

CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE,  
LOWESTOFT LABORATORY, SUFFOLK, NR33 OHT, ENGLAND

1997 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 8

STAFF:

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DURATION: 1 - 14 August

LOCALITY: Southern Bight, English Channel

AIMS:

1. To undertake a beam trawl survey as part of an international programme in the North Sea and Channel to i) obtain fisheries independent data on the distribution and abundance of commercial flatfish species, and ii) derive age compositions of sole and plaice for use in the assessment of stock size.
2. To collect additional biological data on non-commercial fish by-catch, and on commercially important non-quota species, especially turbot, brill and cuttlefish, to improve our knowledge of these poorly studied species.
3. To quantify the seabed sediments and epibenthos using both photographic and trawl by-catch data, and also the ROXANN acoustic seabed discrimination system, in order to describe the association between the distribution and abundance of invertebrate by-catch, and the substrate type. These data will enable us to more accurately assess the impact of towed gears on invertebrate populations.

NARRATIVE:

CORYSTES left Lowestoft on the morning tide of 1 August and began fishing at the first beam trawl station in the Thames estuary that afternoon. Fishing stations in the Thames and off the Kent coast were completed, and CORYSTES then continued into the Channel and westwards along the south coast of England. On 7 August, after completing the survey of the English coast in 7d and changing staff at Brighton, CORYSTES entered French waters and proceeded to a group of stations in the Baie de Seine. Beam trawling continued eastwards along the north coast of France in thick fog until 12 August when the last fishing station on the French coast was completed, at Cap Griz Nez, in the Dover Strait. During the return journey to Lowestoft more trawl stations were fished off the coast of Essex and Suffolk, and fish catch and age data were added to the database. The final beam trawl stations were

completed off Corton on 13 August, before CORYSTES docked in Lowestoft on the morning of Thursday 14 August.

**RESULTS:**

1. In the eastern Channel and coastal waters of southeastern England, 94 station positions were sampled with a 4m commercial beam trawl (Figure 1). All fish and benthic invertebrate species in the catch were identified, and all catch records and fish length measurements were entered on the Fishing Survey System (FSS).

The highest catch densities of sole and plaice in the Eastern Channel were found near the Dover Strait and on the north coast of France (Figure 2). In the southern North Sea, high catch densities of sole were found in the Outer Thames and in the coastal waters of Essex and Suffolk.

2. In IVc, otoliths were collected from stratified samples of sole, plaice, and flounder. In VIId, otoliths were taken from all sole, turbot and brill, and from stratified samples of dab, flounder, lemon sole, plaice, scaldfish and solenette. All sole and plaice otoliths collected in VIId were read at sea, and ALD's were prepared before the end of the cruise. The following table shows the numbers of otoliths collected.

Species	VIId total	IVc total
sole	628	406
plaice	392	118
flounder	24	24
lemon sole	23	
dab	237	
turbot	6	
scaldfish	34	
solenette	33	
brill	12	
<b>TOTAL</b>	<b>1389</b>	<b>548</b>

The total catch of cuttlefish, a commercially important species in the region, was the lowest since the survey in 1994:

	1994	1995	1996	1997
cuttlefish ( <i>Sepia officinalis</i> )	300	633	906	412

3: The by-catch of benthos from all station positions in the eastern Channel was sorted and all fauna and flora were identified, counted and weighed. These data were all input to the FSS. Faunal communities ranged from those in the Thames and Baie de Seine which were dominated by starfish *Asterias rubens*, and swimming crab *Liocarcinus* spp, to those in deeper water off the Isle of Wight and in the Dover Strait where species of sponge, hydroid and bryozoan were abundant. The seabed discrimination system, 'QTC', which is a more versatile system than 'ROXANN', was tested onboard and calibrated with the help of an enginner from Quester Tangent. This sytem was used at each station to monitor changes in

substrate type between areas, and inferred changes in substrate were confirmed by sediment samples from a Day grab, and photographs of the seabed using the beam trawl camera.

S I Rogers  
14 August 1997

SEEN IN DRAFT: D McDarren, T Durrant.  
INITIALLED: R Millner

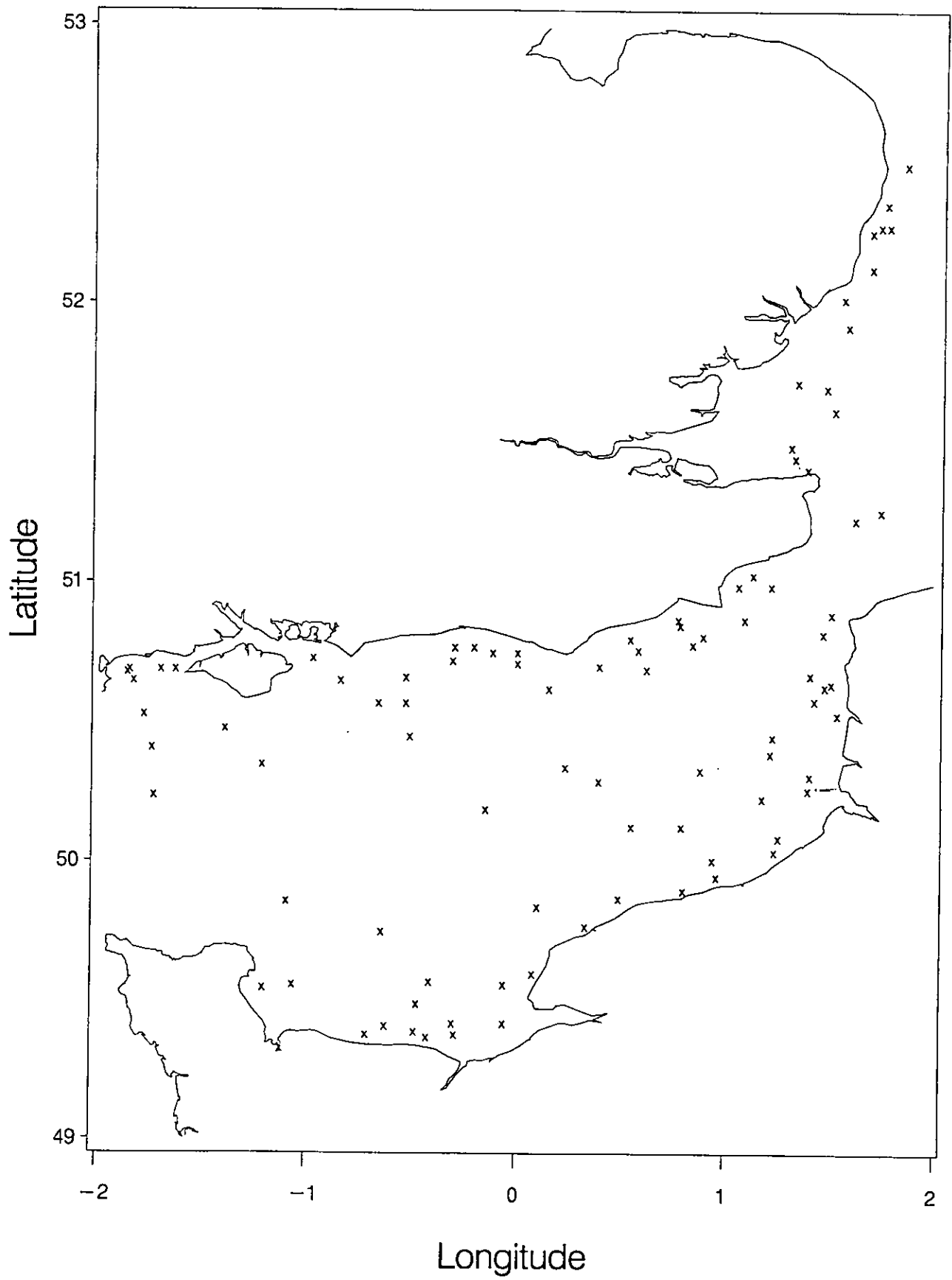
Basic list +

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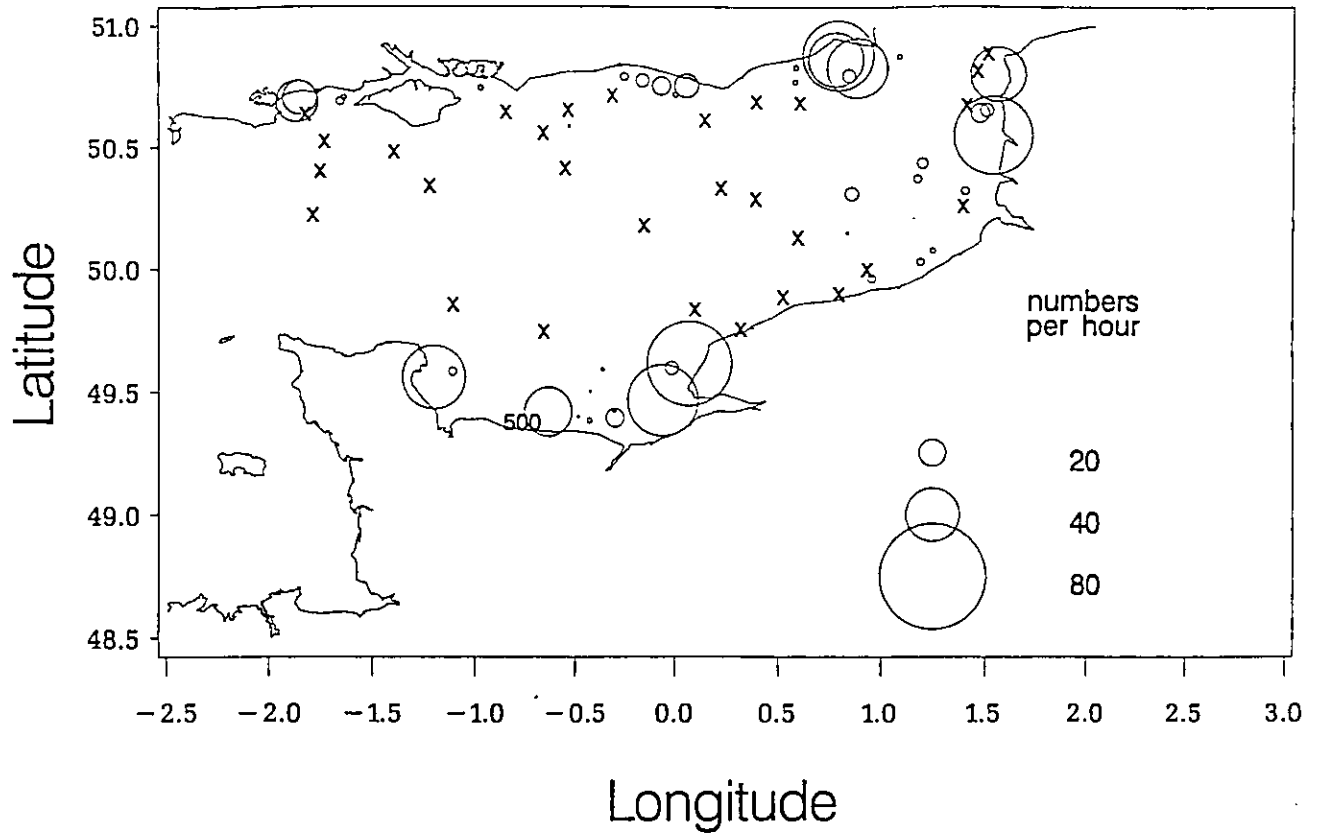
A Tetard (IFREMER, Port en Bessin); A Rijnsdorp (RIVO, Netherlands); R de Clerck (FRS, Belgium); Kent and Essex, Sussex, Southern, Devon and Cornwall SFC; States of Guernsey, States of Jersey, CFO; Ms Carmen Ferry (Foreign and Commonwealth Office).

Figure 1

CORYSTES station positions fished in August 1997



CORYSTES beam trawl survey 1997  
Total number of 0- to 3- group sole



Total number of 0- to 3- group plaice

