

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

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 10

STAFF:

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M C Squirrell (Part 1)
A S Sowter (Part 2)

DURATION:

Left Lowestoft 1010 h, 5 September
Arrived Lowestoft 0600 h 27 September
All times are Greenwich Mean Time

LOCALITY:

Irish Sea, Bristol Channel, Western English Channel

AIMS:

1. To carry out a survey for 0- and 1-group gadoids in the north-western Irish Sea using the Granton trawl.
2. To carry out a pre-recruit flatfish survey in the eastern Irish Sea using the 4 m beam trawl.
3. To investigate the variation in pre-recruit flatfish catch rates over 24 h periods.
4. To extend seawards the North Wales inshore survey already being carried out by charter vessel.
5. To compare the sole catch rates of the 4 m beam trawl with those of the 2 m beam trawl as used by the charter vessel on the inshore survey.
6. To carry out a pre-recruit flatfish survey in the Bristol Channel using the 4 m beam trawl.
7. To compare the catch rates of the 4 m beam trawl as used on CORYSTES and the double beamer annually chartered to survey the western English Channel.

NARRATIVE:

Good weather resulted in an uneventful passage from Lowestoft to the Irish Sea where the first Granton trawl tow of the gadoid survey off Lambay Island was started at 1740 h on 7 September. Weather remained reasonable and the 12 stations of this survey were completed at 1520 h on the 9th when CORYSTES proceeded to Luce Bay to start the flatfish survey with the

4 m beam trawl the following morning. Daylight fishing continued uninterrupted until this survey was completed at 1340 h on the 14th. The first of the 24-hour flatfish catch rate studies off the Ribble Estuary was successfully carried out before the weather broke and CORYSTES steamed to Douglas, Isle of Man, docking at 1900 h on the 15th to replenish water and stores and change staff.

On sailing from Douglas at 0600 h on 17 September, a water sample was taken 10 miles SE of the Calf of Man before CORYSTES proceeded to the North Wales coast to commence the seaward extension of the Conwy laboratory's charter vessel sole survey. The proposed comparative fishing with this charter vessel on the 18th was postponed due to gale force southerly winds but the second 24 h catch rate sampling was possible in the lee of the land off Colwyn Bay. On completion, the collection of live sole made since leaving Douglas was landed by Sea-rider at Conwy on the morning of the 19th. The continuing strong to gale force winds veered eventually to the southwest and resulted in the cancellation of the comparative fishing with the charter vessel from Conwy and forced CORYSTES to seek shelter in Dulas Bay, Anglesey, after finishing the seaward extension of the sole survey at 1810 h on the 19th.

With decreasing winds, anchor was weighed at 2240 h on the 20th and an uncomfortable passage was made to the Bristol Channel where the first station 7 miles SE of the Smalls was started at 1516 h on 21 September. The survey was suspended at 1500 h the following day due to a WSW gale and a heavy swell. Only one further day's trawling was possible in the Bristol Channel before CORYSTES proceeded to an area off Start Point to repeat some of the survey tows regularly worked by a chartered Brixham beamer and to carry out a 24 hour sequence of tows off Berry Head. This was completed at 1916 h on the 25th and the two 4 m beam trawls were transferred to the charter vessel (MV CARHELMAR), which is to use them on the annual Channel survey, before CORYSTES set course for Lowestoft.

RESULTS:

Aim 1 The twelve 1-hour stations of the gadoid survey between the Isle of Man and the Irish coast produced only small catches of commercial species. However some good catches of mixed sprats and small herring (up to 4 baskets) were taken off the Irish coast; small gadoids (Trisopterus minutus and T. esmarkii) were found at most stations. The provisional mean numbers of cod and whiting per 1 hour tow are given below:

Sector	Depth zone (m)	Cod		Whiting	
		0-group	1-group	0-group	1-group
NW	0-50	2.2	1.5	2784.8	51.8
NW	50+	1.5	0.5	1347.2	7.5
NE	50+	0.2	0.5	823.2	4.8

Compared with last year, the first of the present series of surveys on CORYSTES, the mean catches of 0- and 1-group cod were similar, 0-group whiting were about double but 1-group whiting were much lower.

Aim 2 Fifty-four valid 15 minute tows were made in the eastern Irish Sea. Dabs and pre-recruit sole and plaice made up the major part of the fish catch with very few other commercial species being taken. The main centre

of abundance of both soles and plaice was in Liverpool Bay as in previous years.

Aim 3 Three successful 24 h sampling sequences were carried out to investigate the variation in pre-recruit soles and plaice catch rates. Statistical analyses of the results will be carried out later.

Aim 4 Twenty-four tows with the 4 m beam trawl were completed outside and westward of Constable Bank to establish the distribution and abundance of 1- and 2-group soles in an area not normally sampled during the North Wales inshore survey carried out by charter vessel from Conwy.

Aim 5 The comparative fishing planned with the same charter vessel was cancelled due to unfavourable weather.

Aim 6 Twenty-four 15-minute tows were made in the Bristol Channel, mainly on the northern side. Catches of pre-recruit soles and plaice were poor except in and near to Carmarthen Bay.

Aim 7 Seven 30-minute tows were made in the Start Point area. Catches of all commercial species were light, with those of pre-recruit soles being particularly poor.

Miscellaneous:

1. Due to a recurring fault in the hardware, no survey data were input to the computer. Therefore the normal detailed results from this cruise will not be immediately available as in the past.
2. Depth profiles of salinity and temperature were recorded at all beam trawl survey stations.
3. Otoliths of 1062 fish from 7 species were taken for pre-recruit and biological studies and to augment the market sampling programme:

	VIIa	VIIe	VIIIf	Total
Plaice	176	76	33	285
Sole	316	56	183	555
Lemon sole	46		3	49
<u>L. piscatorius</u>	28	3		31
Cod	19	1		20
Whiting	67			67
Hake	42		13	55
Total	694	136	232	1062

4. Samples of edible crabs for Dr B Thompson, soles and flounders from Liverpool Bay for Mr A Franklin and selected fish for the laboratory's Fish Identification course were deep-frozen; livers from dabs and flounders were preserved for Dr D Bucke and selected invertebrates were brought back live for UEA.
5. Following the theft of much of the broodstock from the Conwy Laboratory, about 50 live soles were landed at Conwy to replenish their stock.

6. A water sample for isotopic analysis was taken for Dr P Dare from the scallop grounds about 10 miles SE of the Calf of Man.

D J Symonds
2 October 1989

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INITIALLED: KB, JGS

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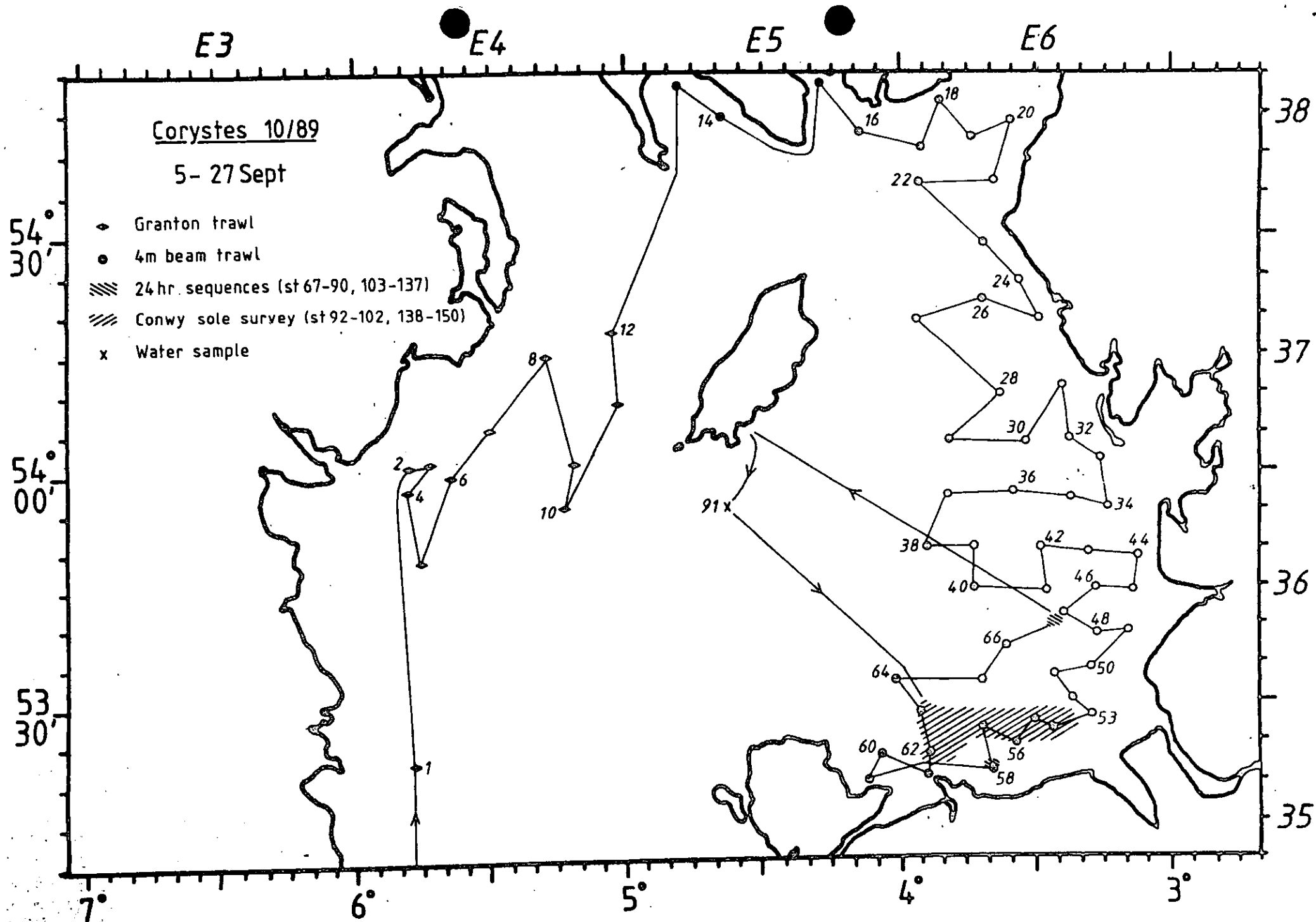


Figure 1

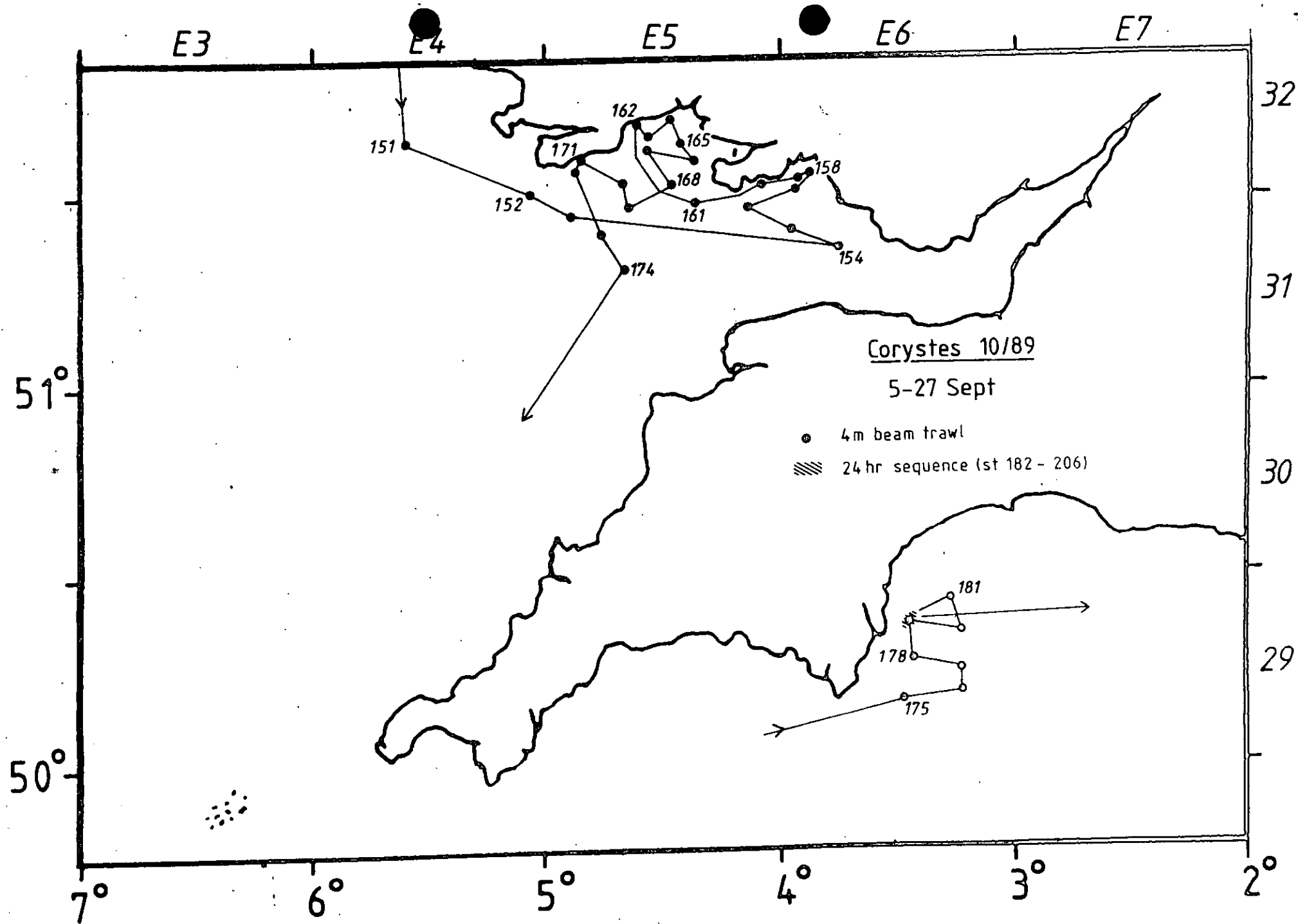


Figure 2