

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

1995 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 8b

STAFF:

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DURATION: 3-18 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 and plaice, and commercially important non-quota species especially dab, turbot, brill and crab.
3. To describe the seabed sediments and epibenthos using both photographic and trawl by-catch data, and also the ROXANN acoustic seabed discrimination system.

NARRATIVE:

Staff travelled to Southampton to meet CORYSTES during the mid-cruise break on 4 August, and the next day, nine trawl stations were completed in Poole Bay and in deeper water to the southwest of the Isle of Wight. During the night, CORYSTES entered French waters and proceeded to a group of stations in the Baie de Seine, to the east of the Cherbourg peninsula. Beam trawling continued eastwards along the north coast of France until 7 August, when in deteriorating weather conditions the ship returned to the English coast. Trawl stations east of the Isle of Wight and off the West Sussex coast were completed successfully, and on 9 August a member of the crew was put ashore at Brighton Marina. All the remaining stations in the Eastern Channel in both French and English waters were completed during the next three days in fine weather. Once again, the Master received complete co-operation from the French authorities. On the return journey to Lowestoft, routine trawl stations were fished in the Thames, and new beam trawl station positions were found in the 0-20 m depth zone on the Suffolk, Norfolk and Lincolnshire coasts. All fish catch and age data were input before CORYSTES docked in Lowestoft on the morning of Friday 18 August.

RESULTS:

1. Fishing stations shown on Figure 1 were sampled with a 4m commercial beam trawl. All fish species in the catch were identified and measured, and all length measurements and catch records were entered on the Fishing Survey System.

As in previous years, the highest catch densities of sole and plaice were found in the Eastern Channel, while smaller numbers occurred in the Baie de Seine and on the coasts of West Sussex and Hampshire (Figure 2). The abundance indices for VIId plaice and sole, compared to those obtained by CORYSTES in 1993 and 1994, showed similar numbers of juvenile plaice, and a strong 1993 sole year class. Catches of adult (3+-group) plaice and sole were low.

Plaice

	Age-group		
	1	2	3+
1993	3.22	13.40	15.95
1994	8.33	7.46	22.23
1995	11.32	4.06	12.25

Sole

	Age-group		
	1	2	3+
1993	0.50	17.50	18.20
1994	4.75	3.17	16.48
1995	5.17	16.90	11.40

The Outer Thames and coastal waters off Suffolk were surveyed more thoroughly than during 1994. Several large catches of flatfish (up to 300 sole per hour), and an average catch rate of 63 sole and 22 plaice per hour confirmed that these areas were important for the recruitment of North Sea populations.

2. In IVc, otoliths were collected from stratified samples of sole and flounder, and in VIId, from all sole, turbot and brill, from stratified samples of some other flatfish species, and also from three non-quota species. All sole plaice and flounder otoliths were read at sea and ALD's for sole and plaice were prepared before the end of the cruise. The following table shows the numbers of all otoliths collected.

Flatfish species	IVc total
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sole	145
flounder	33

Flatfish species	VIIId total
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sole	534
plaice	360
dab	230
lemon sole	98
scaldfish	74
solenette	59
brill	31

turbot	10
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Other species	Total
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red gurnard	117
black sea bream	13
bass	3

The length, weight and maturity of all cuttlefish *Sepia officinalis* was recorded. The length-frequency distribution of the animals suggested that the majority (99.5%) were 1-group and would be expected to spawn in the following spring. Over 75% of the population in VIIId occurred on the French coast, and the abundance in this area had increased by a factor of two since the 1994 survey.

3: The by-catch of benthos at each fishing station was photographed on deck and a representative sample from 43 selected stations was sorted and, where possible, all fauna and flora were identified, counted and weighed. The seabed discrimination system, 'ROXANN' was used at each station to monitor changes in substrate type between areas, and in addition, a newly designed 35 mm camera mounted on the beam of the trawl was used to take photographs of the seabed at two minute intervals during trawling. Despite some initial problems with the flash unit, frequent high quality images of the seabed were obtained and developed onboard using standard processing equipment. The photographs will be used to ground-truth ROXANN to a higher level of resolution than has previously been possible. The use of high frequency images may also have potential for determining absolute abundance of selected species, particularly some benthic invertebrates such as species of starfish and crab.

S I Rogers
18 August 1995

SEEN IN DRAFT: B Chapman, T Durrant

INITIALLED: JGP, JWH

Basic list +	R Flatt
S I Rogers	D Eaton
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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; D Love (Foreign and Commonwealth Office).

Figure 1

Viid BEAM TRAWL SURVEY - CORYSTES 8b/95
TRACK OF STATIONS FISHED

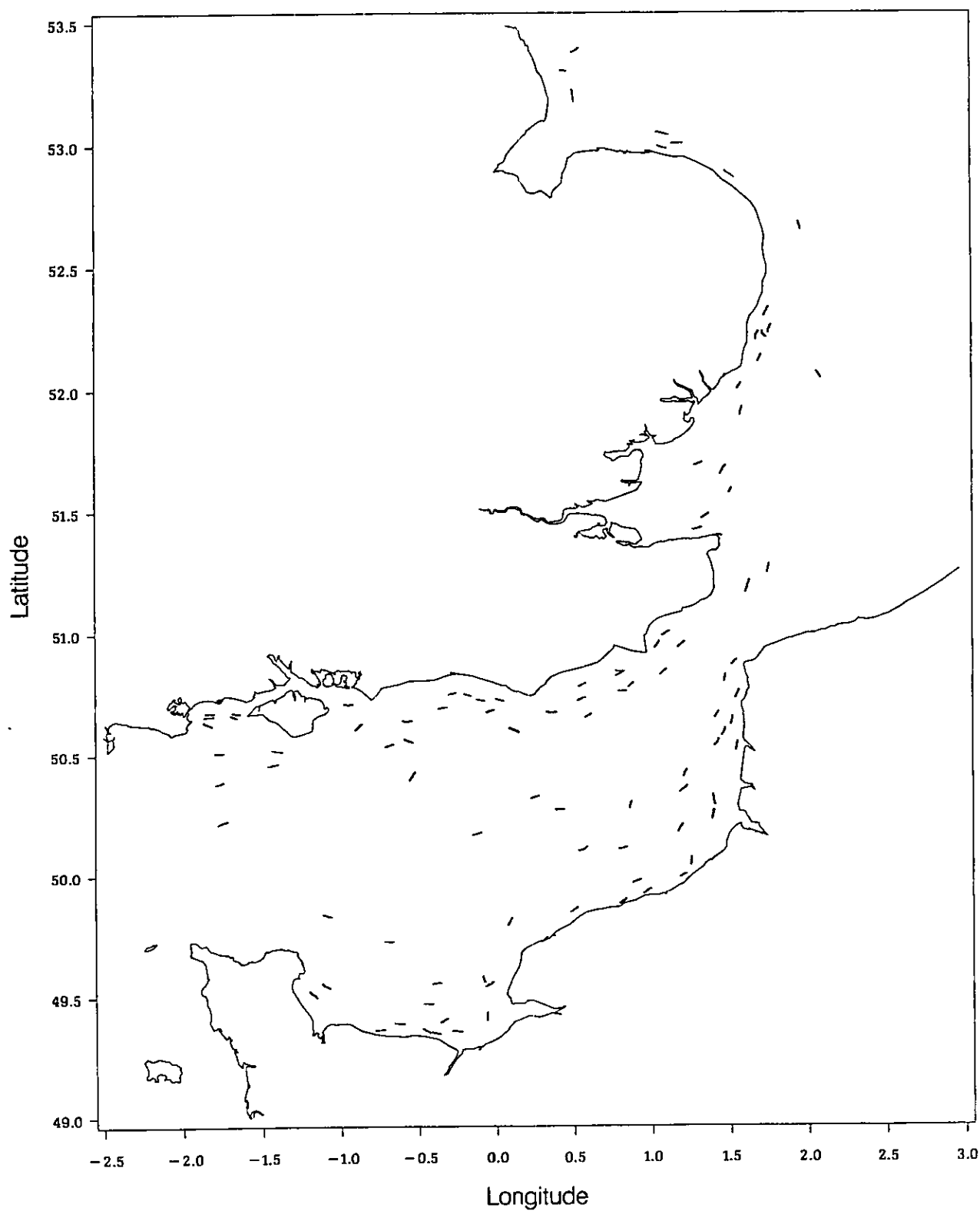


Figure 2

Vlid BEAM TRAWL SURVEY - CORYSTES 8b/95
total catch of juvenile sole (0- to 3-group)

