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CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1998 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 5b

STAFF: S R Lovewell
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D R Eaton
M W Easey
D J Brown
T Locke

DURATION: Left Lowestoft 19.00 h 9 May.
Arrived Lowestoft 10.30 h 15 May.
All times are Greenwich Mean Time.

LOCALITY: North Sea (English NE Coast)

AIMS:

1. To conduct a TV survey of the English NE coast Nephrops grounds using a towed sledge and underwater TV camera to evaluate burrow density and estimate Nephrops biomass in the area 55° 35' to 54° 45' N and 01° 30' to 0° 40' W.

2. To backup the TV survey with a trawl survey to establish the size composition and sex ratio of the Nephrops catch.

3. To collect sediment samples by Day grab to establish the type of substrate most suitable for Nephrops.

NARRATIVE:

Corystes departed from Lowestoft on 9 May at 19.00 h and sailed to the southern part of the survey area where work commenced. A total of 87 TV stations was completed and preliminary Nephrops burrow counts were made for a ten minute part of the tow which was recorded on video tape for further detailed analysis at the laboratory.
A total of 11 trawl stations was completed to give a broad brush coverage of the area surveyed by TV sledge. All Nephrops were measured and sexed to obtain a length distribution and sex ratio at each trawl station.
Sediment samples were taken using a Day grab at the first 15 alternate TV stations.
Quester Tangent QTCview mk4 was run continuously from stations one to four.
No time was lost due to bad weather or breakdown of equipment during the cruise which resulted in a total of 98 stations being completed. Corystes docked at Lowestoft at 10.30 h on 15 May on completion of the cruise.

RESULTS:

1. A total of 87 tows with the sledge-mounted TV camera was made over the full extent of the Nephrops fishing grounds. Video footage of Nephrops burrows, burrows of other animals and emergent Nephrops as well as trawl marks caused by both footrope and doors of commercial trawlers were recorded. Clear pictures were obtained when the TV sledge was not being jerked along the sea bed as a consequence of the swell. Nephrops burrow counts were made at each TV station, usually from 10 minutes video duration. Preliminary results suggest that the greatest number of burrows occurred in the same areas as found in previous cruises (figure 1), but at lower densities.

2. A total of 11 trawl tows of 30 minutes duration was made using a Boris 600 fish and prawn trawl. The stations trawled covered the main commercial grounds and the north/south and east/west extent of the fishery. All Nephrops caught were measured and sexed to relate the size composition and sex ratio to burrow counts and substrate type. Catch rates were expectedly low, consistent with the time of year.

3. Sediment samples taken by Day grab from 15 sites were frozen for future particle size analysis. At the outset grab samples were only taken at alternate TV stations due to time constraints. Grabbing was terminated after the collection of 15 samples to ensure completion of aims 1 and 2.

4. Quester Tangent QTCview mk4, was used as an additional system to classify seabed ground type. However as the ships steaming speed between stations is reduced to 6 knots for safe operation purposes, its use was suspended after four stations had been completed.

5. Liver samples from haddock and whiting were collected for Clive Fox, and a sample of Nephrops was collected for Andrew Franklin (BOC).

Steve Lovewell
(Scientist-in-Charge)
15 May 1998

SEEN IN DRAFT: B Chapman, Captain
R Graham, SFM

INITIALLED: J T Addison

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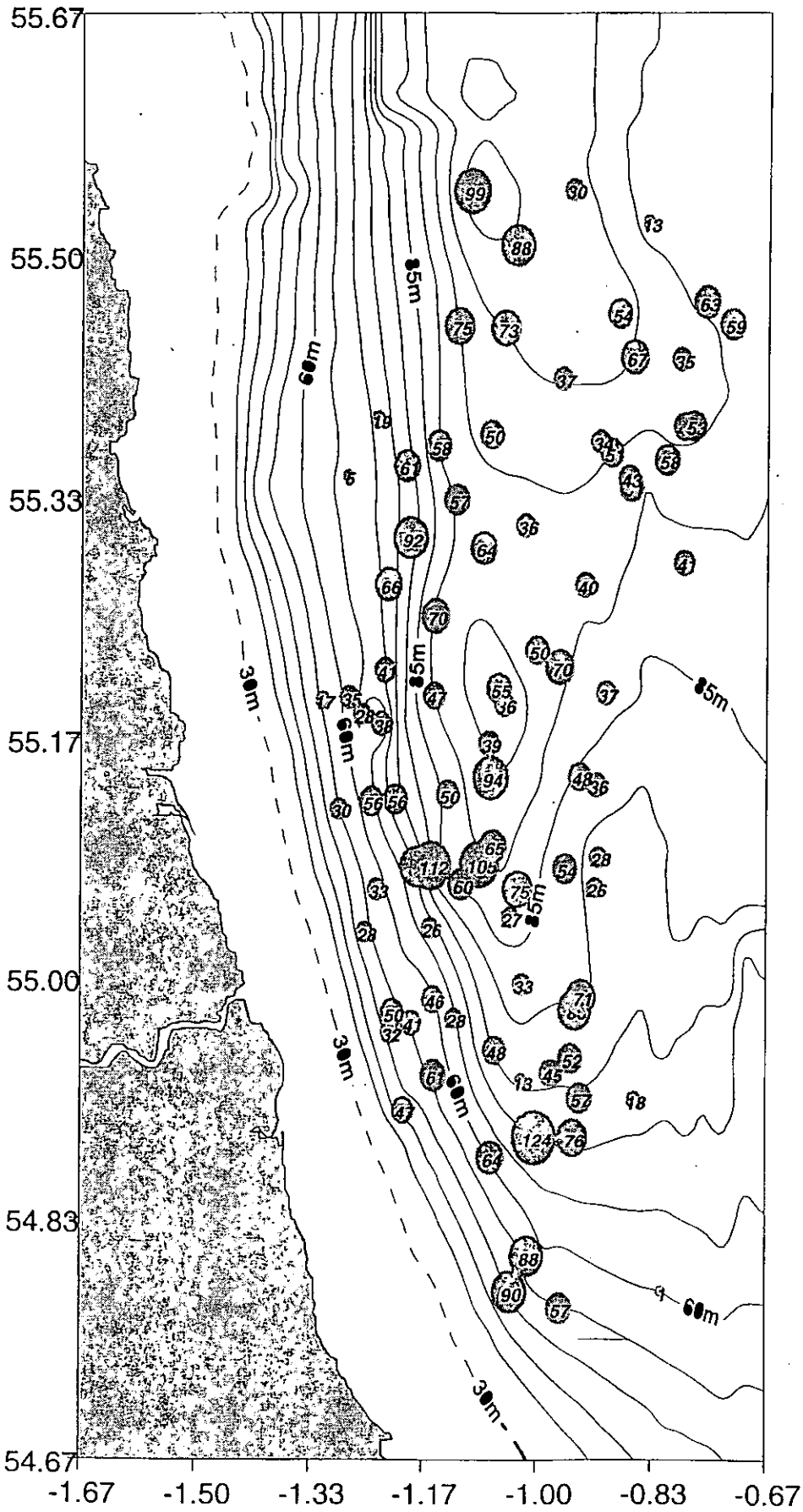

Figure 1. Nephrops burrow counts and depth contours