

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND NR33 0HT

1993 RESEARCH VESSEL PROGRAMME

REPORT : RV CORYSTES : CRUISE 3

STAFF: D J Symonds
M R Vince
P A Large
M J Boon
C D Darby
B F M Harley

DURATION: Left Lowestoft 1800h 4 March
Arrived Lowestoft 0000h 29 March
(All times are Greenwich Mean Time)

LOCALITY: Irish Sea, Bristol Channel, Celtic Sea, Western English Channel

AIMS:

1. To repeat and extend the north-east Irish Sea and Bristol Channel beam trawl surveys carried out each September.
2. To collect data on weight at length of sole and plaice throughout the area worked.
3. To determine the distribution and abundance of juvenile and adult sole in the Irish Sea, Bristol Channel and Celtic Sea during the spawning season.
4. To tag cod, sole and plaice if the opportunity arises.
5. To collect ovaries from pre-spawning sole in Liverpool Bay and samples of 'running' female sole from off Start Point and Trevoise Head.

NARRATIVE:

A good passage was made to a position 25 miles ESE of Start Point where trawling for soles with the 4m beam trawl commenced at 1645h on 5 March. Fishing continued until 2214h when CORYSTES proceeded to Trevoise Head to start the Bristol Channel-Celtic Sea survey at 0842h the following morning. A rendezvous with CIROLANA about 30 miles off Trevoise Head was made later in the day to exchange items of scientific equipment. Good weather conditions prevailed and the survey was successfully completed by 1546h on 13 March.

The Irish Sea survey started at 0737h on the 14th but was interrupted by the necessity to retrieve the guard buoy to a MAFF current meter rig in the Lune Deep which had shifted from its original deployment position. The survey was resumed later the same day and continued until the afternoon of the 16th when a southwest gale forced the vessel to seek

shelter in Ramsey Bay. CORYSTES remained at anchor until 1300h on 17 March when she proceeded to Workington for the mid-cruise break, docking at 1916h.

On leaving Workington at 0900h on 19 March, the Irish Sea survey was resumed in the Solway Firth, and continued steadily until southwest winds brought trawling to a halt in the exposed waters south west of the Isle of Man at 1300h on the 22nd. Shelter was sought in Dulas Bay after six tows for sole had been carried out during the evening in the relatively protected waters off the Great Orme, North Wales. With a moderating forecast, the survey was resumed at 0703h on 24 March and was terminated at 1144h on the 26th. During the last station, one of the engine room staff collapsed with abdominal pains and was airlifted by helicopter to hospital at Haverfordwest. The remainder of the day was spent trawling for anglerfish in the southern end of St George's Channel in increasing southerly winds. The scientific work was brought to an end at 2215h on 26 March and CORYSTES proceeded to Lowestoft.

RESULTS:

Aims 1-3

Thirty-minute tows with the 4m beam trawl were made at 61 stations in the Irish Sea and 56 stations in the Bristol Channel-Celtic Sea area (see Track Chart). At each station, all fish species and selected crustacea were identified, weighed and measured, the benthos photographed and notes kept on the main benthic species; data from the ROX-ANN ground discrimination system and the continuous temperature and salinity system were logged. Water samples were taken regularly throughout the cruise for subsequent salinity determination in the laboratory.

In general the catch rates of fish were low. Of particular interest, however, was the distribution of juvenile and adult sole during the spawning season (Aim 3). In the Irish Sea, both juveniles and adults were concentrated in the Liverpool Bay area, with some adults occurring southwest of the Isle of Man and the outer regions of Caernarvon and Cardigan Bays. In contrast, the distributions of juvenile and adult sole in the Bristol Channel-Celtic Sea region were more or less separate, juveniles being taken mostly in Carmarthen Bay and adults of the north Cornish coast and a few near the southeast coast of Ireland; soles were uncommon in the catches offshore in the Celtic Sea.

Plaice, both adult and juvenile, were taken predominantly inshore, particularly in the northeast Irish Sea, east and southeast coast of Ireland and in Cardigan Bay. Recent yearclasses, as 1 and 2 year olds, of anglerfish (*Lophius piscatorius*) showed up strongly in the catches from the Celtic Sea and were caught in all but three stations. Best catches, of up to 20 fish per 30-minute tow, were made off southeast Ireland.

Otoliths of 2868 fish from seven species were collected for pre-recruit and biological studies and to augment the market sampling programme:

Species	ICES Division			
	VIIa	VIIIf	VIIg	Total
Sole	563	206	42	811
Plaice	862	215	109	1186
Whiting	200	97	21	318
Cod	25	12	13	50
Lemon sole	66	62	88	216
Megrim	1	4	33	38
L. piscatorius	74	70	105	249

All otolithed fish (except whiting) were individually weighed for subsequent weight-at-age analyses.

Selected fish and crustacean samples were deep frozen, including selected fish specimens for the laboratory fish identification courses, plaice and sole from Liverpool Bay for Mr Franklin (Burnham), bass for Mr Eaton, fish food for Mr T Watson, lesser weevs for Dr Nash (Port Erin), flatfish from Swansea Bay for Ms Mignot (Swansea), elasmobranch material for Mr Ellis (Swansea) and edible crabs for Dr B Thompson.

All station details and catch data were successfully input to the Fishing Survey System on the VAX and a full set of output documents were produced by the end of the cruise.

Aim 4. No sole, plaice nor cod were tagged. However, ten tows were made in St Georges Channel at the end of the cruise and 32 anglerfish were tagged and released.

Aim 5. Five tows off Start Point failed to produce any female sole in 'running' or 'pre-spawning' conditions. Similarly, no 'running' female sole were taken in two dedicated tows off Trevoze Head or in survey tows in the same area. However, ovaries from 30 'pre-spawning' soles taken in six tows off the Great Orme were preserved.

D J Symonds
30 March 1993

SEEN IN DRAFT: Master: M J Willcock
Senior Fishing Skipper: R F Graham

INITIALLED:

 2/4/93

DISTRIBUTION:

Basic list+	SFC's Cumbria
D J Symonds	North Western and North Wales
M R Vince	South Wales
P A Large	Devon
M J Boon	Cornwall
C D Darby	
B F M Harley	
P R Withames	

