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

1997 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 11a

STAFF: D B Bennett (SIC)
D Brown
M Easy
J M Elson
W J Meadows
D Palmer

DURATION: Left Lowestoft 0730 h 28 October
Returned to Lowestoft 1300 h 6 November
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' -54° 45' N and 1°30'-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 28 October at 0730 h and sailed to the southern part of the survey area where work commenced at 2300 with the first TV sledge station. A total of 85 TV stations was completed and preliminary Nephrops burrow counts were made over a ten minute part of the tow which was recorded on video tape for further detailed analysis at the laboratory. Sediment samples were taken by Day grab at each TV station. A total of 24 out of 29 planned trawl stations were completed to give a wide coverage of the area surveyed by TV. All Nephrops were measured and sexed to obtain a length distribution and sex ratio at each trawl station. With a forecast of strong winds two more TV sledge stations were done before a swell built up making it too difficult to successfully operate the sledge. Trawling was recommenced completing the last 5 stations of the grid. As the swell remained, making use of the TV sledge impossible, 7 trawl stations with low catches were repeated. The final haul was completed at 1344 on 5 November. After a trial of the

sidescan sonar ready for the next cruise CORYSTES steamed towards her home port, arriving in Lowestoft at 1300 6 November when scientific staff disembarked.

RESULTS:

1. A total of 87 tows (Figure 1) with the sledge-mounted TV camera were made over the full extent of the Nephrops fishing grounds and excellent results were obtained for the majority of these. Clear pictures were obtained of the substrate, Nephrops burrows, burrows of other animals and emergent Nephrops as well as trawl marks caused by both footrope and doors. Preliminary Nephrops burrow counts were made at each TV station. All burrow counts, usually of 10 minutes duration, were recorded for further laboratory analysis. Preliminary results (Figure 2) suggest that the highest densities of burrows are found in the areas where high catches of Nephrops were found in previous trawl surveys using a chartered local Nephrops fishing boat.

2. A total of 36 trawl tows of half hour duration with a Boris 600 prawn trawl were made at 29 locations (Figure 3) throughout the fishery area to establish the size composition and sex ratio of Nephrops on different parts of the ground, and to relate to the burrow counts of those grounds. The Nephrops caught were sexed and measured.

3. Sediment samples taken by Day grab were frozen for future particle size analysis.

The SIC on his last MAFF RV cruise would like to acknowledge the willing help and professionalism of the officers and crew of the CORYSTES in the successful achievement of the aims of this cruise.

DAVID BENNETT
(Scientist-in-Charge)
6 November 1997

INITIALLED: ..... Master ..... Fishing Skipper.

DISTRIBUTION:
Basic list +

D B Bennett
D Brown
M Easy
J M Elson
W J Meadows
D Palmer
C G Brown

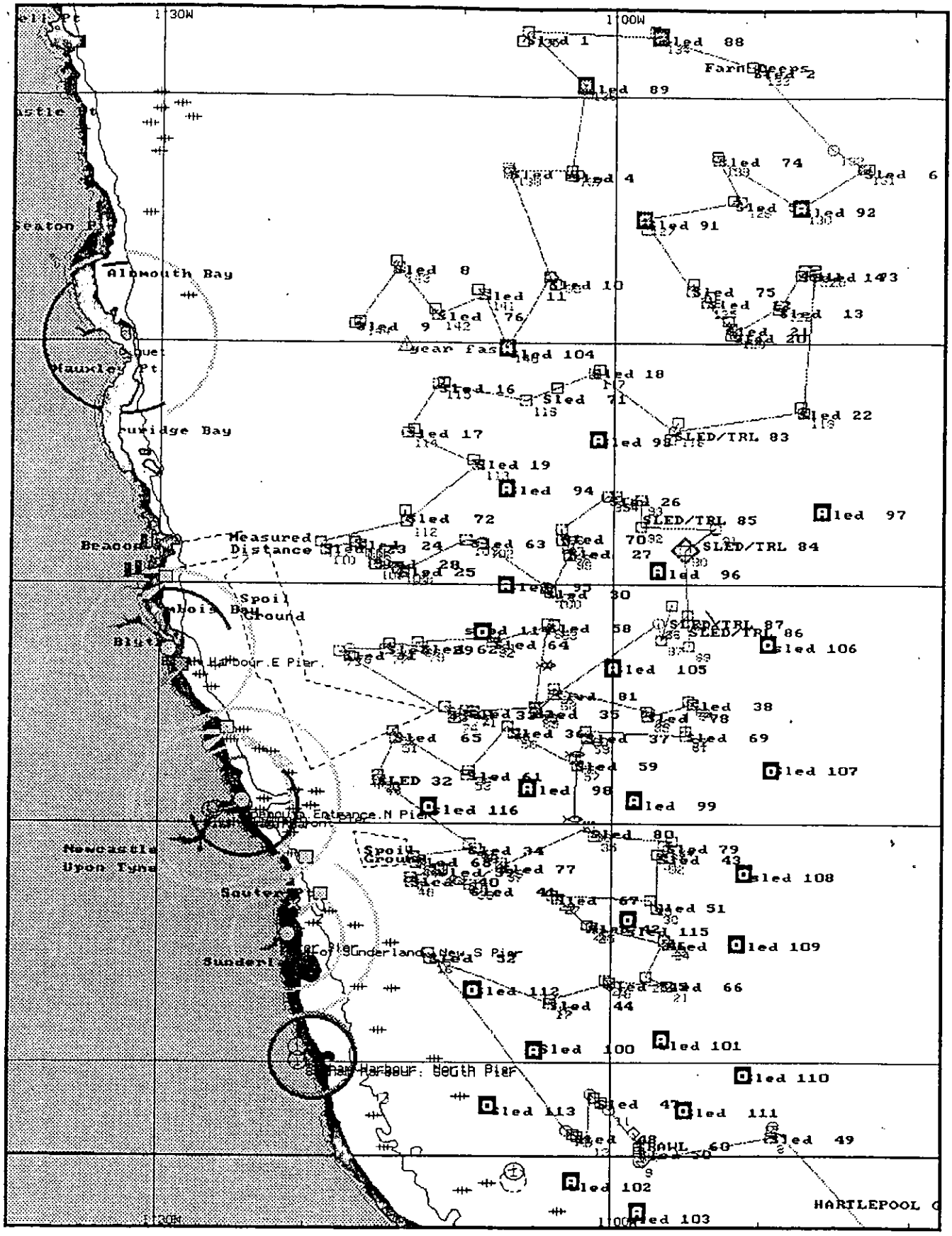

Figure 1. Ships track and positions of camera sledge tows.

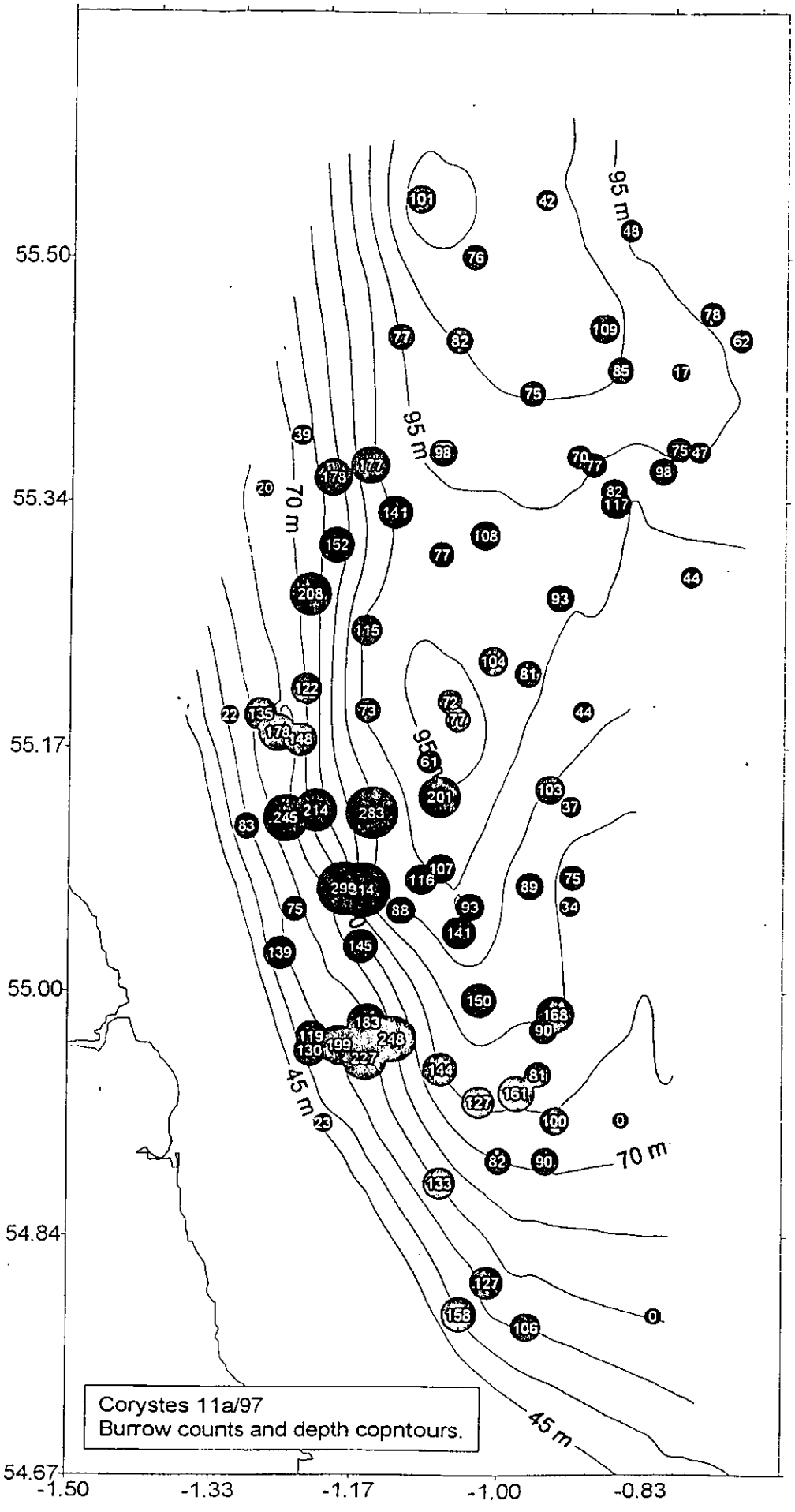
55.50
55.34
55.17
55.00
54.84
54.67
-1.50
-1.33
-1.17
-1.00
-0.83
95 m
70 m
45 m
Corystes 11a/97
Burrow counts and depth copntours.

Figure 2.

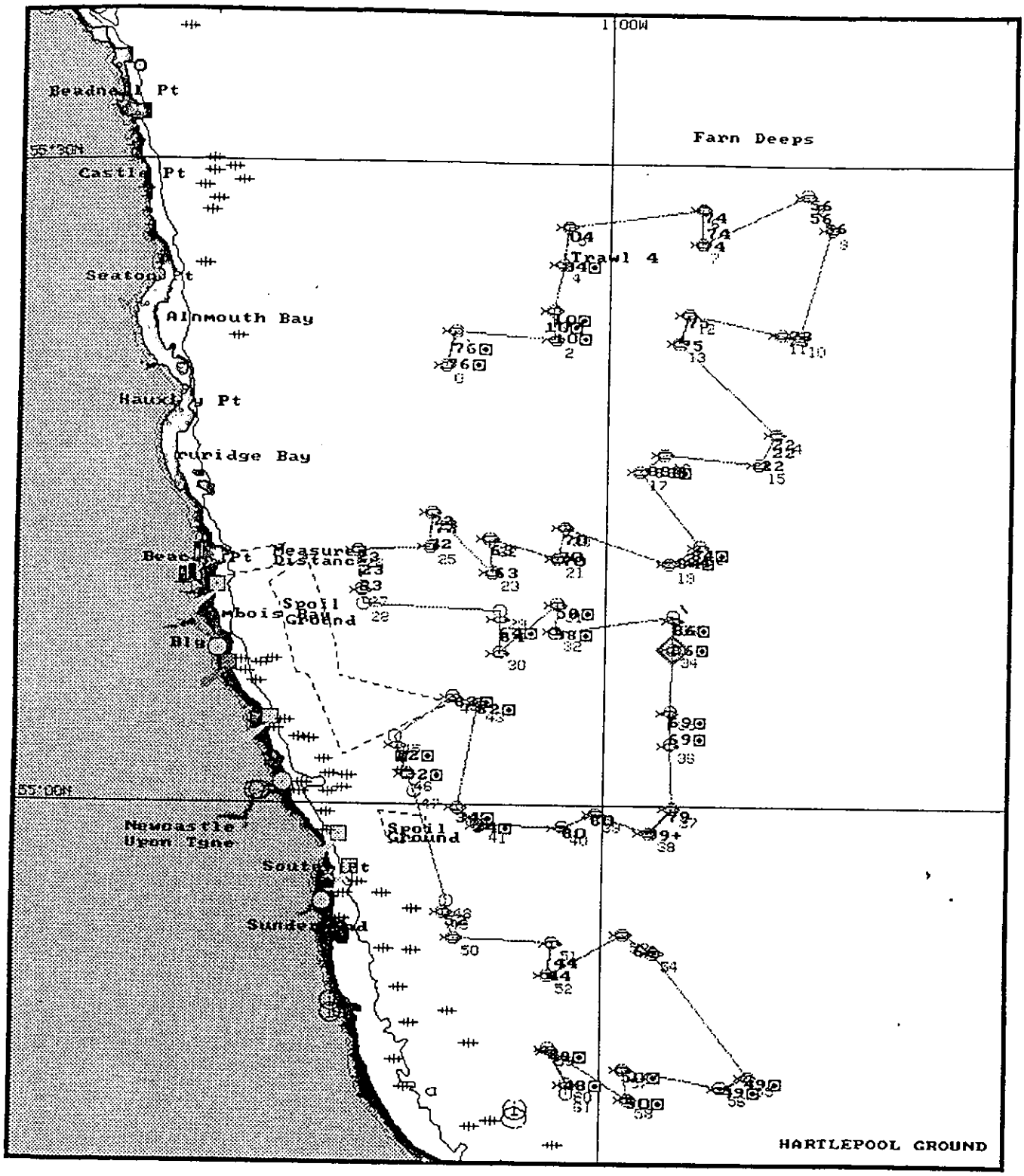

Figure 3. Trawl positions and track.