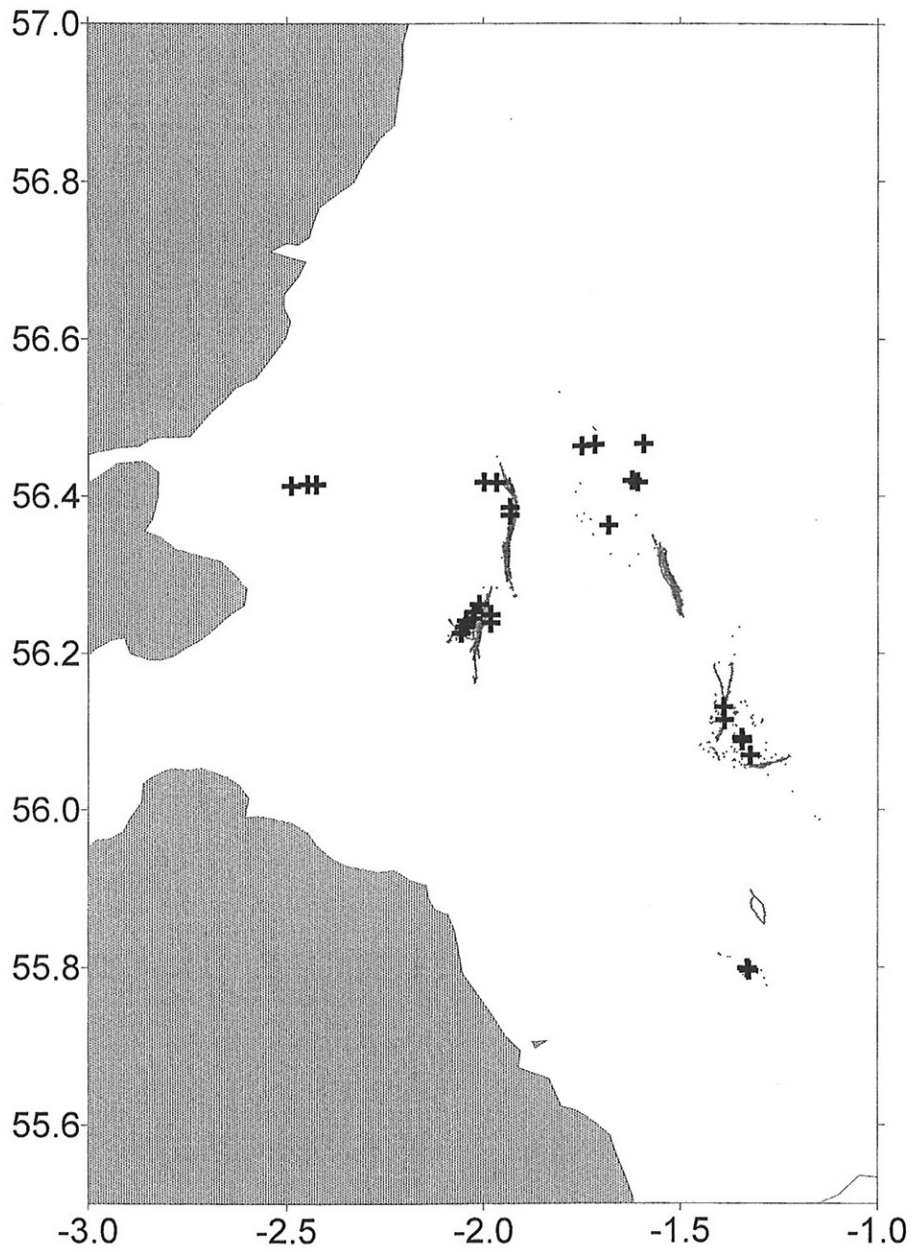


Figure 3. Distribution of dredge tows in part II of 0500C