

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

1996 RESEARCH VESSEL PROGRAMME

REPORT : RV CORYSTES 11/96

STAFF: M R Vince
L E Woolner
M J Boon
I D Holmes
A J Winpenny
B F M Harley
Dr D Solomon (NMT Ltd) 5 September
Dr R Nash (Port Erin Laboratory (IOM) 5 September

DURATION: Left Lowestoft 1430h 23 August
Arrived Lowestoft 0030h 16 September
(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 carry out trials with a micro-wire tag detector system.
5. To tag pre-recruit plaice.

NARRATIVE:

CORYSTES sailed from Lowestoft at 1430h on 23 August and a reasonable passage was made to the Bristol Channel during which emergency drills were carried out including a practice boarding and winching-off operation with a Bristow HM Coastguard helicopter. The Bristol Channel survey commenced off Hartland Point at 1140h on 25 August and was completed at 1815h on 29 August. During the following two days the hauls in the Celtic Sea were carried out prior to commencing the Irish Sea survey in Cardigan Bay at 0545h on 1 September. Work continued uninterrupted until the evening of the 3rd when CORYSTES docked at Douglas at 1730h.

On the 5 September after embarking Dr Nash and Dr Solomon, survey hauls were carried out in the vicinity of Fleetwood, and the micro-wire tag injection and detection system were demonstrated by Dr Solomon. The Irish Sea survey continued uninterrupted in exceptionally good weather until the afternoon of 13 September when four short tows were made to obtain live male plaice for the Lowestoft laboratory.

An excellent passage was made back to Lowestoft in continuing good weather which was a notable feature of this cruise when wind speeds in excess of 20 knots were logged on only one day of this 24 day cruise.

RESULTS:

Aim 1

A total of 122 valid 30 minute tows were carried out during the survey. No problems were encountered with the 4 metre beam-trawl.

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.

The number of fish species recorded were similar to previous years; the main ones by weight were plaice (20%), lesser spotted dogfish (15%), dab (13%) and sole (8%).

All sole, plaice and lemon sole sampled for otoliths were measured in millimeters and individually weighed in grams for the length and weight-at-age data set.

Otolith samples totalled 4196 and are shown by species and survey sector on the table.

Aims 2 and 3

After completion of the 33 hauls in the Bristol Channel the otolith samples taken from sole and plaice were aged, and the summarised results sent to the laboratory for use at the Southern Shelf working group. Only one haul was abandoned within the Irish Sea (7a) despite the ever increasing presence of static gear on some inshore grounds. However, all 35 of the planned stations within the north and south eastern sectors of the Irish Sea were fished successfully.

The distribution of sole and plaice was similar to previous years, with sole catches mainly confined to the shallow water hauls in the south eastern sector. Plaice catch numbers were above average and found in similar quantities in the north and south eastern sectors.

Aim 4

Following a seminar given at the Lowestoft laboratory in March on fish marking technology by Dr D J Solomon who represented NMT International, an agreement was reached that Dr Solomon would join CORYSTES for one day in order to demonstrate the micro-wire tagging and detection system. Dr Richard Nash of the Port Erin laboratory IOM joined CORYSTES in Douglas and so too benefited from the demonstration in a realistic working environment.

Dr Solomon provided a handheld 'multishot' injector, Mark IV automatic tag injector, portable sampling injector, handheld 'wand' detector and 8 inch tunnel detector for evaluation. Trials consisted of initially observing the protocols and sample handling

for the MAFF Irish Sea beam trawl flatfish survey to determine the feasibility of incorporating tag detection into the shipboard survey routine. Then to test the size range of flatfish which could be marked and finally to test the accuracy of tag detection in largish samples.

Dr Solomon also demonstrated tagging shrimp (*Crangon sp.*). The tags were implanted into the telson of live shrimp using the automatic tag injector. The shrimp survived the duration of the experiments and were easily detectable with all three detection devices. (A fuller report with photographs will be available later).

Aim 5

No tagging of plaice (mini-petersen disc) was carried out due to lack of time on completion of the survey.

Miscellaneous Aims and Requests:

1. The main species of benthos caught was recorded on all hauls.
2. Both RoxAnn ground discrimination package and SEXTANT navigational equipment were used on most stations and no problems were encountered.
3. A total of 37 deployments were made with the shallow water CTD used at the beginning and end of each days trawling.
4. A total of 55 water samples were taken using the Chelsea instrument, sampling three times per day at the start, middle and end of each days trawling.
5. Samples of sole, plaice, dab, whiting and cod were collected at various sites and frozen for Mr A Franklin.
6. Three diseased dabs or portions thereof were preserved for Mr S Feist.
7. All 7 bass caught were frozen for Mr G Pickett.
8. A small number of male plaice were collected and kept alive in a deck tank for Dr J Knowles.
9. Various fish species were collected and frozen for the Fish Identification course. Mr T Watson.
10. A total of 22 Brill were sampled for liver and gills for stock determination. Dr R Millner.

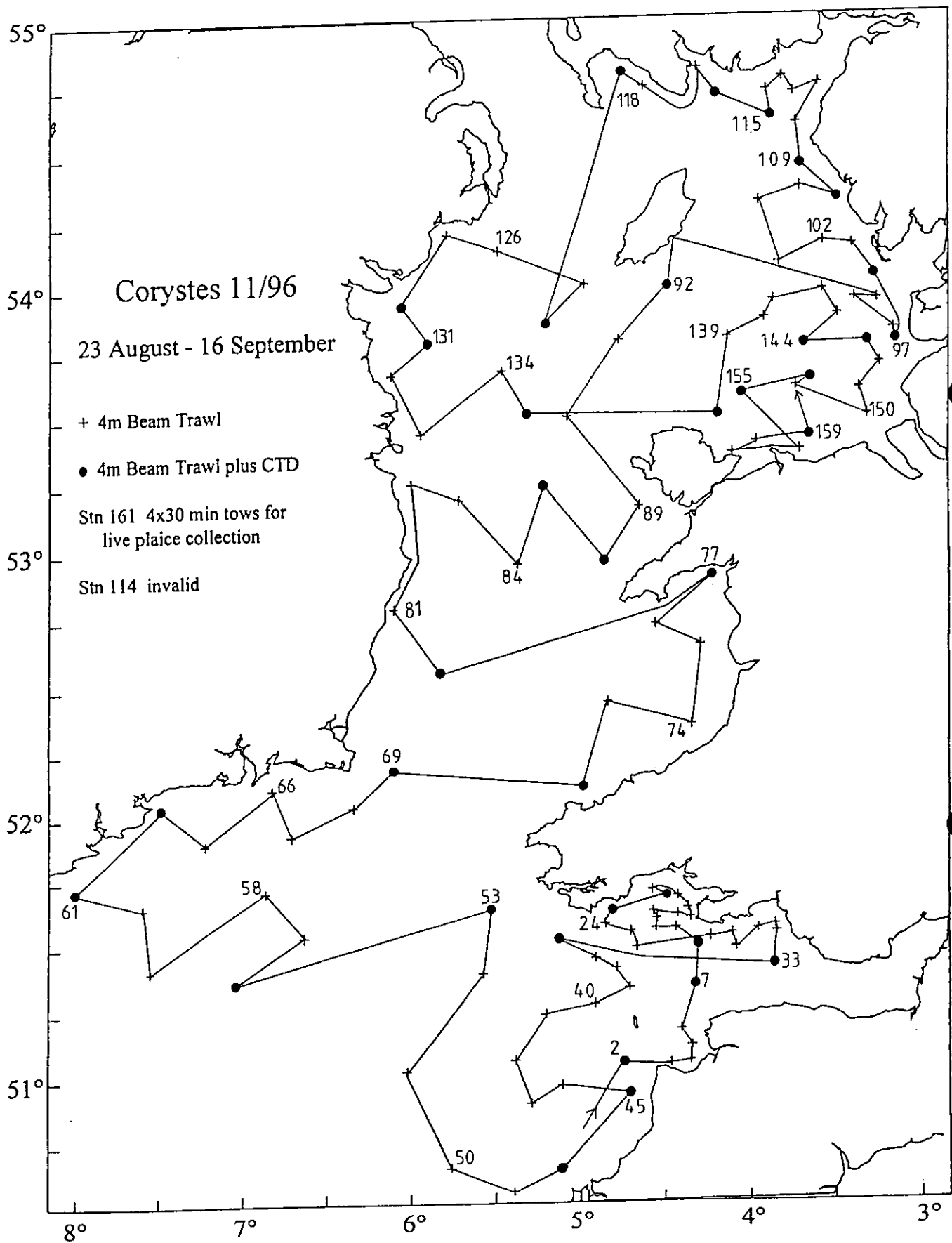
M R Vince
17 September 1996

SEEN IN DRAFT: B Chapman Master
 W May Senior Fishing Mate

INITIALLED: J G P

DISTRIBUTION

Basic list+ A J Winpenny
M R Vince B F M Harley
L E Woolner Dr D Solomon
M J Boon Dr R Nash
I D Holmes



Corystes 11/96 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	178	133	180	101	212	30	56				
	f	204	151	203	150	271	23	40				
	total	382	284	383	251	483	53	96	1367	524	41	1932
Sole	m	56	12	169	21	225	22	6				
	f	35	8	180	31	241	18	4				
	total	91	20	349	52	466	40	10	518	480	30	1028
Dab	m	31	22	31	24	45	25	30				
	f	40	40	52	47	54	17	28				
	total	71	62	83	71	99	42	58	322	114	50	486
Whiting		28	36	46	38	87	5	36	177	81	18	276
Cod		-	-	-	-	-	-	-	18	4	2	24
Lemon Sole		-	-	-	-	-	-	-	88	72	40	200
Megrim (L whiff)		-	-	-	-	-	-	-	0	8	76	84
Anglerfish (L pisc)		-	-	-	-	-	-	-	47	21	33	101
Anglerfish (L bude)		-	-	-	-	-	-	-	0	0	1	1
Turbot		-	-	-	-	-	-	-	6	13	0	19
Brill		-	-	-	-	-	-	-	30	15	0	45
												4196