

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

1992 RESEARCH VESSEL PROGRAMME

REPORT : RV CORYSTES 10b/92

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

STAFF: D J Symonds
S P Milligan
M J Boon
C D Darby
B F M Harley
N H Earl (Part 1)
S I Rogers (Part 2)

DURATION: Left Liverpool 2230h 28 August
Arrived Lowestoft 0200h 21 September
(All times are Greenwich Mean Time)

LOCALITY: Irish Sea, Bristol Channel

AIMS:

1. To carry out pre-recruit flatfish surveys in the north-eastern Irish Sea and Bristol Channel.
2. To carry out a pre-recruit gadoid survey in the north-western Irish Sea.
3. To compare the catch rates of sole and plaice taken in 15 minute and 30 minute tows with the beam trawl.
4. To investigate the distribution of sole and plaice in the central Irish Sea, St George's Channel and South of Ireland.
5. To tag pre-recruit sole in Tremadoc Bay.

NARRATIVE:

Staff joined CORYSTES at Liverpool on 28 August at 1930h. On sailing at 2230h, the ship proceeded to the first beam trawl station of the Irish Sea flatfish survey which was started at 0650h on the 29th. Despite strong to gale force SW to W winds which frequently interrupted fishing, the southern part of the survey (south of 54°N) was completed by 1240h on 3 September. CORYSTES proceeded to the Bristol Channel to start the flatfish survey there the following morning. This survey continued until the 6th when increasing SW winds again stopped trawling with two stations uncompleted.

CORYSTES returned to the Irish Sea to carry out the Granton trawl gadoid survey in the relatively sheltered north-western Irish Sea. On completion on 9 September, the ship headed for Douglas, Isle of Man, for the mid-cruise break and a change of staff.

CORYSTES left Douglas at 0740 on 11 September but only two stations were completed before trawling was again stopped (at 1316h) by gale force winds. Sampling resumed at

0917h the following day and continued in threatening weather until the 15th when the ship proceeded to Ramsey in a strong to gale force SW wind to obtain medical attention to Mr B Harley who had suffered abdominal discomfort for the previous two days. The ship remained at anchor in Ramsey Bay throughout the day but a moderation in the wind allowed the remaining survey station to be completed on the following morning. Further beam trawling was carried out in the central Irish Sea and St George's Channel in good weather until 1200h on the 18th. The remaining two stations of the Bristol Channel flatfish survey were picked up in the evening before course was set for Lowestoft at 1850h.

RESULTS:

1. The routine 53 stations of the Irish Sea flatfish survey were completed. Similar distributions of sole and plaice were noted as in previous years. Soles were most abundant in Liverpool Bay and off the Lancashire coast (up to 153 per 15 minutes) and off the Solway Firth (37 fish per 15 minutes). Catches were mainly 3 year olds from the strong 1989 year class. Plaice had a similar distribution to sole with up to 109 per 15 minutes off the Ribble Estuary. The catches of 0-group cod were low compared with 1991 but 1-groups occurred regularly in the beam trawl suggesting that the 1991 year class is above average.

The 34 stations of the Bristol Channel flatfish survey showed that sole and plaice were most abundant in and around Carmarthan Bay with up to 156 soles and 241 plaice taken in a 30 minute tow. The soles appeared to be mainly 1 and 2 year olds.

Provisional results on year class strengths of pre-recruit sole and plaice in the Irish Sea and Bristol Channel were communicated to the relevant ICES Working Groups.

2. The 12 one-hour tows with the Granton trawl produced disappointingly small catches. Horse mackerel, mackerel and whiting formed the greater proportion (by weight) of the catches. Provisional mean numbers of cod and whiting per 1-hours fishing are given below:

Sector	Depth zone (m)	Cod		Whiting	
		0-group	1-group	0-group	1-group
NW	0-50	0.2	2.8	440.8	226.8
NW	50+	0.0	0.5	119.8	243.0
'NE'	50+	0.0	0.2	196.2	68.5
All sectors		0.1	1.2	252.2	179.4

The results for cod support those from the beam trawl survey, ie that the 1992 year class is poor and that, although catches were small, the 1991 year class is above average. The catches of 0-group whiting are the second lowest on record for this survey series and indicate that the 1992 year class is poor. However, the numbers of 1-groups were good and confirm that the 1991 year class, taken in high numbers as 0-groups in last year's survey, is above average.

3. The catches of sole and plaice in 15 and 30 minute hauls were compared on 49 of the Irish Sea beam trawl survey stations. Provisional analyses of the results suggests that the mean catch of the 30 minute compared to the 15 minute hauls is 1.91 larger for sole and 1.71 for plaice. Fish length appears to have no effect in either species.

4. Twenty four 30-minute hauls were made with the beam trawl in the central Irish Sea (south west of the Isle of Man) and in St George's Channel. Catches of all species were generally small with the best catch of sole (40 per 30 minutes) being taken in central Cardigan Bay and plaice (134 per 30 minutes) outside Kish Bank (Ireland). The southern Irish coast was not sampled.

5. No pre-recruit sole tagging was carried out due to adverse weather and, consequently, shortage of time.

MISCELLANEOUS

1. Records were kept and photographs taken of benthos caught at all stations.
2. All trawl data were input to the Fishing Survey suite on the VAX computer. However, problems were encountered in producing output documents and the system requires exhaustive testing before further use in the field.
3. Otoliths from 1473 fish of 6 species were collected for pre-recruit and biological studies and to augment the market sampling programme.

Species	ICES Division		
	VIIa	VIIIf	Total
Cod	38	0	38
Whiting	94	0	94
Plaice	449	179	628
Sole	430	169	599
Lemon sole	51	17	68
Anglerfish	32	14	46
Total	1094	379	1473

4. Samples of sole, plaice, flounder, dab, cod and whiting from several Irish Sea sites for Mr A Franklin (Burnham-on-Crouch), selected species for the laboratory's fish Identification Courses and lesser weeviers for Dr R Nash (Port Erin) were deep-frozen. Spider crabs and selected benthos were brought back live to the laboratory.

5. The state of sexual maturity of 116 rays (mainly *R. clavata*) was recorded.

6. Notes were made on the incidence and extent of ambicoloration in soles caught on all 30-minute hauls with the beam trawl.

D J Symonds
23 September 1992

SEEN IN DRAFT :

Master: M J Willcock
Senior Fishing Skipper : R Graham

INITIALLED : J G S

DISTRIBUTION :

Basic list+

D J Symonds

S P Milligan

M J Boon

C D Darby

B F M Harley

N H Earl

S I Rogers

B E Spencer

M Armstrong (DANI)

SFC's

Cumbria

North Western and North Wales

South Wales

Devon

Cornwall

