

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

1990 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 10  
(PROVISIONAL: Not to be quoted without prior reference to the author).

STAFF:

D J Symonds  
T J Hulme  
S I Rogers  
M C Squirrell  
A B Thompson (Part 1)  
B F M Harley (Part 1)  
A R Child (Part 2)  
S P Milligan (Part 2)

DURATION:

Left Lowestoft 0930h 6 September  
Arrived Lowestoft 1645h 27 September  
All times are Greenwich Mean Time

LOCALITY:

Eastern English Channel  
Irish Sea  
Bristol Channel

AIMS:

1. To carry out a pre-recruit flatfish survey in the eastern Irish Sea using the 4m beam trawl.
2. To carry out a pre-recruit gadoid survey in the north western Irish Sea using the Granton trawl.
3. To tag soles off the North Wales coast and the River Ribble (Conwy).
4. To carry out a pre-recruit flatfish survey in the Bristol Channel using the 4m beam trawl.
5. To investigate the distribution and abundance of pre-recruit plaice and sole of the Irish coast.

ADDITIONAL LATE AIMS:

6. To catch and land live scallops for Dr A Beaumont (Menai Bridge Laboratory).
7. To return live sole to augment the broodstock (Conwy Laboratory).

NARRATIVE:

On leaving Lowestoft, CORYSTES proceeded to the Baie de Seine in the eastern English Channel where 3 of the 4 beam trawl stations left unsampled from cruise 9 were completed on 7 September in a blustery NW wind. A good passage was then made to the eastern Irish Sea and the pre-recruit flatfish survey was started at 0540h on 9 September. Dr Rogers was picked up from Llandudno by Sea-Rider later the same day. Good weather prevailed and the survey,

together with dredging for live scallops south of the Isle of Man, was completed at 1755h on 13 September. Sole tagging and the collection of live sole outside Constable Bank off North Wales were carried out on the 14th; landing of live scallops and soles and changing of staff was accomplished by Sea-Rider at Conwy Morfa early on the 15th. Further sole tagging and a study of flatfish catch rates over a 24h period completed the beam trawl programme in the eastern Irish Sea. Four hauls of the gadoid survey were made with the Granton trawl on the 17 September west of the Isle of Man before CORYSTES proceeded to Douglas arriving 1730h on the same day for stores, water and a mid-cruise break.

Sailing from Douglas was delayed until 1900h 19 September to effect satisfactory repairs to the SIMRAD sounder and to allow a westerly gale to abate. The remaining 9 stations of the gadoid survey were carried out on the 20th and 21st in fresh to strong west to southwest winds. A beam trawl survey of the Irish Coast was started in Dundrum Bay at 1450h on the 21 September and continued southwards finishing of Courtown (Co Wexford) at 1830h on the 23rd. The Bristol Channel flatfish survey was successfully carried out on 24 and 25 September thus completing the scientific programme of the cruise. The two 4m beam trawls were transferred at sea to the charter vessel CARHELMAR, for use on the western channel survey, on the 26th before CORYSTES set course for Lowestoft at 1300h.

## RESULTS:

**Aim 1.** Fifty four valid 15 minute tows with the 4m beam trawl were made in the eastern Irish Sea (Figure 1). Pre-recruit plaice and sole generally formed the larger part of the catches with commercial sized fish of any species being uncommon. As in previous years, the majority of sole and plaice were taken in Liverpool Bay. Catches of sole per 15 minute tow in this area were in the range of 30-120, with one exceptionally good catch of 602 fish taken in 17m off the Dee Estuary. Catches of plaice were similar with 250 being taken at a station in Conwy Bay. One notable feature of this survey was that 0-group cod were taken in half the hauls, mostly inshore, with up to 49 per 15 minutes in Conwy Bay. No 0-group cod have been recorded on this survey in previous years.

**Aim 2.** The 13 tows of the gadoid survey with the Granton trawl (Figure 1) produced disappointing catches of most species. Provisional mean numbers per 1 hours fishing of 0- and 1-group cod and whiting are given in the following table:

Sector	Depth zone (m)	Cod		Whiting	
		0-group	1-group	0-group	1-group
NW	0-50	2.5	.2	73.8	75.5
NW	50+	1.5	.2	195.5	106.5
NE	50+	5.2	.5	96.8	40.2

The catches of 0-group cod, although small, are generally higher than in 1989 whereas 1-groups are similar; catches of 0-group whiting are exceptionally low compared with 1989.

**Aim 3.** A total of 600 soles were tagged at a site outside the Constable Bank (North Wales) and 1100 off the R Ribble, this in conjunction with a study on the variability of sole and plaice catches over a 24 hour period.

**Aim 4.** A reduced flatfish survey of 23 stations of 30 minute duration was completed in the northern part of the Bristol Channel (Figure 2). Catch rates of pre-recruit plaice and sole were similar to previous surveys with the best being inshore in Carmarthen Bay (up to 200 soles per 30 minutes off Saundersfoot).

**Aim 5.** Thirty four beam trawl hauls along the Irish coast were completed (Figure 1). A few pre-recruit sole were found off Dúndalk Bay but were otherwise absent or taken in small numbers in the rest of the survey area except for one haul off Arklow in 16 metres of water where 54 were taken in 15 minutes. Pre-recruit plaice were found in small numbers throughout the area.

**Aims 6 and 7.** Fifty large scallops for the Menai Bridge Laboratory and 40 soles (24-27cm) for the Conwy Laboratory were landed live at Conwy Morfa.

#### MISCELLANEOUS

1. The HP 1000 computer still gives cause for concern. A fault developed early in the cruise which could not be rectified, resulting in only limited data being input.
2. Otoliths from 1062 fish of 8 species were collected for pre-recruit and biological studies and to augment the market sampling programme.

	<u>VIIa</u>	<u>VIIId</u>	<u>VIIIf</u>	Total
Sole	284	39	119	442
Plaice	236	39	63	338
L Sole	43		8	51
Megrim	1			1
Cod	9		1	10
Whiting	126			126
Hake	39		27	66
L piscatorin	25		3	28
Total	763	78	221	1062

3. Samples of plaice, sole, dabs, cod and whiting from Liverpool Bay and Swansea Bay for Mr A Franklin (Burnham), edible crabs for Dr B Thompson and selected fish specimens for the Laboratory's fish identification course and for English Heritage were deep frozen. Benthos and spider crabs were brought back live for the Royal Zoological Society and the University of East Anglia.

D J Symonds  
5 October 1990

SEEN IN DRAFT: Captain J French - Master  
M G C Reynolds - S.F.M.

INITIALLED: JH

DISTRIBUTION:

Basic List +

D J Symonds  
T J Hulme  
S I Rogers  
M C Squirrell  
A B Thompson

B F M Harley

A R Child

S P Milligan

M J Boon

W McCurdy (DANI)

Sea Fisheries Committees: Cumbria

North Western and North Wales

South Wales

Devon

Cornwall

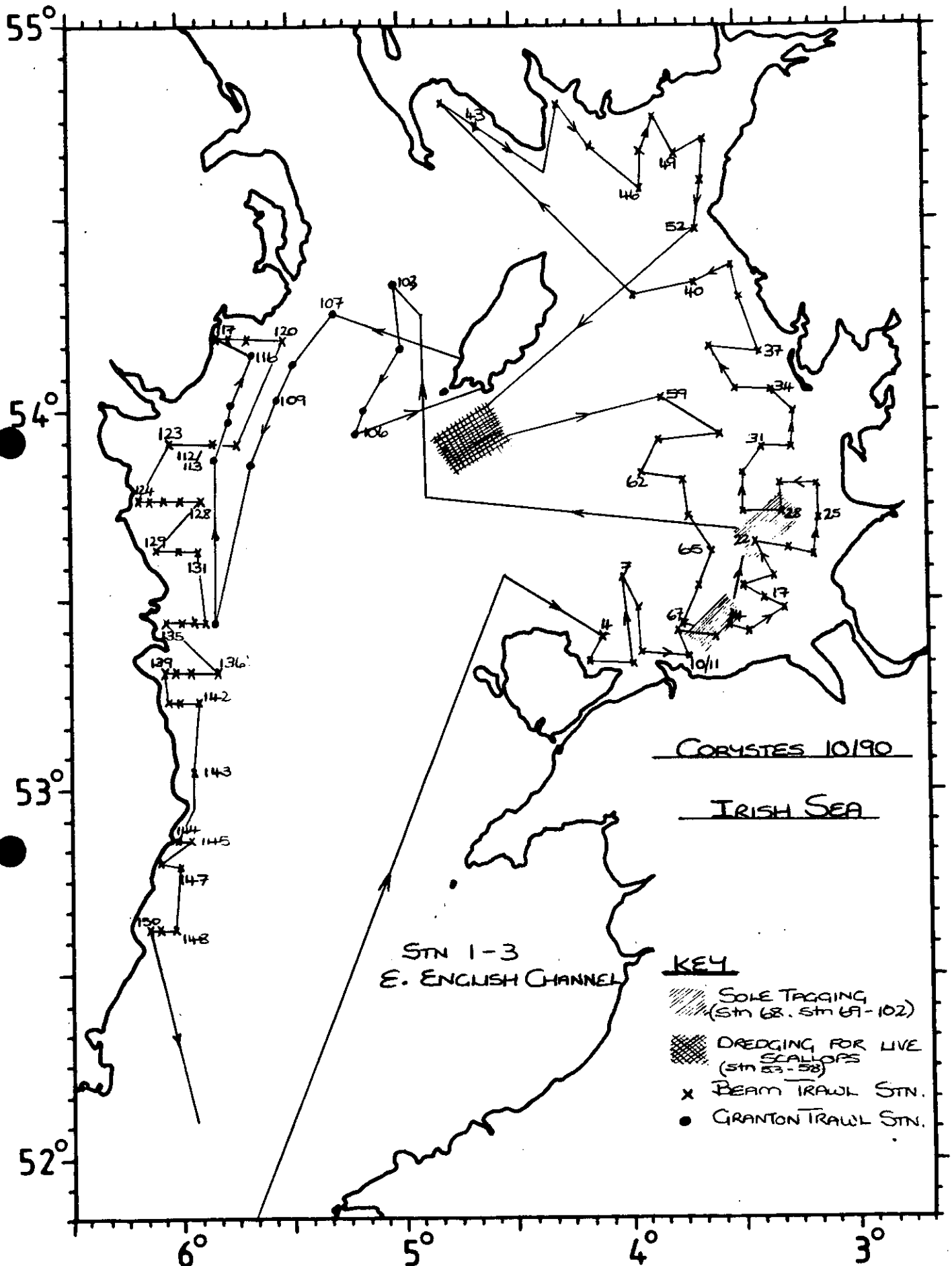


Figure 1

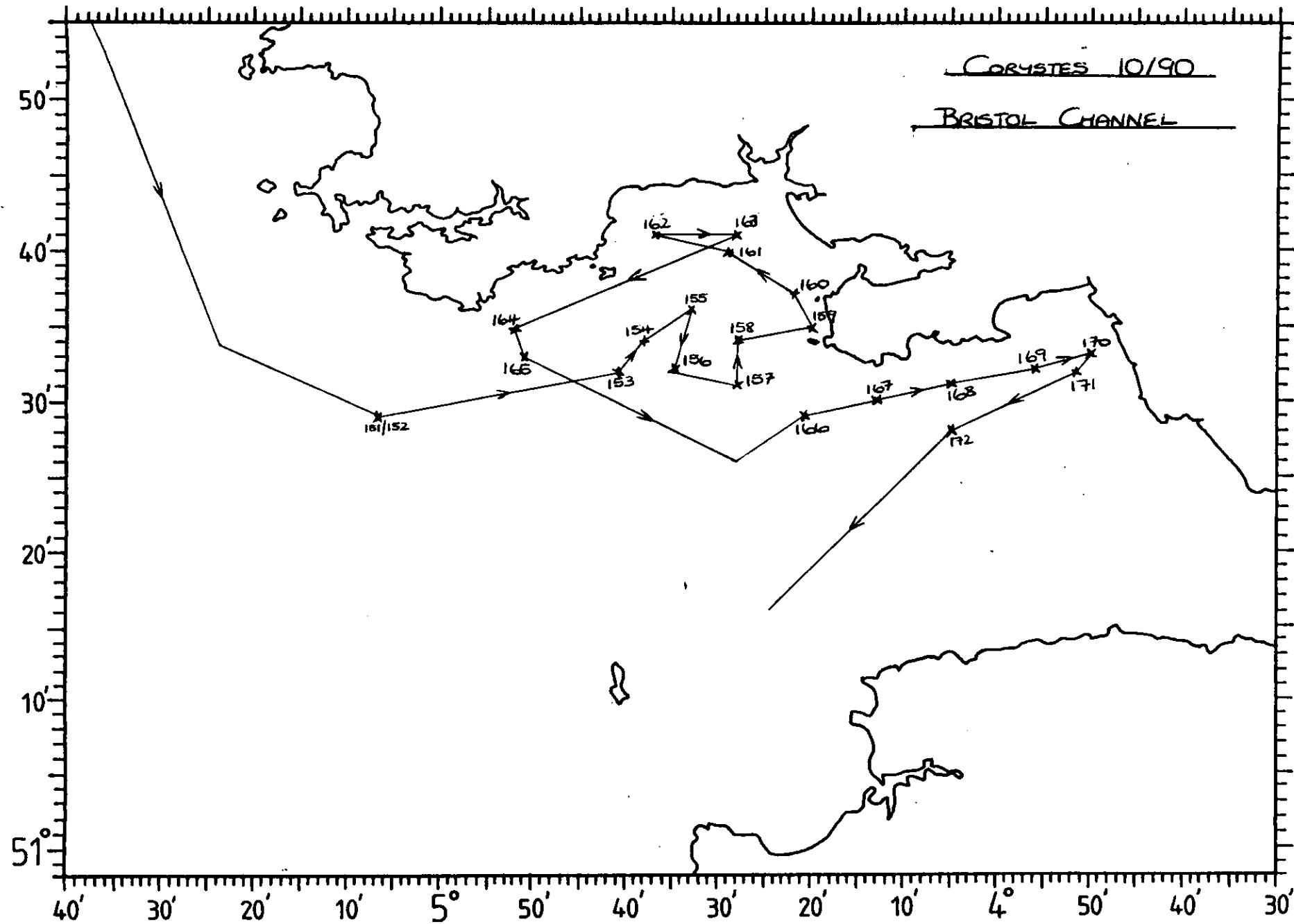


Figure 2