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MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1987 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 10
(PROVISIONAL: not to be quoted without prior reference to the author)

STAFF:

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DURATION:

Left Lowestoft 1030 h, 15 July
Arrived Lowestoft 0900 h, 29 July
All times are Greenwich Mean time.

LOCALITY:

Central North Sea - north east coast of England.

AIMS:

1. To carry out a plankton survey over a grid of 71 stations in order to estimate the production of Nephrops norvegicus larvae.
2. To trawl for adult Nephrops and sample the catch for length, weight, fecundity and maturity data.
3. To trawl at 3 hour intervals over at least one 24-hour period to obtain stomach samples from fish predators, and also to measure the abundance of their prey using the trawl and Agassiz trawl.
4. To carry out a neuston net survey for lobster larvae and to test the use of the Methot net for catching lobster larvae.
5. To collect 2 beam trawls from RIVO in Ijmuiden on 28 July and to return them to Lowestoft.

NARRATIVE:

RV CLIONE sailed at 1030 h on 15 July and proceeded to the first station of the survey grid 35 n. miles north east of Flamborough Head. Sampling began at 0316 h on 16 July, and continued until 0853 h on 18 July when a heavy swell and 30 knot north easterly winds forced work to cease. Sampling was resumed at 0551 h on 19 July and the survey grid was completed at 2047 h on 19 July. (Figure 1.)

The ships freshwater supply was replenished at Sunderland between 1030 h and midnight on 20 July.

Between 0635 h on 21 July and 0729 h on 22 July 8 hauls were made with the Nephrops trawl and one haul was made with the Agassiz trawl centred on an area 15 n. miles north east of Souther Point. (Figure 1.)

A second grid of 43 plankton stations covering the area where it was expected that most Nephrops spawning would be taking place, was worked between 1025 h on 22 July and 1144 h on 24 July.

A single haul was made with the Methot net at mid-day on 24 July. A fracture at a corner weld of the net frame prevented further sampling with this net. Sampling was resumed using the Neuston net at a series of inshore stations working south from 56° 03.0'N to 53° 48.0'N to attempt to describe the distribution of lobster larvae. Light levels were measured at selected stations. Sea bed drifters, sea surface drifters and drift cards were released at selected stations in the ~~Bridlington Bay area. (Figure 2.)~~

Sampling ceased at 1806 h on 27 July and course was set for Ijmuiden.

RV CLIONE docked at Ijmuiden at 1400 h on 28 July and collected two beam trawls for delivery to Lowestoft. After sailing at 2100 h course was set for Lowestoft. CLIONE docked at 0900 h on 29 July.

RESULTS:

1. A total of 71 plankton sampling stations were completed on the first survey grid using the standard 76 cm high speed tow net fitted with a 40 cm diameter opening nose cone. The rough weather prevented immediate examination of all the samples, of those analysed five contained small numbers of Nephrops larvae. (Figure 3.) The samples collected on the second plankton sampling grid have not yet been examined.
2. Six valid trawl hauls were completed over a 24 hr period. The catches were assessed and samples of cod and whiting stomachs and gall bladders were obtained, although the numbers of large cod and whiting caught were disappointing.

Samples of long rough dab, small gadoids and hagfish were collected and froze for return to the laboratory. Use of the Agassiz trawl was curtailed due to lack of time available for sorting the benthos from copious quantities of thick mud.

3. Significant catches of Nephrops were only made at trawl stations 74 and 79 with only small numbers being obtained from the other trawling stations.

Nephrops were measured, sexed and gonad staged at all fishing stages, a total of 958 were measured of which 68% were male. Examination of female gonad stages showed that 52% were at development stage IV and V, only 4 berried females (1%) were observed and these had been damaged by the trawl.

A total of 50 of the Nephrops in the best condition were tagged with streamer tags and kept in deck tanks for return to the laboratory.

4. A total of 30 lobster larvae were found and 17 of the 46 sampling stations worked with the Neuston net. Catches were not so large in the Bridlington Bay area as was anticipated from previous results.

A significant number of turbot larvae were found in these hauls and preserved for examination of gut contents on return to the laboratory.

Fifty second integrated readings of light levels measured in einsteins m^{-2} were taken at the surface and at 5 metre intervals through the water column at 25 stations.

Sea bed drifters, surface drifters, and drift cards were released at 7 stations in the Bridlington Bay area.

5. The surface CTD was run continuously. CTD profiles were obtained at each plankton sampling station when the high speed tow net was used. Surface temperatures ranged from 14.9° to 11.4°C and near sea bed temperatures from 6.4° to 11.1° C. All data were logged on the HP 1000 computer.

Brenda M Thompson
3 August 1987

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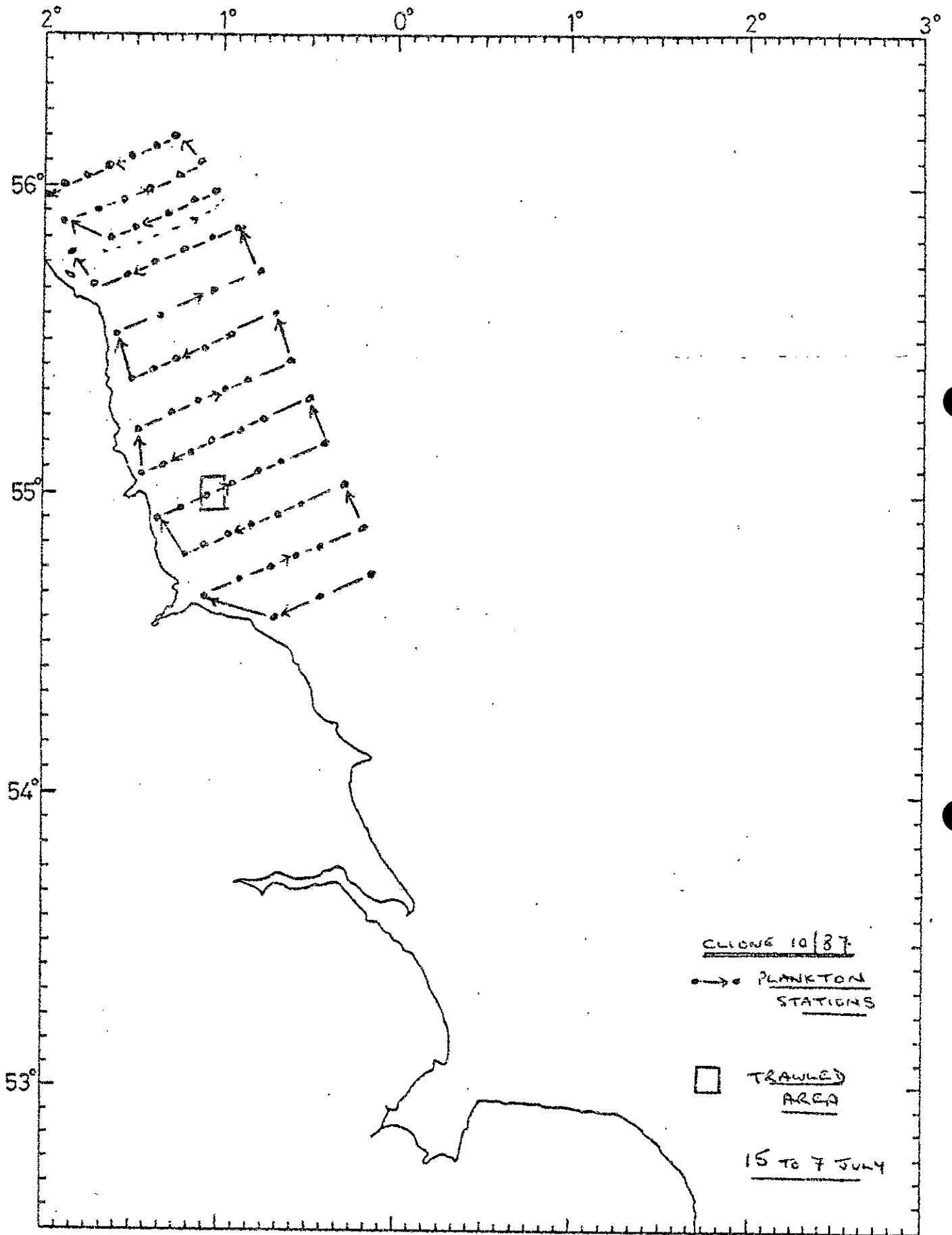


FIGURE 1.

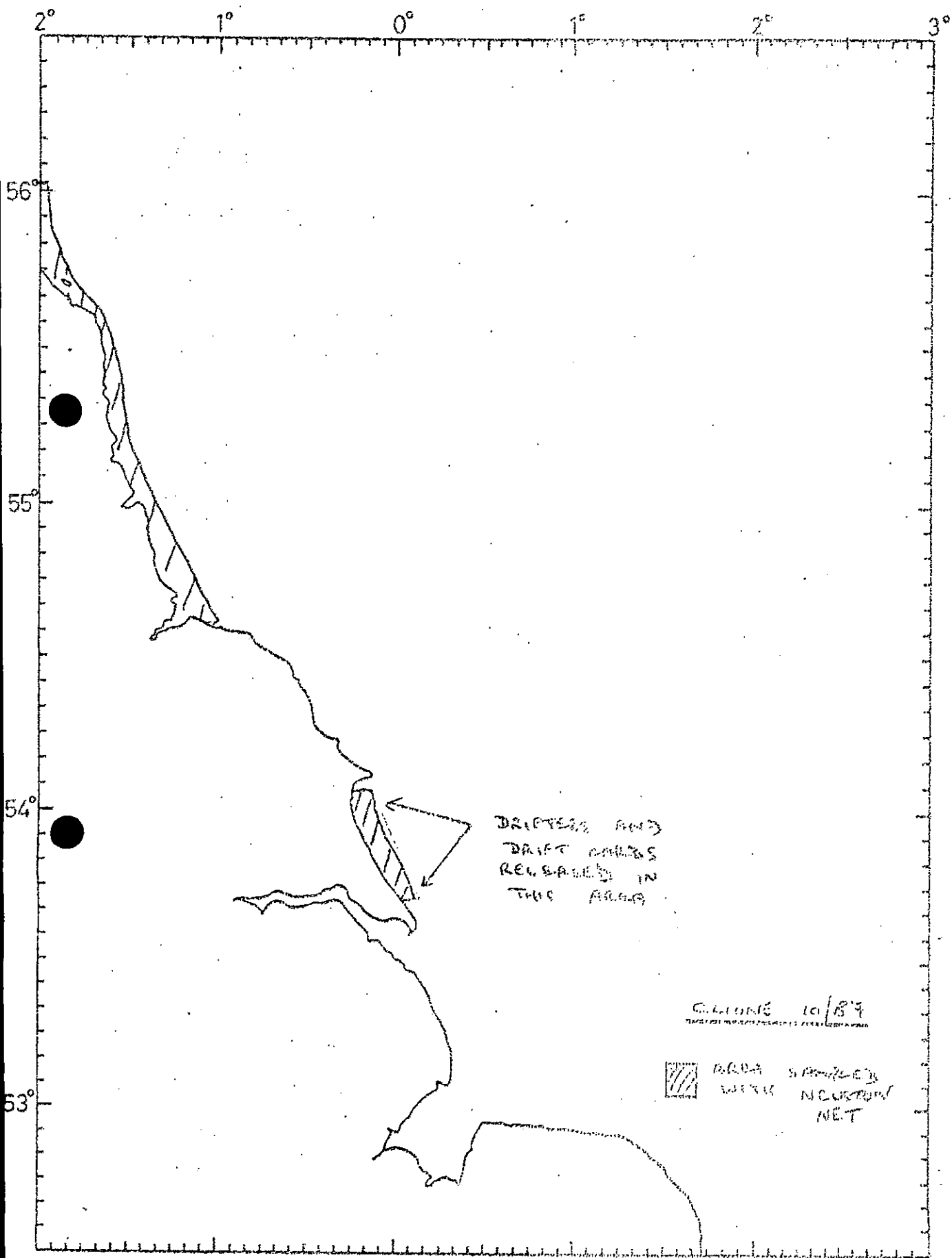


FIGURE 2.

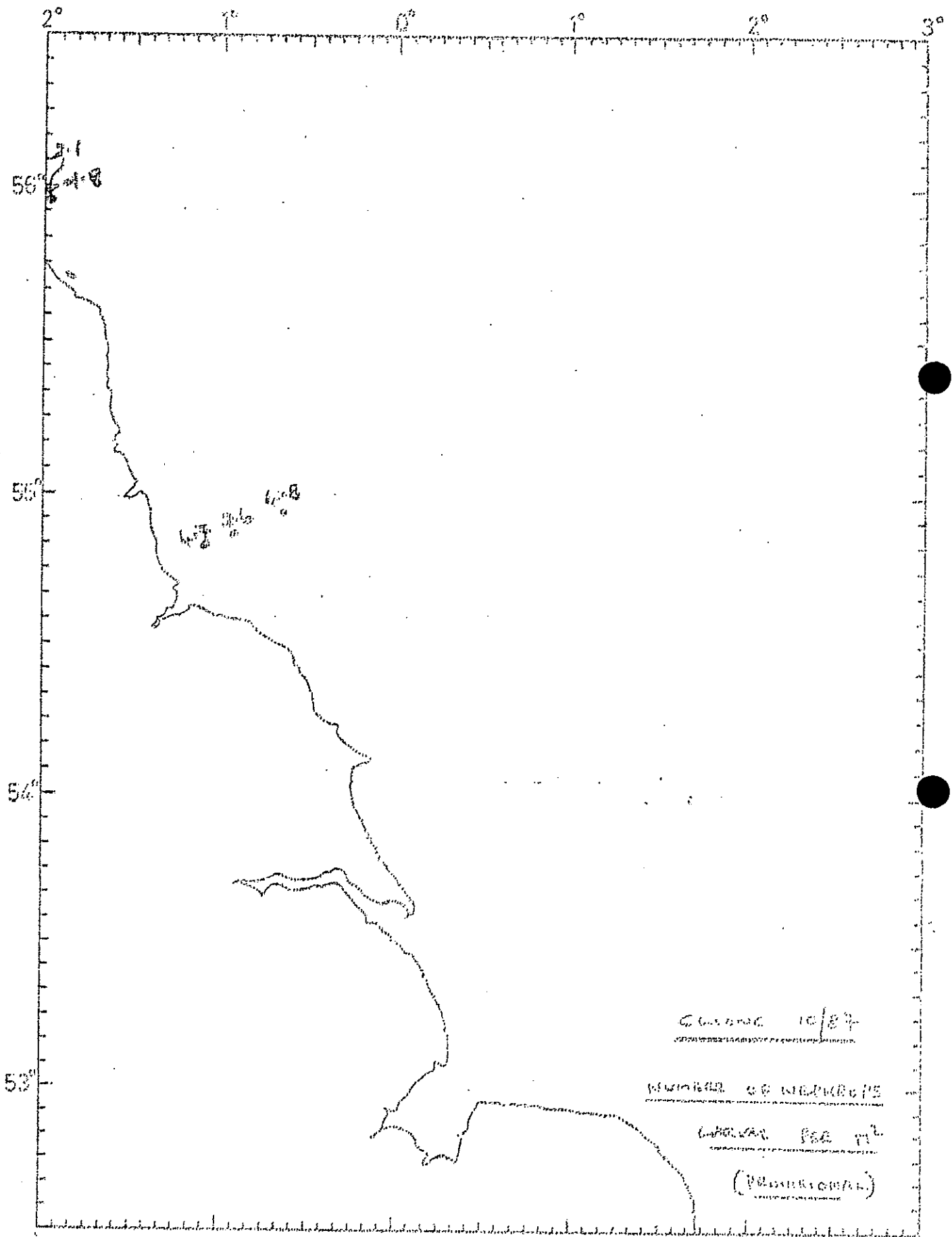


FIGURE 3