

In confidence: Not to be quoted without reference to the Laboratory 4CR79

FRV CLUPEA

Cruise 4/79

REPORT

16-27 April 1979

Objectives:

1. To compare the selectivity of two Danish shrimp trawls, one with a 25mm mesh cod end, the other with a 35mm mesh cod end.
2. To study the distribution and abundance of Pandalus borealis and Nephrops at Fladen.
3. To study the distribution and abundance of Pandalus larvae at Fladen and the Farn Deeps.
4. To study the density and behaviour of Pandalus in the Farn Deeps.

Narrative:

CLUPEA left Aberdeen on 16 April, on arrival at Fladen a series of trawl hauls, using each of the Iver Christensen shrimp trawls were made. An initial tow of two hours' duration was made in order to saturate a new net. Subsequent hauls were of one hour's duration. The two nets were used on alternate days and the same area of ground covered with each tow. Four one-hour tows were made using the 35mm mesh cod end, and three one-hour tows with the 25mm cod end. The mesh measurements of each net were taken with an ICES gauge.

Oblique plankton tows using a metre net were made at the end of the trawl haul, and a PN bottle was used daily to determine bottom, surface, and mid-water temperatures. Weather conditions deteriorated on 19 April, work at Fladen was curtailed, and CLUPEA proceeded to the Farn Deeps, arriving there at 1000 on 20 April.

A series of oblique plankton tows and temperature measurements was undertaken.

On 23 April a survey using underwater camera was started, but a fault developed in the television iris control. A technician from the suppliers was sent to effect repairs.

Once the cameras were working satisfactorily a series of transects were undertaken working outwards from 3-15 miles offshore. Good results were obtained on video, and on still cameras.

On 26 April, CLUPEA made a dawn tow on the Farn Deeps for Nephrops and industrial fish. A further haul for industrial fish was made in the Firth of Forth. Weather conditions here were unsuitable for camera use and CLUPEA proceeded to Aberdeen, docking at 2300.

Results:

Catches of Pandalus at Fladen were moderate, a total of 242kg being caught, the average catch rate was 27kg per hour for both nets. No significant quantities of Nephrops were caught.

Commercial fish caught was mainly cod with lesser quantities of haddock, ling and monk.

Small fish catches were dominated by Norway pout which constituted between 60% and 78% of this portion of the catch. Other gadoids present included whiting, haddock and hake.

The stomach contents of 48 cod were examined, 50% contained fish, 40% Nephrops, 4% Pandalus and 23% were empty.

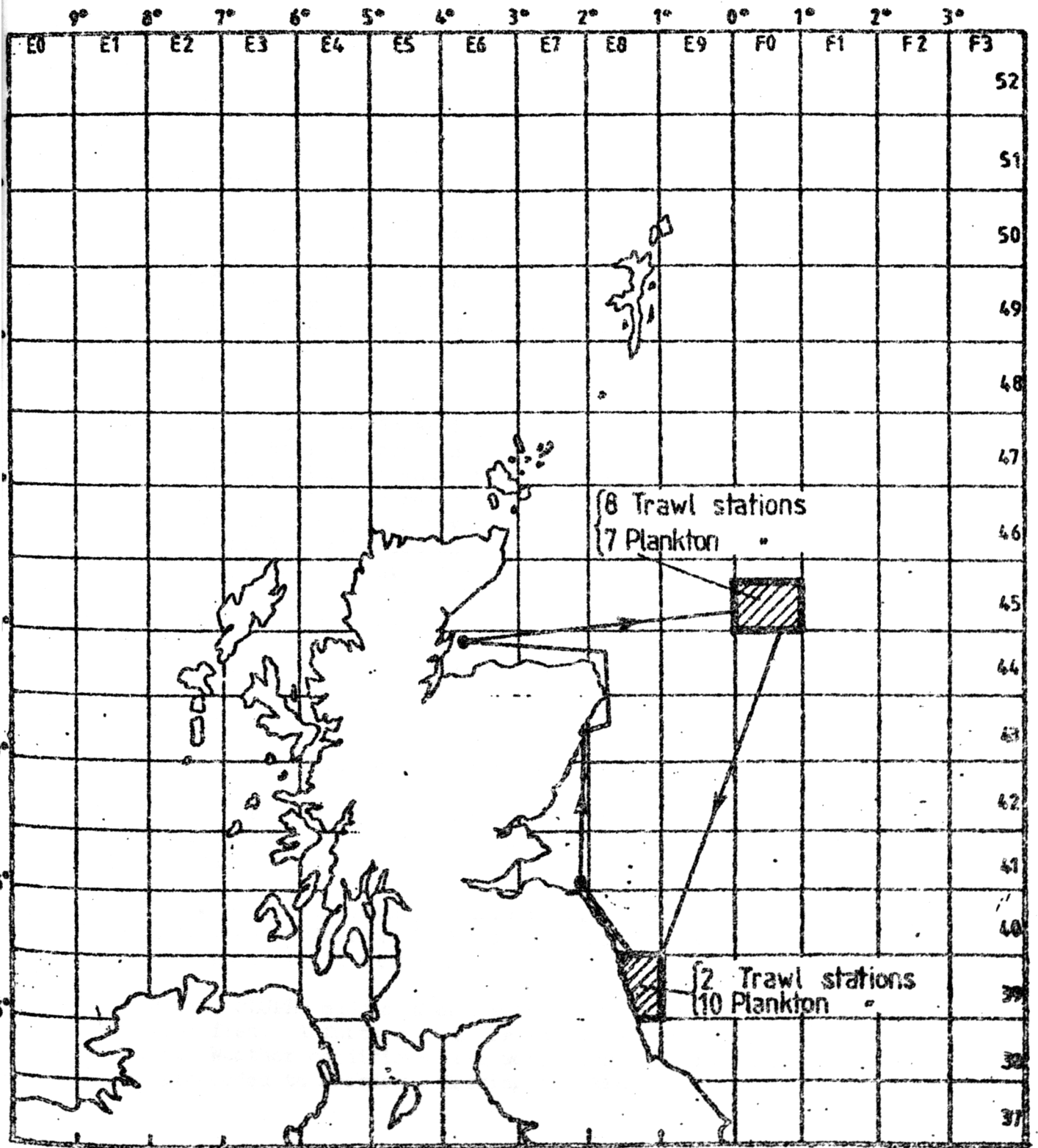
On the Farn Deeps, a dawn haul yielded 15kg of Nephrops in two hours. A large quantity of small whiting, range 10-16cm were caught. A further haul in the Firth of Forth yielded 24 baskets of herring together with some sprat and whiting. The herring were of the size range 11-26cm.

At the end of each trawl haul an oblique plankton haul was made using a metre net, additional plankton tows were made in the Farn Deeps.

Surface, mid-water and bottom temperatures were taken daily using a PN bottle. Average surface and bottom temperatures were 5.8°C and 5.6°C at Fladen and 5.3°C and 4.4°C on the Farne Deeps.

F G Howard
11 June 1979

Seen in draft: G Geddes



FRV Clupea 16/4—27/4/79

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