

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

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 4

STAFF: D J Symonds
E G Shreeve
M R Vince
D R Eaton
S M Stevens
M Sherlock

DURATION: Left Lowestoft 0900h 4 April
Arrived Lowestoft 0625h 18 April
All times are Greenwich Mean Time

LOCALITY: Bristol Channel

AIMS:

1. To carry out plankton surveys using the 76cm High Speed Towner to determine the extent and timing of sole spawning off Trevose Head and the dispersal of spawning products, and to obtain early indications of bass spawning in the Bristol Channel.
2. To deploy an ARGOS drifting buoy near the centre of sole spawning.
3. To carry out a pre-recruit flatfish survey in the Bristol Channel using the commercial 4m beam trawl.
4. To collect gonads from mature soles sampled off Trevose Head.
5. To retrieve 6 current meter rigs laid earlier on CIROLANA 3/89 off Trevose Head.
6. To sample crab larvae using the High Speed Towner around the Cornish peninsula.

NARRATIVE:

Departure from Lowestoft was delayed by 3½ days to effect repairs following damage caused by a tug whilst CORYSTES was moored at MAFF quay. Having sailed in a strong to gale-force NE wind, the vessel made a good passage to Lands End and the first plankton station was reached at 1630h on the 5th. Problems with the winch clutch and the Guildline package delayed the start of this station until 1934h but, thereafter, no further delays were encountered and the grid was completed in Carmarthen Bay at 0655h on 9 April. The Bristol Channel pre-recruit survey with the 4m beam trawl was commenced at 0820h the same day and, apart from one day (the 11th) which was spent in the lee of Lundy Island sheltering from a S to SW gale, continued until 1400h of the 12th; beam trawling for adult sole was carried out on the Trevose grounds during the same evening.

Following the retrieval of current meters laid by CIROLANA a second, reduced, plankton grid was started at 1545h on 13 April and continued, despite strong to gale force E to NE winds on the 15th, until 1344h on 16 April when

course was set for Lowestoft.

RESULTS:

1. The two plankton grids were successfully completed using the 76cm High Speed Towner, although difficulties were experienced in getting a smooth depth profile with this gear even in reasonable weather conditions. Provisional results from the first grid of 63 stations show that early stage sole eggs were concentrated around the Trevoise Head area with another dense patch to the NW corner of the survey area, 35 miles west of the Smalls; few bass eggs were caught. Five hundred sea-bed drifters were released in batches of 50 at selected stations. The second survey of 46 stations has not yet been examined.
2. The ARGOS drifting buoy was not deployed due to initial difficulties with signal reception; a subsequent return to the proposed release area would have resulted in an unacceptable loss of sampling time.
3. Thirty three hauls with the commercial 4m beam trawl for pre-recruit flatfish were completed in the Bristol Channel. Catches of all species were exceptionally small and only in and around Carmarthen Bay were reasonable numbers of pre-recruit soles (up to 18 per 15 minute tow) and plaice (up to 79 per 15 minute tow) taken.
4. Six half-hour tows with the 4m beam trawl on the Trevoise sole spawning ground were carried out; no sole with gonads at the required state of maturity (stage 4) were found.
5. Four of the 6 current meter rigs were retrieved although 2 of these were damaged. The surface toroid buoys of the remaining two rigs were missing and attempts to pick up the ground chains by grapnel were unsuccessful.
6. Lack of time prevented the sampling of a modified grid of plankton tows for crab larvae to cover the estimated position of the Lindane container lost from MV PERINTIS which sank in the western English Channel earlier this year.

MISCELLANEOUS:

Otoliths were collected at trawl stations from sole (136), plaice (127), lemon sole (18), cod (15), hake (6), *L. piscatorius* (3) and megrim (2) for pre-recruit studies and to augment the market sampling programme. Selected specimens of flatfish for the laboratory's fish identification course and a sample of commercial-size sole from the Trevoise area for Mr Sutton were deep-frozen. Assorted benthos for the laboratory's Open Day display and small rays and thick back soles for UEA were brought back live. Livers from dabs and flounders were preserved in formalin for Dr Bucke (Weymouth).

D J Symonds
16 April 1989

SEEN IN DRAFT: J French (Captain)
M G C Reynolds (Senior Fishing Skipper)

INITIALLED : D J G

DISTRIBUTION:

D J Symonds	D R Eaton	M G Pawson
E G Shreeve	S M Stevens	B M Thompson
M R Vince	M Sherlock	J W Horwood

Sea Fisheries Committees: Devon, Cornwall, Isles of Scilly, South Wales

51°

50°

7°

6°

5°

4°

3°

54 55 56 57 58 59
148 149 150 151 152

53 52 51 50 49 48 47 46 45 44 43 41
147 146 145 144 143 142 141 140 139 138 137

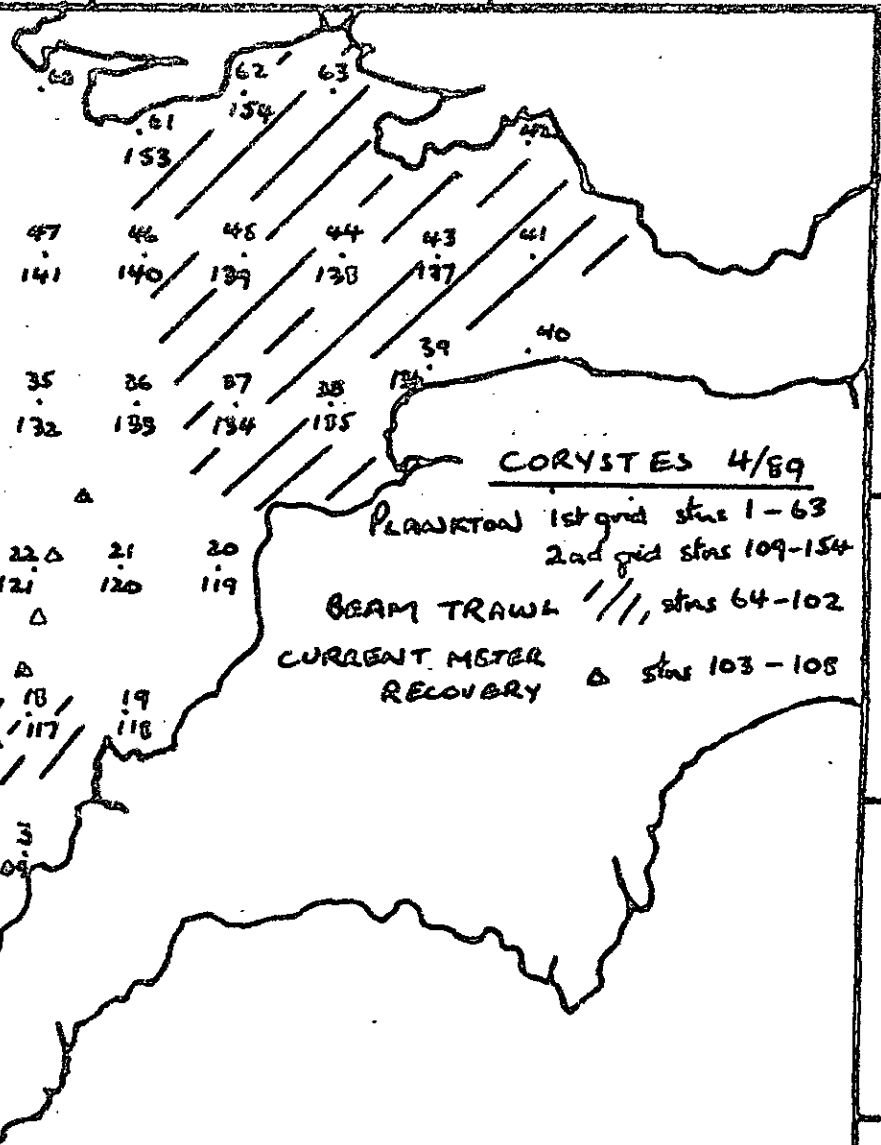
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127 128 129 130 131 132 133 134 135

28 27 26 25 24 23 22 Δ 21 20
126 125 124 123 122 121 120 119

12 13 14 15 16 17 18 19
113 114 115 116 117 118

11 10 7 6 5 4 3
112 111 110 109

9 8 1 2



CORYSTES 4/89

PLANKTON 1st grid stns 1-63
2nd grid stns 109-154

BEAM TRAWL //, stns 64-102

CURRENT METER RECOVERY Δ stns 103-105