

**CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE
SCIENCE - LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK**

1997 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 3a

STAFF: S Flatman
M R Vince
M J Boon
B F M Harley
I D Holmes
M J Brown (part 1)
A J Winpenny (part 2)
S Wheatley (part 2)

DURATION: Left Lowestoft 1100h 26 February
Arrived Liverpool 0930h 19 March
(All times are Greenwich Mean Time)

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 collect fish samples in support of other CEFAS projects and training courses.

NARRATIVE:

CORYSTES sailed from Lowestoft at 1100h on 26 February. Shortly after sailing a fault was detected on one of the shaft propulsion motors, and the vessel laid in Corton Roads whilst repairs were made. The work was completed at 2000h, and CORYSTES was able to continue. A reasonable passage was made to the Bristol Channel, and the survey commenced off Trevoise Head at 1240h on 28 February. The Bristol Channel sector was completed at 1000h on 4 March, despite a period of strong south-westerly winds, and the vessel moved into the Celtic Sea. During the period 4-6 March, stations in the outer Bristol Channel and South-East Ireland sectors were worked, before CORYSTES began the first of the Irish Sea stations at 1715h on 6 March. Stations in Cardigan Bay and SW of the Isle Of Man were then carried out before the vessel proceeded to Douglas, docking at 1330h on 8 March.

After changeover of scientific staff, CORYSTES left Douglas at 0812h on 9 March and commenced work in the eastern Irish Sea. Work continued uninterrupted in good weather conditions, and all stations in the northern, western and southern Irish Sea

were completed by 1840h on 15 March. News of a family bereavement necessitated a crew member being disembarked by Searider at Llandudno at 0915h on 16 March. The survey resumed at 1000h, and the remaining 8 stations were completed by 1130h on 17 March.

During 17 and 18 March a total of 19 twenty-minute hauls were carried out in the Liverpool Bay area to obtain live male plaice for the Lowestoft Laboratory. This work was completed by 1340h on 18 March. Having completed all aims, CORYSTES docked at Liverpool at 0930h on 19 March, and the live fish were unloaded for transport back to Lowestoft. Changeover of scientific staff for part B of the cruise took place on 20 March, and staff returned to Lowestoft by road.

RESULTS:

Aims 1,2 and 3.

115 of the 121 standard survey grid stations were successfully completed. Static gear on and around the tow prevented two stations being attempted, and the remaining four of the standard stations were not worked due to time constraints on the first part of the survey. At each site the 4m beam trawl, fitted with chain mat, flip-up ropes and a 40mm cod-end liner, was towed for 30 minutes at a speed of 4 knots. A chart indicating the position of each station is attached. Station details together with catch, length and biological data were input to the Fishing Survey database. In addition, the abundance of major animal groups of benthos were recorded at each station. Data from the ROXANN ground discrimination system and the continuous salinity/temperature monitoring system for surface water were logged during the survey stations. Weather permitting, a Guildline CTD profiler fitted with a shallow water sensor was deployed at the first and last stations on each day to obtain additional temperature and salinity data by depth. At each CTD station water samples were collected for salinity calibration purposes.

All fish and selected commercial crustaceans were identified to species, weighed and measured; and length-stratified samples of otoliths (4096 in total) were taken from selected species:

Species	VIIa	VIIIf	VIIg	Total
Angler	28	4	24	56
Brill	20	3	0	23
Cod	47	28	6	81
Dab	325	79	31	435
Lemon sole	87	62	72	221
Megrim	2	0	0	2
Plaice	1788	237	85	2110
Sole	551	193	36	780
Turbot	4	3	2	9
Whiting	196	131	52	379

All otolithed fish were sexed and assigned a maturity stage, and all species except dab and whiting were weighed individually.

A total of 67 finfish species were recorded, the main ones by weight were lesser spotted dogfish (19%), plaice (16%), whiting (12%), dab (9%) and sole (6%).

Aim 4.

12 berried edible crabs were frozen for D. Eaton.

15 samples of diseased fish were preserved for S. Feist (Weymouth).

Samples of commercial-sized dab, plaice, sole, cod, flounder and whiting were frozen for A. Franklin (Burnham).

All butterfly blennies (*Blemnius ocellaris*) caught were frozen for M. Kaiser (Conway).

3 samples of whelks and hermit crabs were frozen for M. Kaiser; and numbers of whelks and hermit crabs were recorded at each station.

Incidence of damage to starfish was recorded at 10 stations (M. Kaiser).

235 live male spawning plaice were collected for J. Knowles.

23 brill liver and gill samples were preserved for R. Millner.

All lesser weeviers caught were frozen for R. Nash (Port Erin).

Samples of small crabs were frozen for lobster feeding (R. Turner).

Length, wing width and maturity stage of all rays caught were recorded (M. Vince).

56 sections of angler vertebrae were frozen for ageing studies (T. Watson).

32 mature female sole ovaries were preserved for P. Witthames.

21 male plaice were otolithed to augment VIIa market samples (M. Vince).

Specimens of 58 species of fish were frozen for fish identification courses (T. Watson).

A sample of siphons from dead *Lutaria lutaria*, from a position in Carmarthen Bay, was frozen for studies by the Burnham Laboratory.

S Flatman (SIC)

19 March 1997

SEEN IN DRAFT: B J Chapman (Master)
W M May (Senior Fishing Mate)

INITIALLED: JGP

DISTRIBUTION:

Basic list +

S Flatman

M R Vince

M J Boon

B F M Harley

I D Holmes

M J Brown (Part 1)

A J Winpenny (Part 2)

S Wheatley (Part 2)

M G Pawson

M J Armstrong (DANI, Belfast)

R Nash (Port Erin)

FCO (for Republic of Ireland)

Sea Fisheries Committees:

Cumbria

North Western and North Wales

South Wales

Devon

Cornwall

