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

1993 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 8

STAFF:

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DURATION:

2-16 August

LOCALITY:

Southern Bight, English Channel

AIMS:

1. To measure the distribution and abundance of commercial flatfish species by means of a beam trawl survey, as part of an ICES coordinated programme in the North Sea and parts of area VII.

2. To collect additional biological data on sole, plaice, dab, turbot, brill and *Cancer pagurus*.

3. To describe the seabed sediments and epi-benthos using photographic and trawl by-catch data.

4. To test the ROXANN acoustic seabed discrimination system against photographic and grab samples.

NARRATIVE:

CORYSTES sailed on the morning tide of 2 August and sampled two stations in the Thames before starting the main survey in the eastern Channel on the morning of the 3rd. The stations on the English coast were completed over the next 4 days but CORYSTES was unable to work the western end of the survey, inshore between Granville on the Cherbourg peninsula and Ouistreham in the Baie de Seine, because access had been refused by the French authorities. While permission to work in the area was being negotiated, CORYSTES returned to Rye Bay to carry out a detailed two day survey of plaice and sole distribution by depth, before steaming overnight to continue the survey along the French coast east of Ouistreham. Deteriorating weather conditions prevented further work on the afternoon of 11 August and CORYSTES sheltered off Dungeness, before exchanging ship's Masters at Dover. After permission was received to work in the Baie de Seine, the remaining stations on the French

coast were completed between the 13-15 August and a further two in area IVc on the return to Lowestoft.

The loss of time for bad weather and delays caused by altering the survey while awaiting confirmation of French permission meant that there was no longer sufficient time to work stations planned in the western Channel. Working in French waters was further complicated by the obligation to give 24 hours advance notice of all station positions and to contact the local authorities before and after each tow.

RESULTS:

1. The stations shown in the attached cruise plot (Figure 1) were sampled by 4 m beam trawl and all fish species recorded and measured. Epi-benthos was counted and weighed at selected stations representative of the depth bands within each rectangle.

2. 1-group sole were scarce throughout the survey area and 1, 2 and 3-group sole made up 1, 48 and 23 percent, respectively, of the total caught in VIId.

3(a). Otoliths were taken from all sole, turbot and brill caught in VIId and from a stratified sample of plaice and dab. The numbers collected are shown below:

	Sole	**Plaice**	**Dab**	**Turbot**	**Brill**
V11d English side	438	196	-	-	-
V11d French side	319	207	-	-	-
V11d total	757	407	250	6	20

Sole, plaice and dab otoliths were all read at sea, allowing ALDs to be prepared before the end of the cruise.

3(b). All edible crabs (*Cancer pagurus*)and spider crabs (*Maia squinado*) were sexed and weighed and the *Cancer* were also measured.

4(a). All length measurements and catch records were entered into the Fishing Survey System at sea and catch per hour fished for sole and plaice by station is shown in Figures 2 and 3.

4(b). The non-commercial fish fauna was dominated by smaller fish species such as dragonets (*Callionymus lyra*) solenettes (*Buglossidium luteum*) and scaldfish (*Arnoglossus laterna*). Dragonettes were numerically the most abundant fish species encountered and their distribution and catch rate per hour fished is shown in Figure 4. The most abundant species by weight and number are shown below:

	Wt (kg)	%	Number	%
plaice	292	29	768	5
dragonette	154	15	4469	31
sole	138	14	933	6
dogfish	104	10	214	1
solenette	49	5	3300	23

5. A photographic record of the epi-benthos from each haul was taken and on selected stations, the benthos was counted and weighed. Echinoderms dominated the benthos in both numbers and biomass with the common starfish (*Asterias rubens*), and the green sea urchin (*Psammechinus miliaris*) being abundant at most stations. Brittlestars were locally abundant in huge numbers. As expected, harder ground, found mostly in the west of the survey area, tended to support a much richer variety of epi-benthos than sandy and muddy sand sediments.

6. The ROXANN system was run on all tows and appeared to give reliable and consistent readings which were corroborated by the benthos and sediment found in the trawl. An improved box file was used during the second half of the cruise and gave sediment descriptions which more effectively described the sediments encountered on the survey. After earlier problems, ROXANN would now appear to be a useful additional survey system.

Richard Millner, SIC
15 August 1993

SEEN IN DRAFT: JGS

INITIALLED: RG

DISTRIBUTION:

Basic list +
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Figure 1

CRUISE DATA FILE FOR CORYSTES 8/93

SHOWING :
CRUISE TRACK
STATION POSITION
COASTLINE

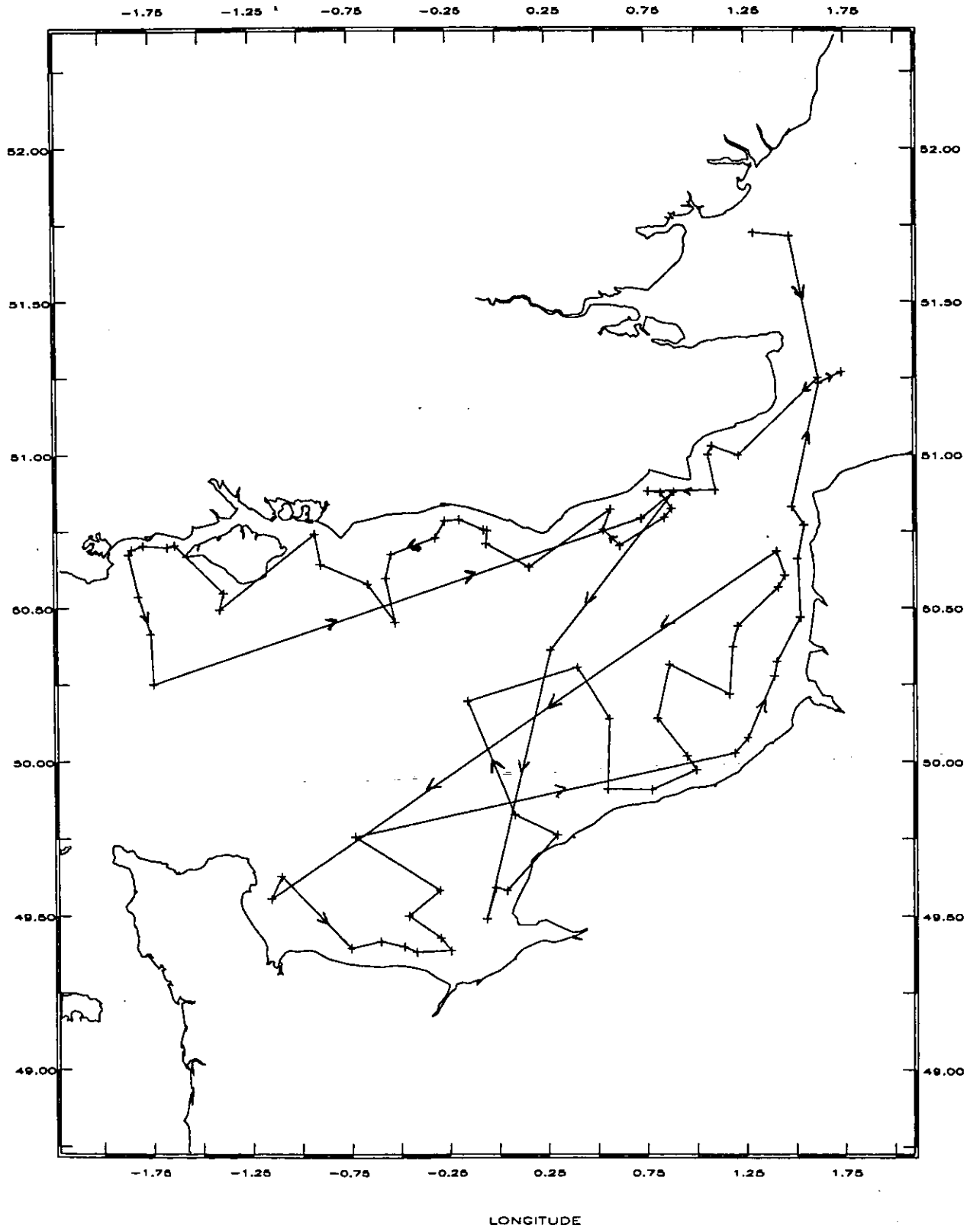

Figure 2

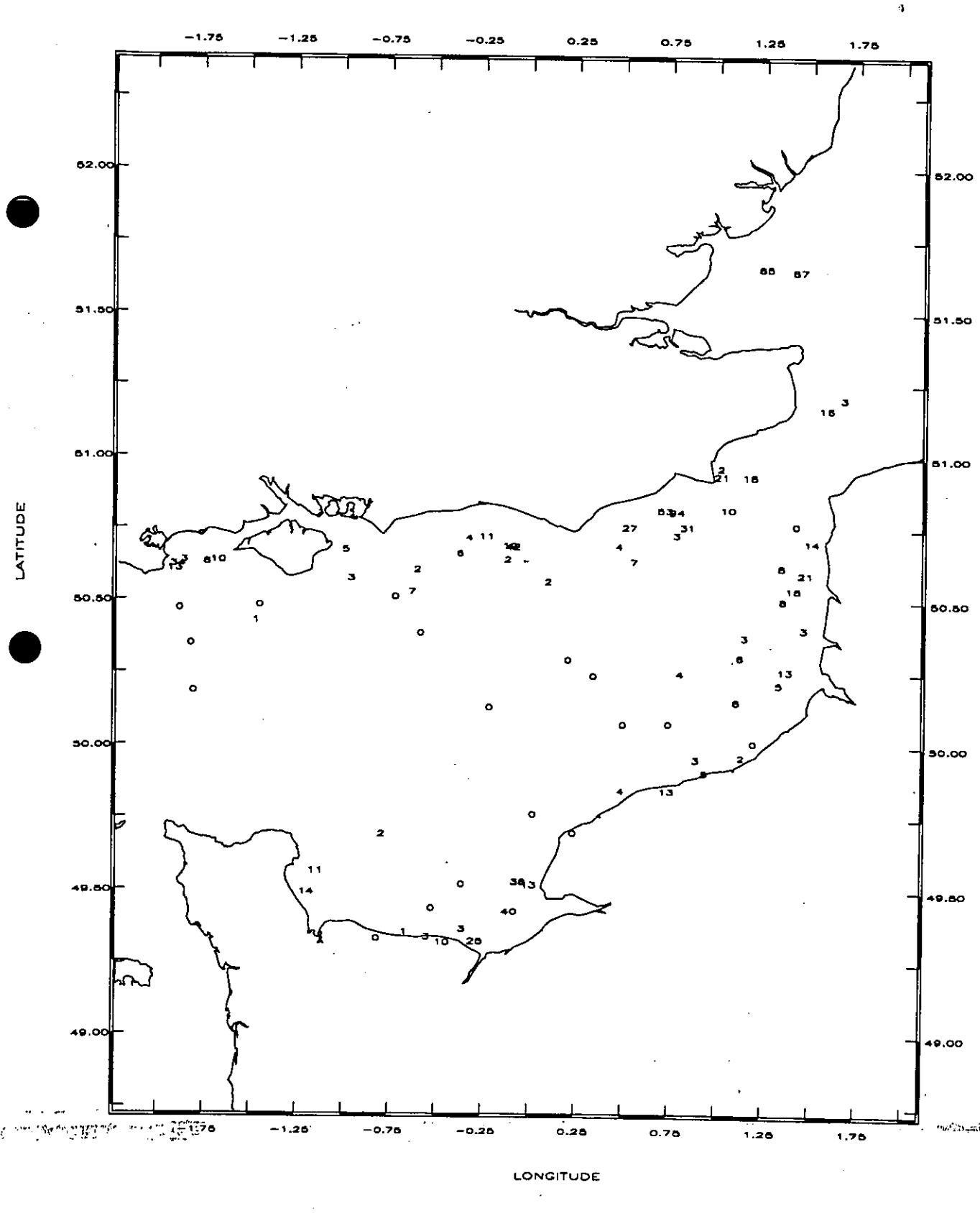
CRUISE DATA FILE FOR CORYSTES 8/93
SHOWING :
DATA VALUES REPRESENTING : SOLE NUMBERS
COASTLINE
-1.75
-1.25
-0.75
-0.25
0.25
0.75
1.25
1.75
62.00
51.50
51.00
50.50
50.00
49.50
49.00
LATITUDE
LONGITUDE

Figure 3

CRUISE DATA FILE FOR CORYSTES 8/93

SHOWING :
DATA VALUES REPRESENTING : PLAICE NUMBERS
COASTLINE

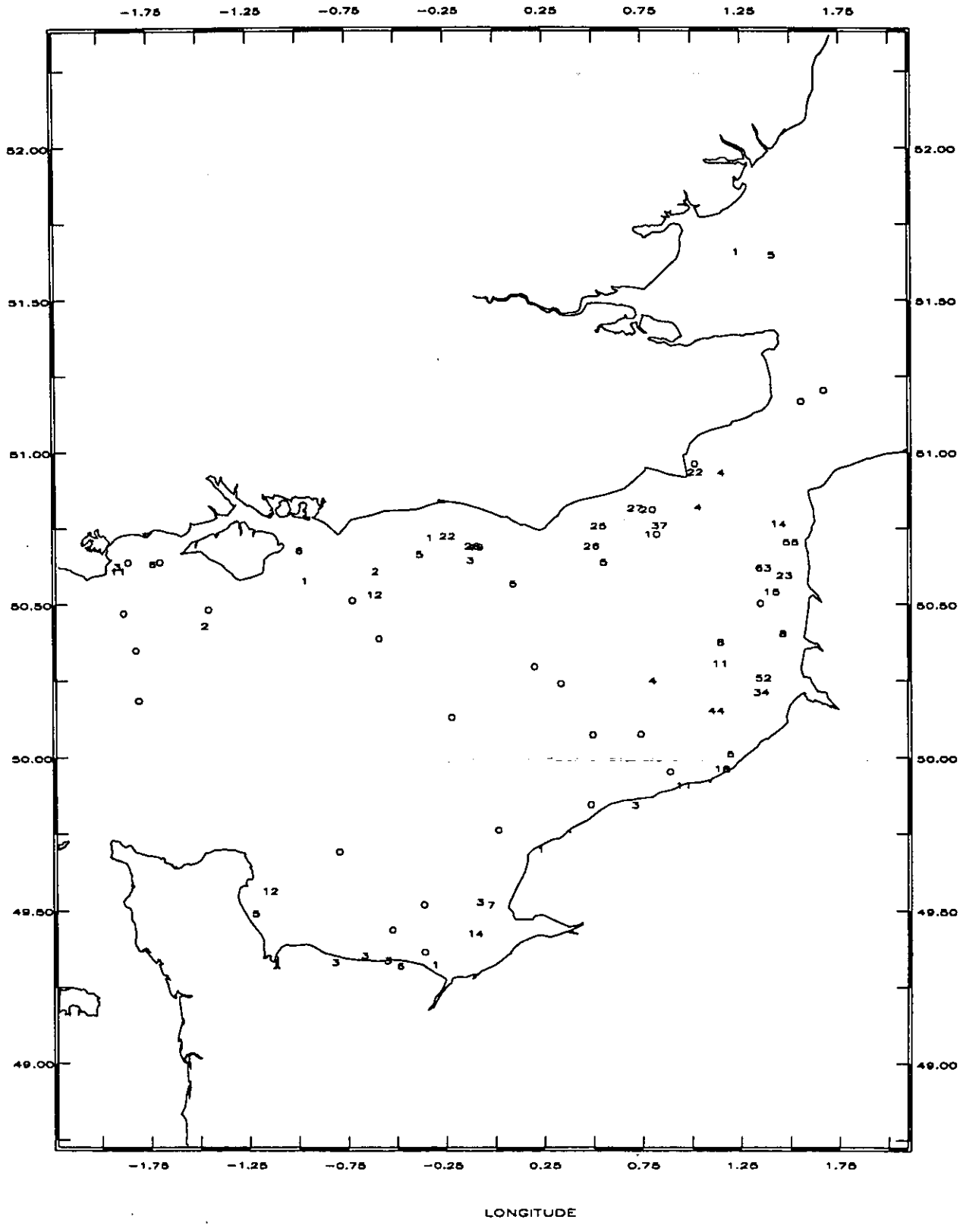

Figure 4

CRUISE DATA FILE FOR CORYSTES 8/93

SHOWING :
DATA VALUES REPRESENTING : DRAGONET NUMBERS
COASTLINE