

**MINISTRY OF AGRICULTURE, FISHERIES AND FOOD  
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK NR33 OHT**

**1995 RESEARCH VESSEL PROGRAMME**

**REPORT: RV CORYSTES: CRUISE 9**

(PROVISIONAL: not to be quoted without prior reference to the author)

**STAFF:**

M R Vince  
M J Boon  
I D Holmes  
A J Winpenny  
B F M Harley  
P R Stanton (Part 1)  
S P Milligan (Part 2)

**DURATION:** Left Lowestoft 0830h 24 August  
Arrived Lowestoft 0242h 17 September  
(All times are GMT)

**LOCALITY:** Irish Sea, Bristol Channel, Celtic Sea.

**AIMS:**

1. To carry out beam trawl surveys of groundfish in the Irish Sea, Bristol Channel and Celtic Sea.
2. To collect data on maturity and weight at age of sole, plaice and lemon sole.
3. To determine the distribution and abundance of juvenile and adult sole and plaice.
4. To carry out trials with the Optical Plankton Counter. (Part 2).

**NARRATIVE:**

CORYSTES left Lowestoft harbour at 0830h on 24 August and after a reasonable passage started the first station off Hartland Point at 0654h on 26 August. Five stations were completed before the survey work was interrupted to participate in an air and sea search following the activation of a distress beacon approximately 10 miles north of CORYSTES. After participating in the search for about 3 hours CORYSTES steamed to Swansea Bay to drop off Captain Chapman.

The survey continued uninterrupted in the Bristol Channel and Celtic Sea until the night of 1 September when CORYSTES moved into the southern end of Cardigan Bay. The survey continued in Cardigan Bay and Liverpool Bay until the evening of 4 September when CORYSTES docked in Barrow-in-Furness for the change of personnel.

After leaving Barrow-in-Furness at 0700 on 6 September, the survey continued initially in the south-east Irish Sea and then latterly in the northern sector and thereby avoiding disruption in the work by the strong easterly and northerly winds. By the evening of 13 September with all the Irish Sea trawl stations having been successfully completed, the opportunity was taken to have a preliminary trial with the Optical Plankton Counter. This work continued the following day off St Brides Bay Pembrokeshire where some shelter was gained from the strong SSE wind. By 1300h on 14 September the OPC trials were concluded and the beam trawl survey resumed in the outer Bristol Channel sector. By 1900h all planned trawl stations had been completed, and with no secondary trawling positions within a reasonable working distance of CORYSTES in the time remaining a course was set for Lowestoft where a routine major engine service had been arranged.

## RESULTS:

### AIM 1

A total of 119 valid 30 minute tows were carried out with the 4 metre beam-trawl fitted with chain-mat, flip-up ropes, and 40mm cod-end liner. No problems were experienced with the gear until station 151 when, after hauling, the ground rope wire was found to be parted in the centre. A temporary repair was made by the senior fishing mate and crew which proved to be satisfactory for the remaining five tows of the survey.

All fish and selected commercial crustaceans were identified to species, weighed and measured. Station details together with catch and length data were input to the Fishing Survey System and end of cruise outputs produced. Benthos was photographed and the abundance of the main species recorded on a log scale as on previous years surveys. The Roxann ground discrimination system although fitted was not used as a 'NO SIGNAL' message could not be corrected despite advice provided by specialists ashore. Temperature and salinity profiles were obtained from the CTD used at the start and end of each days fishing. Continuous salinity and temperature data were logged throughout the survey in addition to a total of 55 discrete water samples collected regularly for subsequent laboratory salinity analysis.

A total of 75 species were caught dominated by weight by lesser spotted dogfish, but numerically by dab.

### AIMS 2 and 3

As on previous years surveys the majority of sole and plaice caught were immature and concentrated on individual stations in depth band 1 (0-20m). The abundance of maturing adults of both species was generally low and more widespread.

Otolith samples totalled 3918 from eleven species and represented an increase of 10% on the 1994 survey due in the main to the introduction of dab sampling to provide age data for the ICES Beam Trawl Study Group report.

All anglerfish (*Lophiidae*) otolithed were examined for the incidence of the microsporean parasite *Spraguea lophii*.

All otoliths from plaice and sole taken on the Bristol Channel inner sector were aged at sea and the total numbers at age calculated. Spreadsheets containing this provisional data were faxed to Lowestoft for use at the Southern Shelf Working Group meeting.

The majority of rays caught were individually weighed and measured for length and width prior to examining for sexual maturity.

Frozen fish samples included bass (Mr Eaton), dabs, whiting and dogfish (Mr Franklin), butterfly blenny (Dr Kaiser), lesser weevers (Dr Nash, Port Erin) and selected species of elasmobranchs (Mr Ellis, Swansea).

#### AIM 4

A total of five deployments were made with the Longhurst Hardy Plankton Recorder (LHPR) fitted with an Optical Plankton Counter (OPC). Three trial deployments were made to enable the OPC software to be set up correctly and two further stations were completed with an LHPR cod end box connected to the exhaust of the OPC with a 270µm net. These stations will enable comparisons to be made between the particulate size recorded by the OPC and the plankton caught in various depth bands by the LHPR. Twenty three samples were collected for subsequent analysis at the laboratory.

M R Vince  
18 September 1995

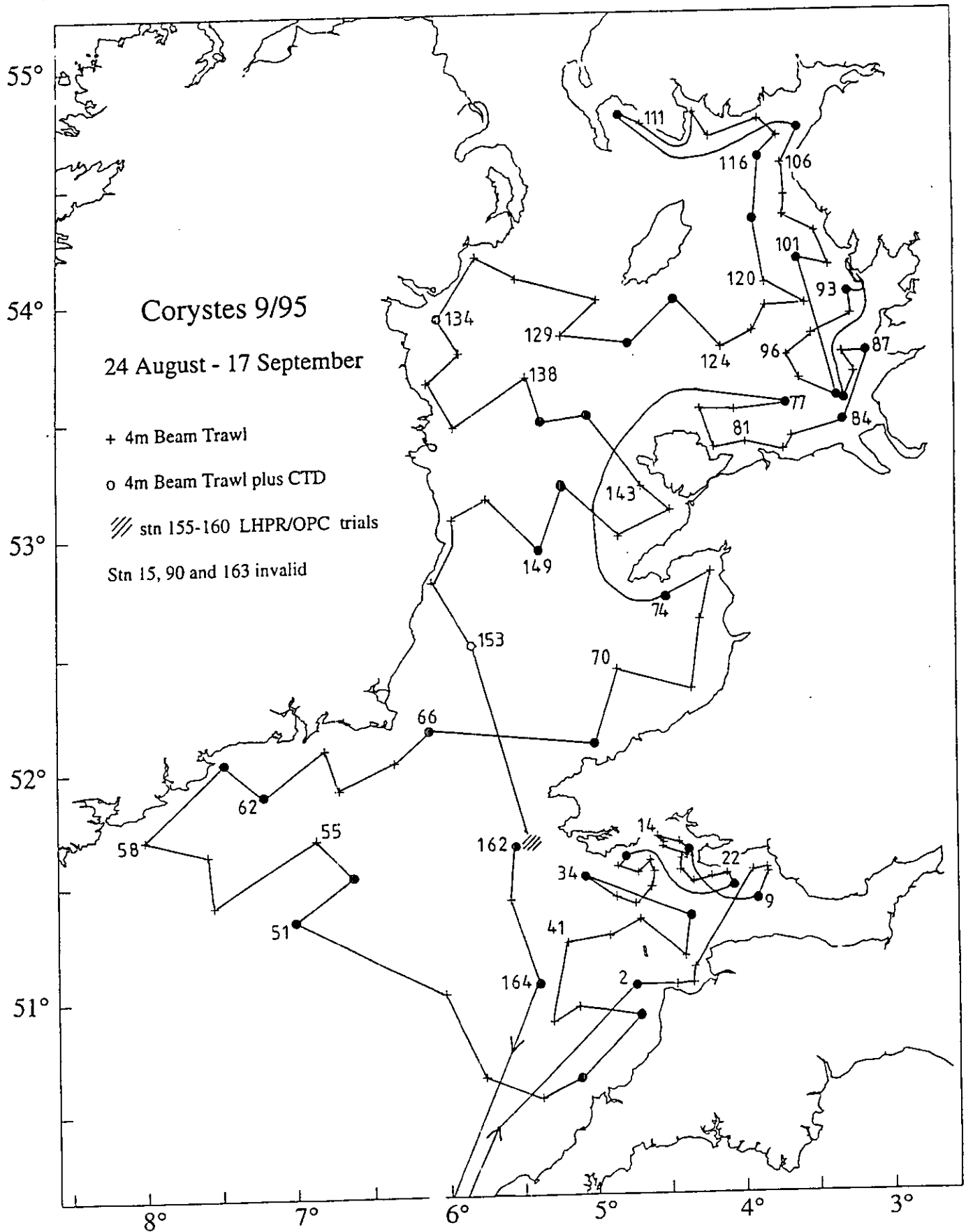
#### SEEN IN DRAFT:

Master: R J  
Senior Fishing Mate: W M

INITIALLED: C T M  
J W H

#### DISTRIBUTION:

Basic list+  
M R Vince  
M J Boon  
I D Holmes  
A J Winpenny  
B F M Harley  
S P Milligan  
P R Stanton  
M J Armstrong (DANI, Belfast)  
P Connolly (DOM, Dublin)  
FCO (for Republic of Ireland)  
Sea Fisheries Committees:  
Cumbria  
North Western and North Wales  
South Wales  
Devon  
Cornwall



Corystes 9/95 Otolith tally

		ISN (7a)	ISW (7a)	ISS (7a)	SGC (7a)	BCI (7f)	BCO (7f+7g)	SEI (7a+7g)	107a total	107f total	107g total	total nos
Plaice	m	170	223	146	135	109	10	52	714	117	14	845
	f	191	180	152	162	125	16	52	729	134	15	878
	total	361	403	298	297	234	26	104	1443	251	29	1723
Sole	m	62	6	132	40	175	24	9	249	187	12	448
	f	40	11	157	52	193	21	11	266	194	25	485
	total	102	17	289	92	368	45	20	515	381	37	933
Dab	m	34	20	20	38	35	18	14	126	43	10	179
	f	52	41	67	51	50	24	34	223	64	32	319
	total	86	61	87	89	85	42	48	349	107	42	498
Whiting		37	35	43	22	83	33	18	140	84	47	271
Cod		-	-	-	-	-	-	-	28	7	3	38
Lemon Sole		-	-	-	-	-	-	-	88	56	46	190
Megrim (L whiff)		-	-	-	-	-	-	-	2	8	49	59
Anglerfish (L pisc)		-	-	-	-	-	-	-	41	30	66	137
Anglerfish (L bude)		-	-	-	-	-	-	-	0	0	1	1
Turbot		-	-	-	-	-	-	-	5	21	1	27
Brill		-	-	-	-	-	-	-	17	24	0	41
												3918