

Indexed AB

26

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

1987 CRUISE PROGRAMME

REPORT : RV CIROLANA: CRUISE 3

STAFF

- D J Symonds
- L E Woolner
- M R Vince
- W A Dawson
- M J Boon
- S Monk
- S Warnes
- J Teasdel
- S Coello (University College of North Wales, Bangor)

DATES:

Left Lowestoft: 1130h 3 March  
 Arrived Lowestoft: 0730h 26 March  
 All times are Greenwich Mean Time

LOCALITY:

English Channel, Celtic Sea, Bay of Biscay

AIMS:

1. To carry out a trawl survey of the Western English Channel, Celtic Sea and Bay of Biscay as part of a continuing programme of stock monitoring in the area.
2. To sample pelagic fish shoals.
3. To undertake mackerel selectivity experiments if suitable shoals are located.

NARRATIVE:

After unsuccessful attempts to calibrate the E M log over the measured mile off Corton, a good passage was made to an area off Start Point where an echo-survey grid was carried out to locate pelagic shoals within the "mackerel box" (Figure 1). No shoals were found so a move was made to a position about 25m SW of the Lizard where the first trawl station was started at 0953h on 5 March (Figure 2). Fishing continued out towards the shelf edge during the following day and most of the northern deepwater stations were completed by the 10th March in favourable weather conditions.

Trawling continued uninterrupted and all stations in the northern part of the survey grid had been attempted before entering the French EEZ on 17 March. The grid in the northern Bay of Biscay was completed by the evening of 23 March with only part of one day (19th) being lost due to gale force NW winds. A further 3 stations in the western English Channel on the 24th were done before CIROLANA set course for Lowestoft at 1715h the same day.

RESULTS:

Aim 1

61 valid trawl hauls of 1h duration were made with the Portuguese High Head-

line Trawl rigged with polyvalent doors, rubber bobbins, bunt tickler and codend liner. These were distributed along transects throughout the Celtic Sea and the northern end of Bay of Biscay in predetermined depth bands (Table 1). Stations in southern Biscay were not completed because the cruise was shorter than normal.

Table 1. Distribution of hauls by depth band and transect.

Latitude	Depth band (m)							Total
	90	90-114	115-139	140-164	165-179	180-250	250	
51°00	0	2	1	1	1	1	1	7
50°30	0	1	2	1	1	1	0	6
50°00	1	1	3	1	1	2	0	9
49°30	0	3	3	1	1	1	1	10
49°00	0	1	3	3	0	1	0	8
48°30	0	0	1	0	1	0	0	2
48°00	0	0	0	1	0	1	0	2
47°30	0	1	1	2	1	1	0	6
47°00	0	0	0	0	0	0	0	0
46°30	1	1	1	1	2	0	0	6
46°00	1	1	1	1	0	1	0	5
TOTAL	3	11	16	12	8	9	2	61

At each station, all fish and cephalopod species were sorted, weighed and measured; otoliths were taken from selected species and sex and maturity stages were recorded. The Groundfish Survey data base programme was used to input the data and carry out provisional analyses.

Catches, particularly at the **shelf** edge, were generally good. A total of 66 species were caught weighing almost 50t and the dominant species are given in Table 2.

Table 2. Major species by weight and numbers.

Species	Wt(kg)	%	Species	No.	%
Scad	31035	62.2	Scad	353000	61.2
Mackerel	7882	15.8	Poor cod	70000	12.2
Spurdog	2133	4.3	Boarfish	50300	8.7
Poor cod	1832	3.7	Mackerel	42700	7.4
Blue whiting	1728	3.5	Blue whiting	37600	6.5
Boarfish	1319	2.6	Anchovy	4100	0.7

By far the most important species by weight and numbers was scad which was caught in large quantities along the shelf edge; very few were taken in the

Bristol Channel area. 1-group mackerel were found in good numbers on Labadie Bank, mid-Biscay and off the Eddystone whereas older mackerel were taken at most stations along the shelf edge.

Good catches of spurdog were made at stations SW of the Scillies, hake were taken in most areas and all depth bands and megrims were common in the Celtic Sea area but not in Biscay nor the western English Channel.

Otoliths were collected from 17 species of fish for biological studies and to augment the market sampling programme (Table 3).

Table 3 Numbers of otoliths collected from each ICES division

Species	ICES DIVISION						Total
	107E	107F	107G	107H	107J	108	
Plaice	1	6	9	9	4	0	29
Megrim	4	0	52	63	70	32	221
4-spot megrim	0	0	0	1	43	0	44
Lemon sole	21	6	40	46	4	1	118
Sole	0	0	0	1	1	0	2
Witch	0	0	8	0	25	0	33
Long rough dab	0	0	67	5	34	0	106
Cod	0	2	23	4	12	0	41
Whiting	26	29	26	37	37	14	169
Hake	14	1	68	88	108	91	370
Pollack	6	0	4	3	36	1	50
Ling	11	0	19	17	13	2	62
Anglerfish	0	0	4	6	0	0	10
Black bellied angler fish	0	0	6	10	35	0	51
Red mullet	25	0	0	1	1	2	29
Mackerel	165	0	10	231	382	253	1041
Scad	0	0	0	0	56	0	56

As well as the routine mackerel sampling, gonads were taken from 249 fish which will be used by Mr S Coello, as part of a Ph D thesis, to estimate the proportion of 2 and 3 year olds which mature and spawn during the current year. It is also hoped to determine the proportion of first time spawners which do not release eggs due to atresia.

Ovaries of hake, anglerfish and long rough dab were preserved for laboratory studies; blood samples were taken from black sea bream, red mullet and anchovy.

and  
Selected species of fish were frozen for the fish ID course/ the Environmental Archeological Unit, York; 1 and 2 group mackerel were collected for Dr K McKenzie, Aberdeen.

Aims 2 and 3

As well as the echosurvey at the beginning of the cruise, the sounder was run continuously and observed frequently throughout the cruise. No suitable pelagic traces were found and therefore no sampling nor selectivity experiments were carried out.

#### Gear Damage

Gear damage, mostly in the form of a split belly, was frequent, particularly at the shelf edge stations. Problems with position fixing in areas distant from the coast, especially without the facility to update the satellite fix with inputs from the EM log, resulted in hauls being made which were not necessarily close to those done on former cruises. Some damage may also have resulted from large catches being brought on board in rough sea conditions.

D J Symonds  
26 March 1987

#### SEEN IN DRAFT

S Sinclair (Master)  
R C Newrick (Fishing Skipper)

#### INITIALLED:

D J Garrod

#### Distribution:

##### Basic list+

D J Symonds (4 copies)  
L E Woolner  
M R Vince  
W A Dawson  
M J Boon  
S Monk  
S Warnes  
J Teasdel  
S Coello

CIROLANA 3/87

Echo survey 4-5 March

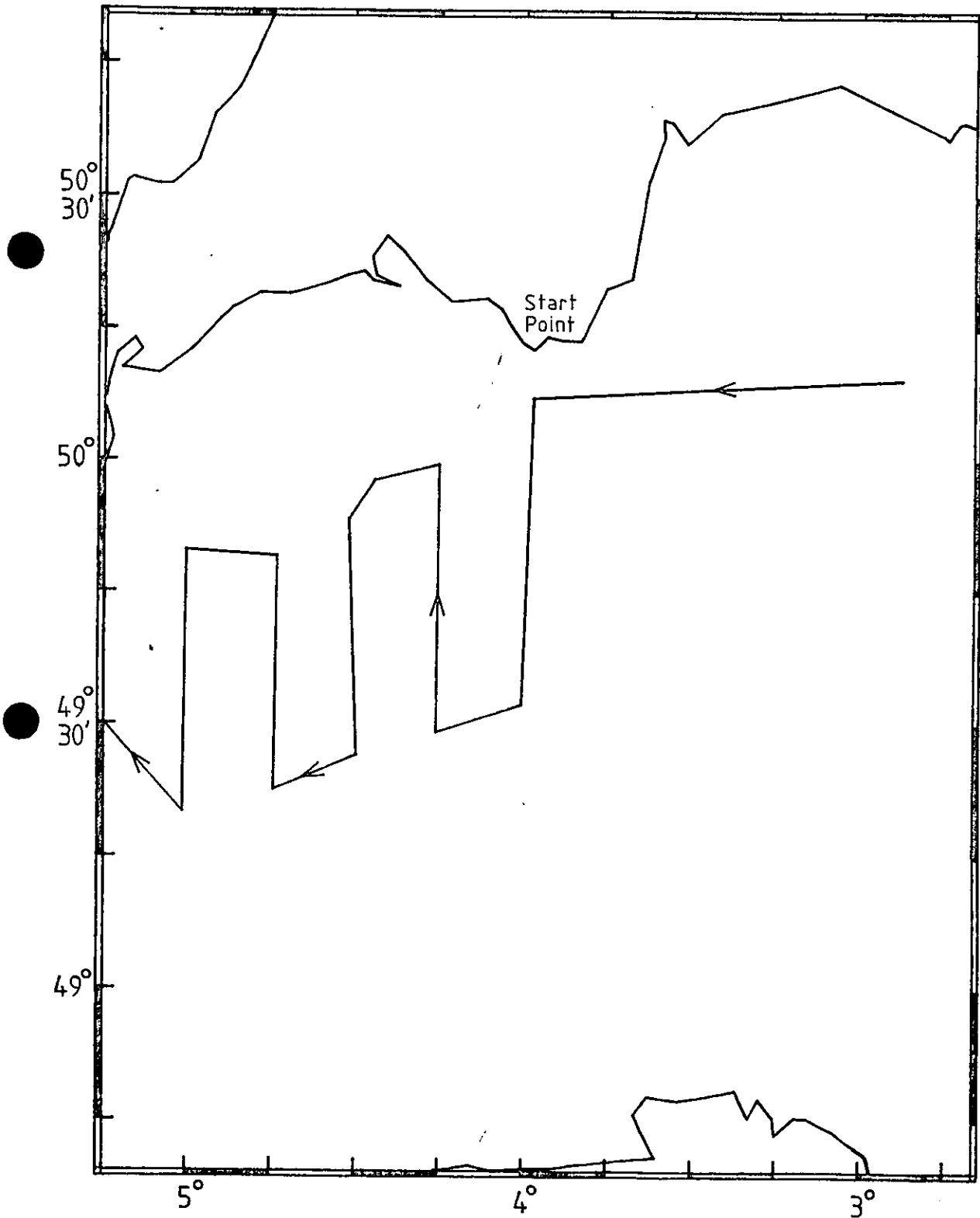


Figure 1

CIROLANA 3/87

Trawl survey 5-24 March

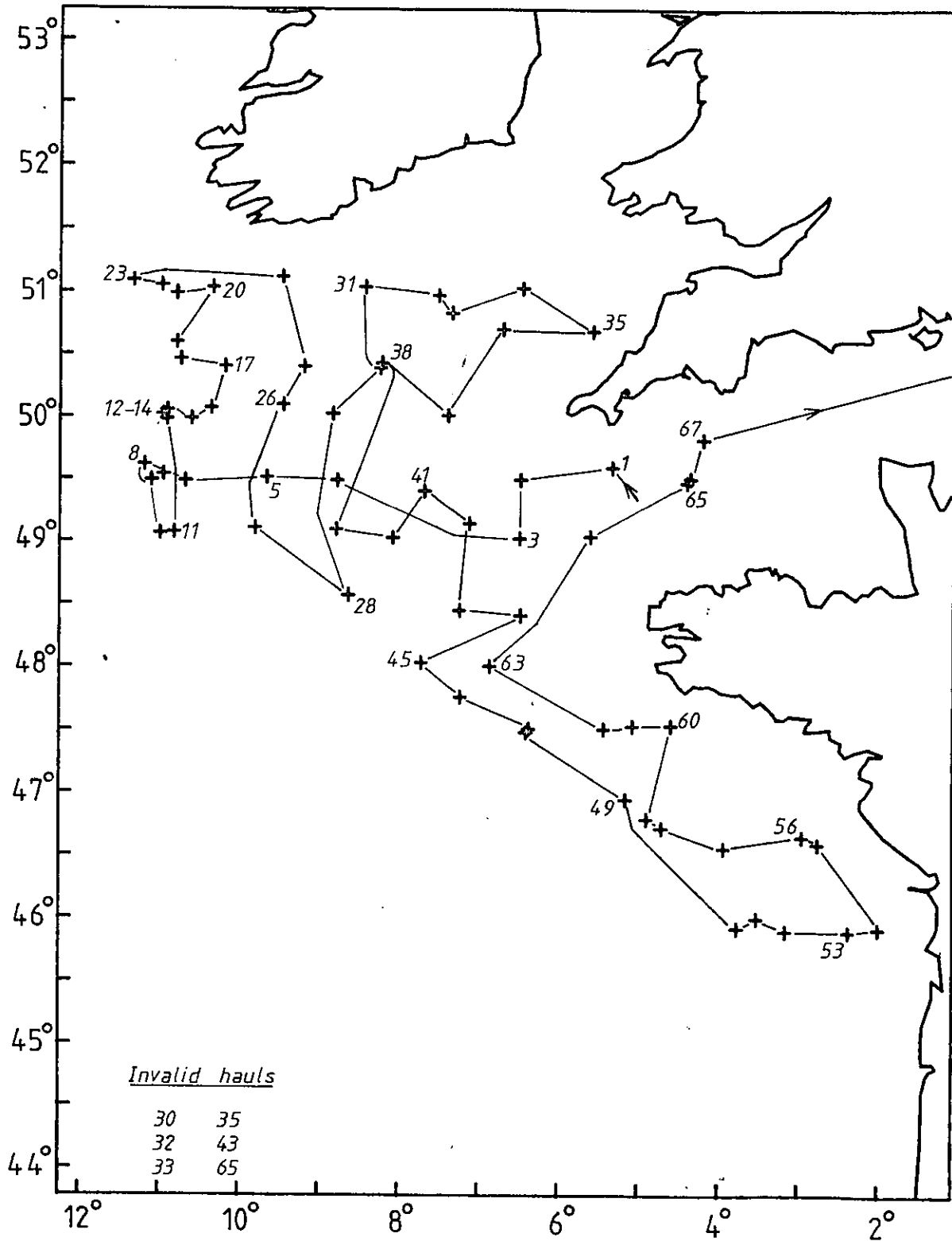


Figure 2