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

1987 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 9
(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

B M Thompson
D B Bennett
C G Brown
J T Addison
S R Lovewell
P M Hudson

DURATION

Left Lowestoft 0818h 25 June
Arrived Lowestoft 0525h 7 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 (Figure 1) in order to estimate the production of Nephrops norvegicus larvae.

2. To take additional plankton samples in areas of highest larvae abundance to estimate haul to haul and spatial variability.

3. To trawl for adult Nephrops and sample the catch for length, weight, fecundity and maturity.

4. To carry out a survey to describe the distribution and abundance of lobster (Homarus gammarus) larvae.

NARRATIVE

RV CLIONE sailed at 0818h on 25 June and proceeded to the first station of the survey grid 14 n.miles north west of Flamborough Head. Sampling began at 2214h and the grid was completed at 2250h on 28 June (Figure 1).

Between 0625h on 29 June and 1900h on 30 June, ten trawl hauls were made, centred on an area 15 n.miles North East of Souter Point (Figure 1).

A secondary grid of 35 plankton stations, covering the area, where it was expected that most Nephrops spawning would be taking place, was worked between 2203h on 30 June and 0359h on 2 July (Figure 2).

A grid of 55 sampling stations was worked using the Methot Net in an attempt to describe the distribution of lobster larvae (Figure 3) between 0826h on 2 July and 2059h on 5 July. There was a break of 5 hours in the sampling programme on the morning of the 3 July while the ship's fresh water supply was replenished at North

Shields. The search for lobster larvae was continued in the area of Bridlington Bay using the Neuston net, the Methot net rigged conventionally with a depressor, and the Methot net rigged to fish as a neuston sampler with the depressor removed and two floats attached one on either side of the frame. Light levels were measured at selected stations.

Sampling ceased at 1644h on 6 July and course was set for Lowestoft. CLIONE docked at Lowestoft at 0525h on 7 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.
   Small numbers of Nephrops larvae were found at six locations (Figure 4).

2. 10 trawl hauls were made using a Nephrops trawl with fine mesh codend liner. The bulk of the catch was composed of small whitings, dabs, herring and long rough dabs, with some larger codling. Nephrops were not abundant but 4 stations (75, 76, 80 and 81), yielded enough for a measured sample. In total 640 Nephrops were measured of which 512 (80%) were males. All female Nephrops were examined for gonad stage and it was found that 78% were stage IV and V only one berried female was encountered but it had been badly damaged by the trawl.

   Approximately 50 Nephrops were tagged and held in the deck tank for 7 days 50% of them died over this period but none had obviously died from tag wounds, all those alive at the end of the 7 day period appeared strong with no apparent damage in the region of the tag. Individuals as small as 18mm carapace length were tagged and survived the experimental period.

3. Large numbers of Nephrops larvae were found in samples collected with the Methot net in the area between 55° 49.6'N, 01° 34.3'W and 55° 40.9'N, 01° 50.8'W. One sample contained more than 350 larvae of development Stages I to IV.

4. Small numbers of lobster larvae were found in the Bridlington Bay area (Figure 3). All were collected using the neuston net.

5. One 10g sample of Euphausids was collected at a position approximately 27 n.miles NE of the River Tyne. This sample was returned deep frozen to AEP2 for mercury analysis.

6. Samples of long rough dabs were collected from all trawl hauls and returned deep frozen to the laboratory for Mr Ntiba (FSM1).

7. The surface CTD was run continuously and CTD profiles were also obtained at each plankton sampling station when the high speed tow net was used. Surface temperatures ranged from 9.8°C to 12.7°C, and near sea bed temperatures from 6.0°C to 9.9°C. All data were logged on the HP1000 computer.

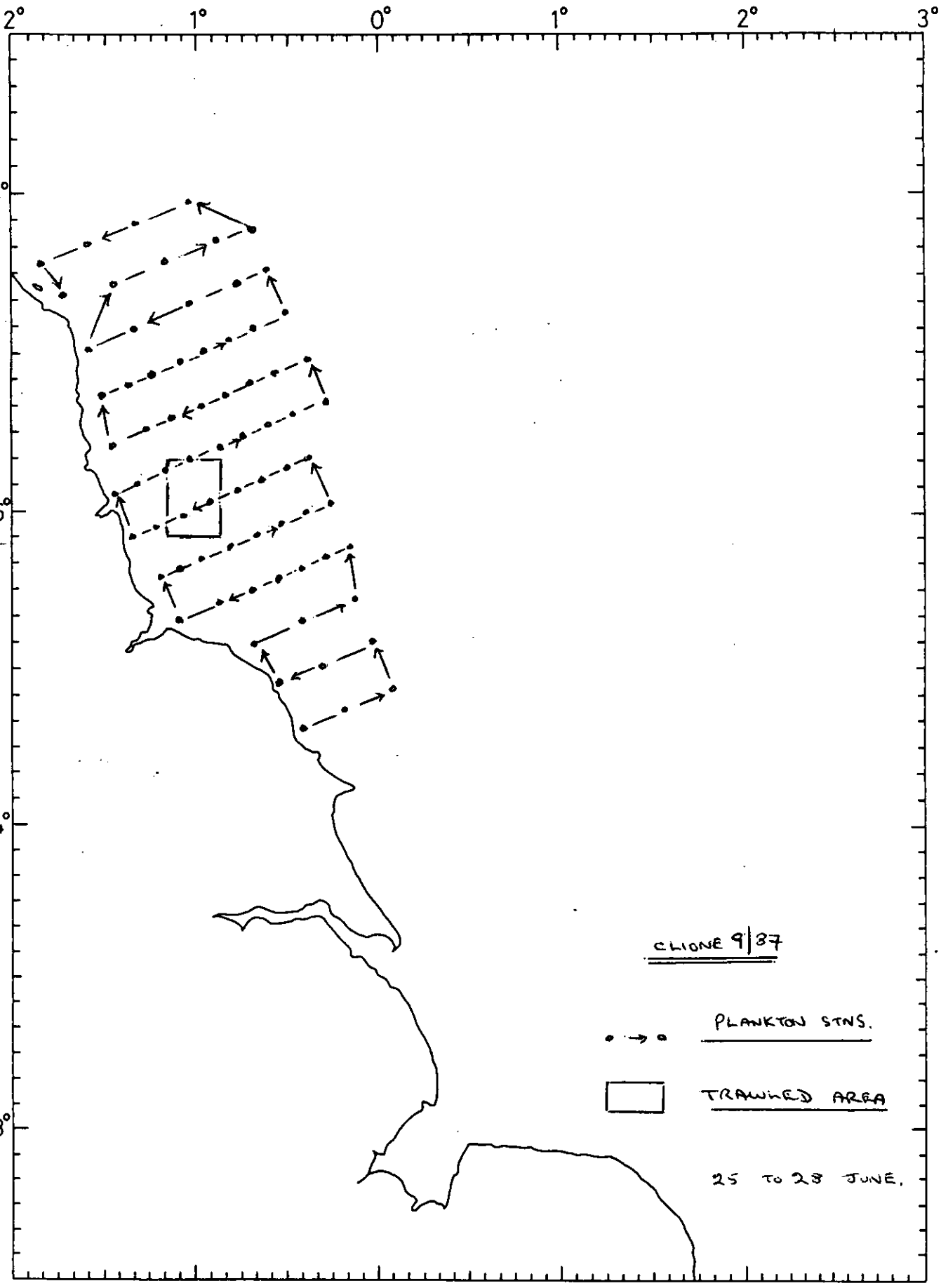
Brenda M Thompson
15 July 1987

SEEN IN DRAFT: CAPT J FRENCH (MASTER)
P Mackay - Senior Fishing Mate

INITIALLED: DJG

DISTRIBUTION: Basic List +

B M Thompson	C G Brown	S R Lovewell
D B Bennett	J T Addison	P M Hudson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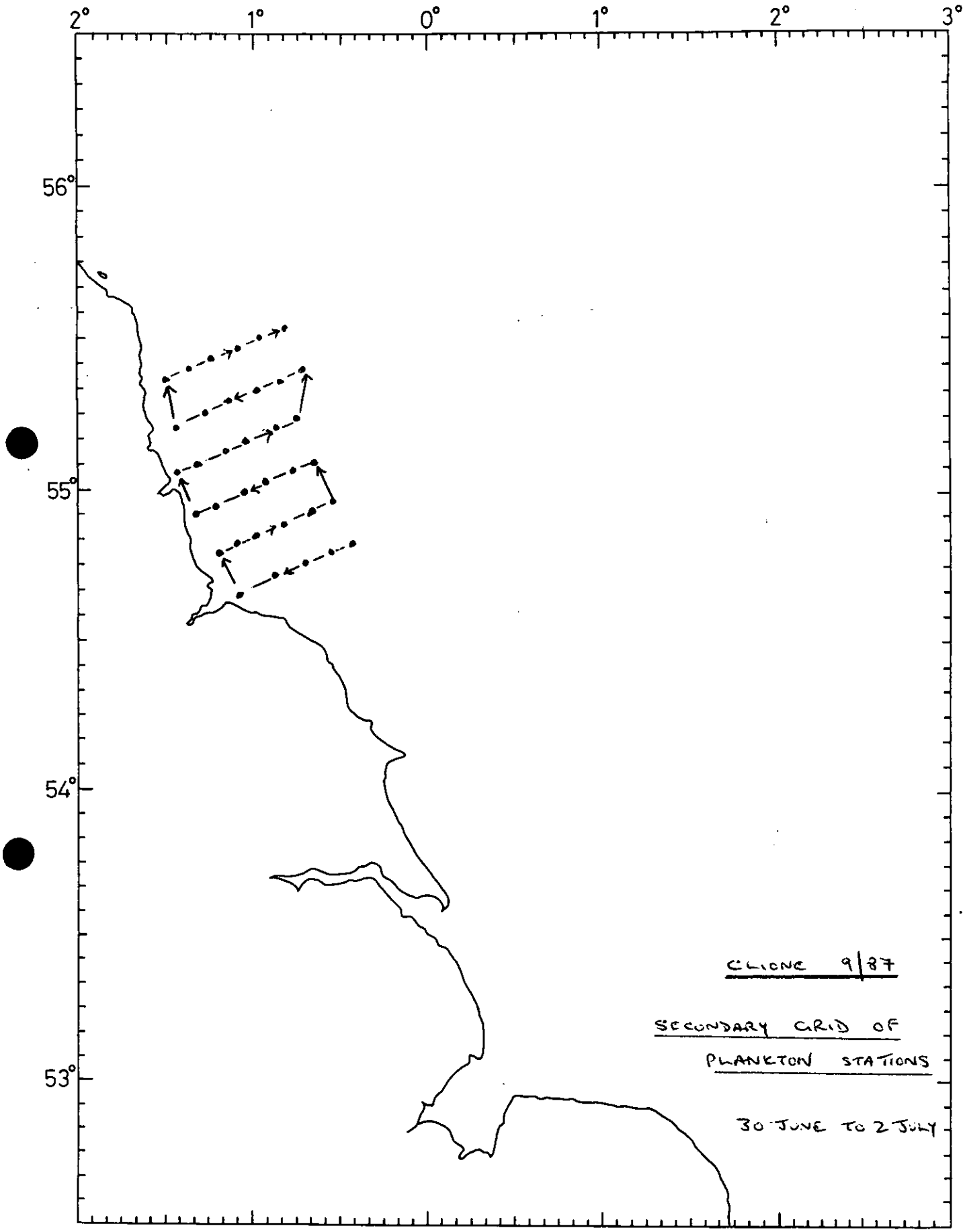
CLIONE 9|87
PLANKTON STNS.
TRAWLED AREA
25 TO 28 JUNE.

FIGURE 1.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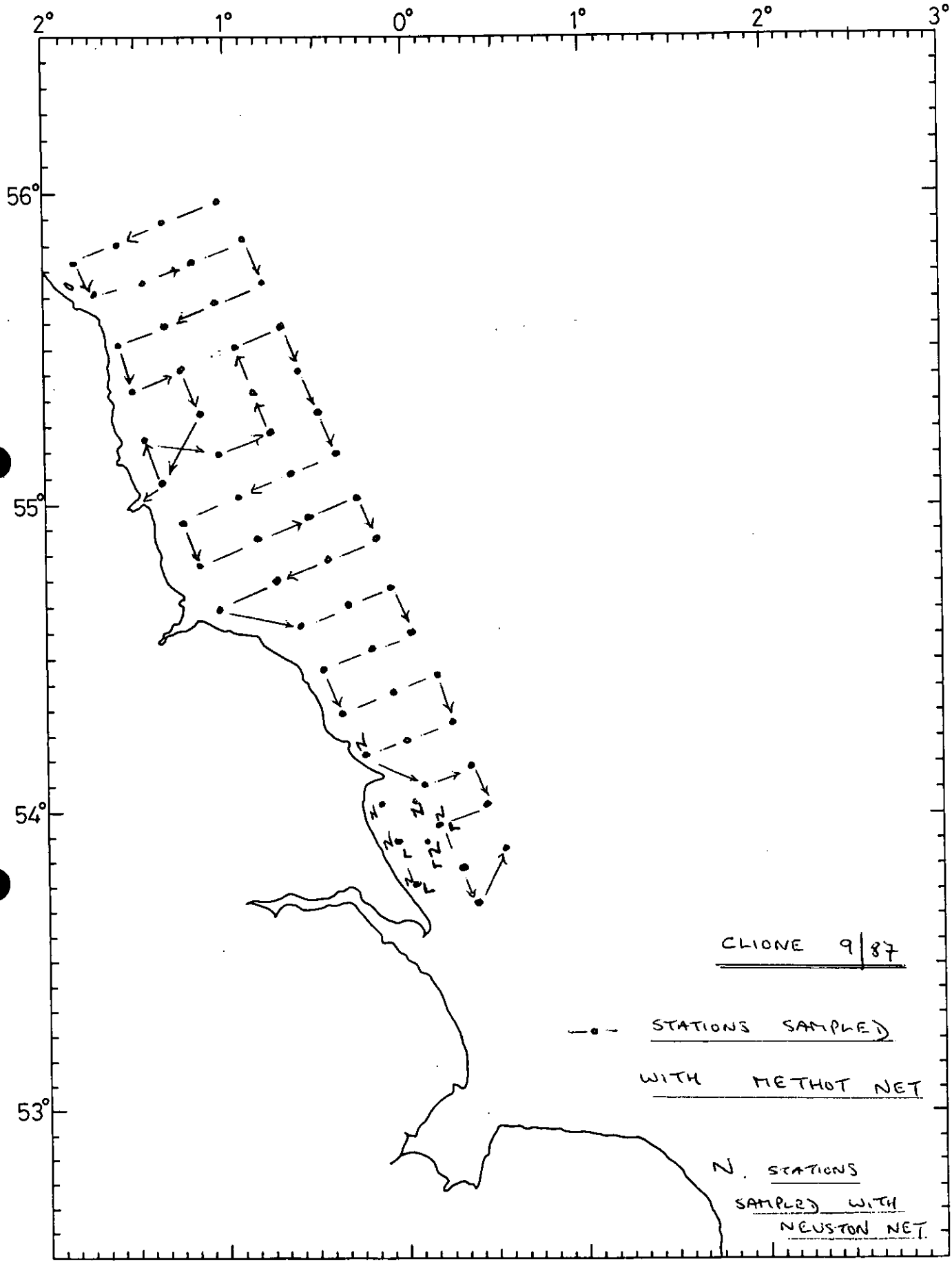
CLIONE 9/87
SECONDARY GRID OF
PLANKTON STATIONS
30 JUNE TO 2 JULY

FIGURE 2.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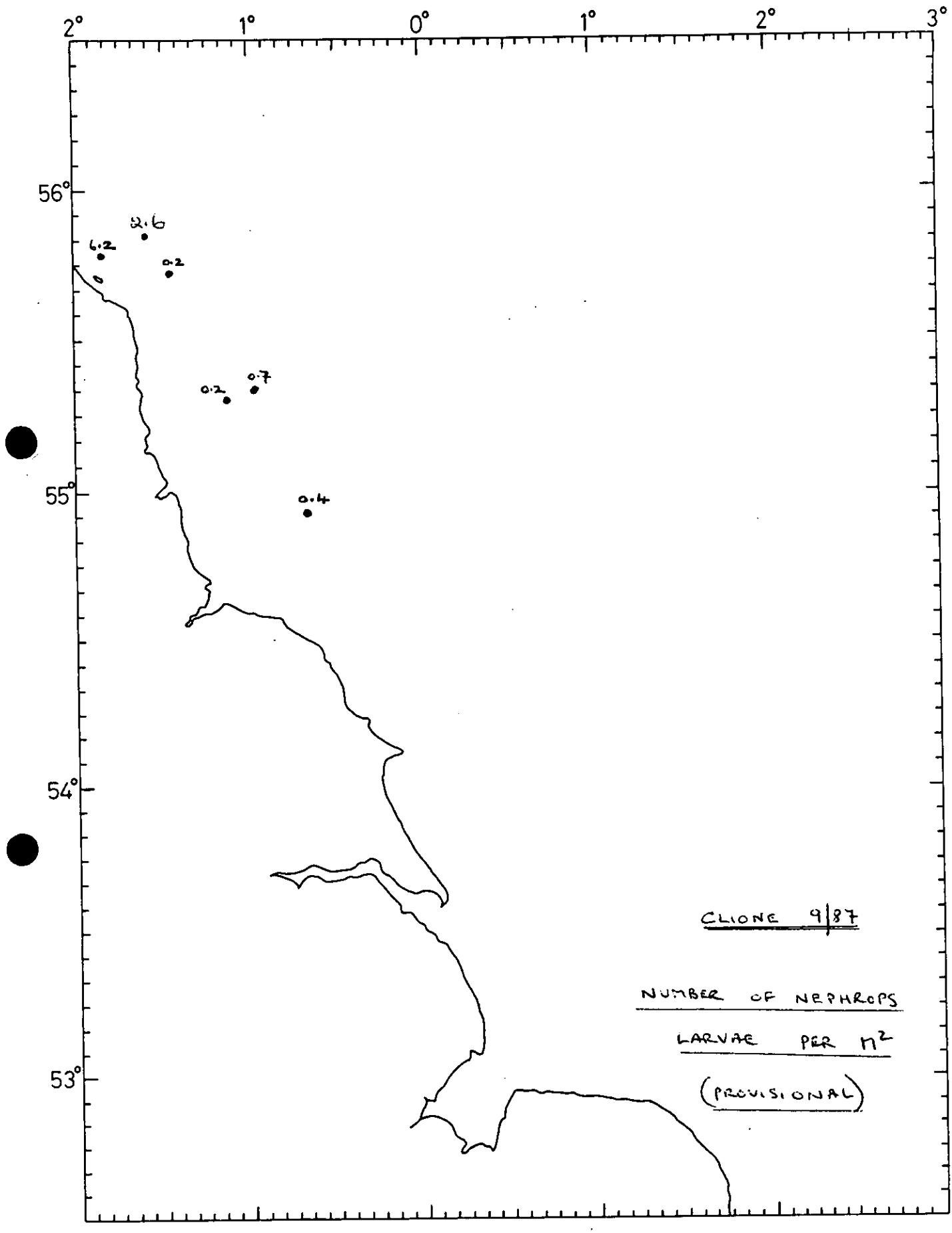
CLIONE 9|87
STATIONS SAMPLED WITH METHOT NET
N. STATIONS SAMPLED WITH NEUSTON NET.
L. STATIONS AT WHICH LOBSTER LARVAE WERE FOUND.

FIGURE 3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54°
53°
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6.2
0.2
0.2
0.7
0.4
CLIONE 9/87
NUMBER OF NEPHROPS LARVAE PER M²
(PROVISIONAL)

FIGURE 4