

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

1983 RESEARCH VESSEL PROGRAMME
REPORT: RV CIROLANA: CRUISE 10

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DURATION:

Sailed Grimsby 0840 GMT 28 Oct
Docked Lowestoft 1650 GMT 13 Nov

LOCALITY:

Northern North Sea - Pont Box.

AIMS:

1. Comparative fishing with RV G A REAY to compare catches in the short-winged G.O.V. trawls.
2. Comparative fishing in a restricted location with standard GOV trawl, short winged GOV trawl, standard Granton trawl and Granton trawl rigged with arctic bobbins.
3. Collections and analyses of stomach contents of gadoids.
4. Collections and analyses of benthos taken in (a) the various trawls and (b) the Agassiz trawl for comparison with stomach contents of fish.
5. Collections of near sea bed plankton using coarse and fine plankton nets attached to the headline of the trawls used in the fishing exercises.
6. Environmental sampling using CTD and Oriel fluorometer for profiles and shallow water CTD HIAC particle counter and Turner fluorometer in pumped seawater supply.
7. All data will be data logged (including ships instruments) or punched in to the computer following each trawl haul, or series of trawl hauls.

NARRATIVE:

Staff joined the ship as planned at Grimsby on the afternoon of 27 October and sailed the following day at 0840 h GMT 28 October, to join the

G A REAY for comparative fishing trials. The short winged G.O.V. was used for these comparisons while the G A REAY was fishing the standard grill of stations occupied each year to investigate the distribution of Norway Pout in the Northern North Sea.

On route to the rendezvous with G A REAY the ship was prepared for trawling, electronic instruments set up and the computer prepared to accept data from trawl hauls and instruments. Work commenced at 1351 h GMT using the shallow water CTD and Oriel fluorometer in a towed body and thereafter at hourly intervals as the CIROLANA steamed northwards.

RV CIROLANA AND RV G A REAY commenced work as planned at 0730 h GMT on 29 October and continued with only one day missed completely due to bad weather, when both ships dodged into the lee of the land and sought shelter in St Andrew's Bay in a south-westerly gale. The comparative tows were completed at 1806 h on 5 November. CIROLANA then dodged back towards the Aberdeen bank in a south-westerly gale while G A REAY continued northwards to continue the N Pout survey.

RV CIROLANA recommenced work off the Scottish coast at 0730 h on 7 November. Five hauls were made with the long-winged GOV in deep water (100 m+) east of Fraserburgh before changing to the standard Granton trawl which was then fished for two days in two depth bands 80-100 m and 60-80 m. This operation was repeated for a further two days using the Granton trawl with 21 inch diameter bobbins and the programme was completed at 1507 h on 11 November then the ship steamed south for Lowestoft.

CIROLANA docked at Lowestoft at 1650 h GMT on Sunday 13 November.

RESULTS:

All results were successfully entered to the computer and summarised using the new software developed for the groundfish survey data base. A cruise track and fishing positions are appended (Fig. 1).

Data was also obtained daily by radio from RV G A REAY during the intership comparisons and we were thus able to do preliminary comparisons of catches taken by the two ships. Unfortunately the 'glim' package could not be used properly and the main comparisons were done by regression analysis and through contoured plots of the catches in kg/h using the new programmes developed at Salford University. Examples of the results of contouring are given in Figure 2.

Data summaries were also made in tabular form for all catch data from the comparative fishing with G A REAY (Table 1) and from the trawl comparisons on RV CIROLANA (Table 2).

Stomachs were collected and preserved from cod, haddock and whiting, benthos collections made with an Agassiz trawl and plankton taken with a 60 mesh per inch net attached to the trawl headline to compare with items of the diet of these three fishes. No analysis was made of this material at sea.

Collections of small fish were also made for the Lowestoft fish identification course and photographs of benthos catches and of individual

benthic organisms; the latter for inclusion in a pictorial key currently being constructed by Dr Crammer of Luton Polytechnic.

D Harding
25 November 1983

SEEN IN DRAFT: MJW, EWP

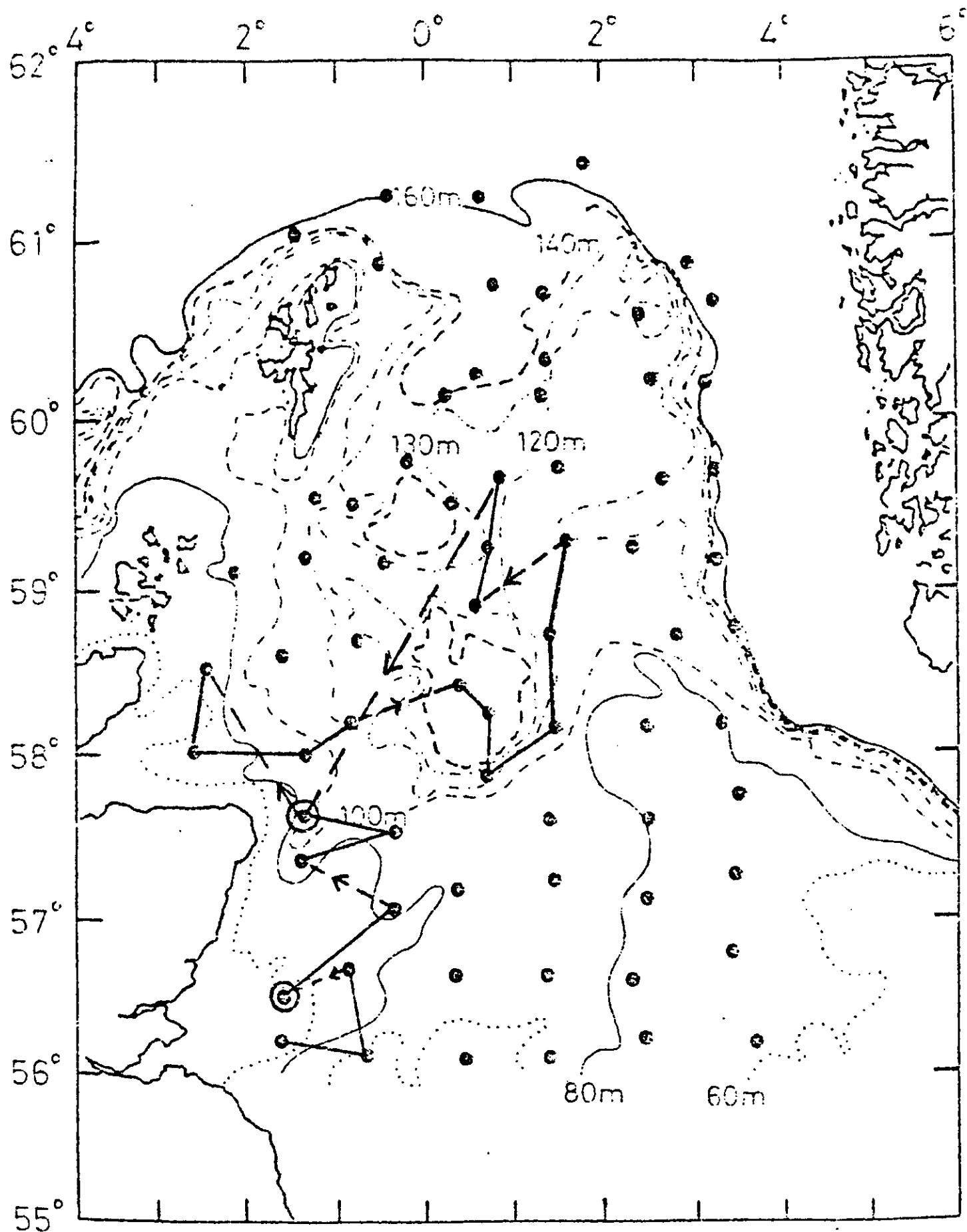
INITIALLED: DJG

DISTRIBUTION:

Basic list+
D Harding
J W Ramster
R Hudson
T Boon
I L Davies
P A Large
D W Palmer
R Flat
Dr G Crammer (Luton)
I Todd (Brixham)

Table 2 Average catches from five hauls with three trawls in 100-120 m. and on RV CIROLANA in November 1983.

Species	Long-winged GGV		Standard Granton		Heavy Granton	
	(kg/h)	(No/h)	(kg/h)	(No/h)	(kg/h)	(No/h)
Spurdog	18.9	11	8.9	6	6.8	3
Starry Ray	0.4	1	4.1	9	-	-
Cuckoo Ray	4.4	3	9.2	8	+	+
Herring	8.2	175	2.5	46	4.2	43
Sprat	0.3	27	0.2	18	0.2	18
Lesser Silver Smelt	0.1	4	0.1	7	+	1
Angler fish	0.4	+	2.5	1	-	-
Cod	43.6	48	32.3	47	5.6	2
Saithe	0.1	+	-	-	-	-
Haddock	142.6	5 918	201.1	2 463	94.8	1 412
Whiting	364.6	2 087	171.6	1 062	50.0	307
Norway Pout	255.2	16 085	59.6	3 282	22.7	1 474
Poor Cod	0.7	18	2.8	49	0.1	2
Common Ling	0.7	1	0.4	+	0	0
Hake	0.9	5	1.2	9	0.1	+
Grey Gurnard	0.5	4	3.5	25	0.9	5
Scod	3.1	42	1.6	9	1.3	6
Catfish	-	-	1.2	+	-	-
Mackerel	3.4	14	6.2	22	4.1	16
Turbot	-	-	2.3	+	2.6	1
Megrim	-	-	0.3	+	-	-
Witch	-	-	-	-	0.2	+
Long Rough Dab	8.6	234	15.3	278	13.2	263
Dab	0.4	4	3.8	28	2.9	27
Lemon sole	19.0	50	19.7	52	7.3	20
Plaice	0.7	1	1.7	3	0.4	1
Sand eel	-	-	+	1	-	-
Dragonet	-	-	+	1	-	-



ENGLISH NORWAY POUT-SURVEY TRAWL HAUL
POSITIONS CRUISE TRACK CIROANA 10/83

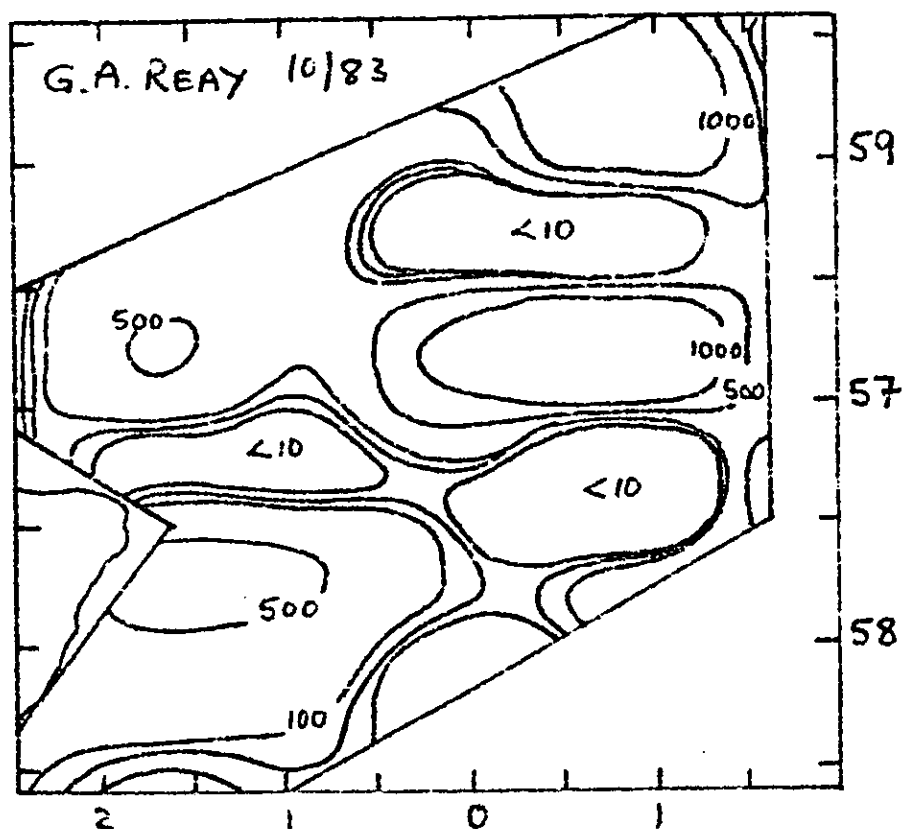
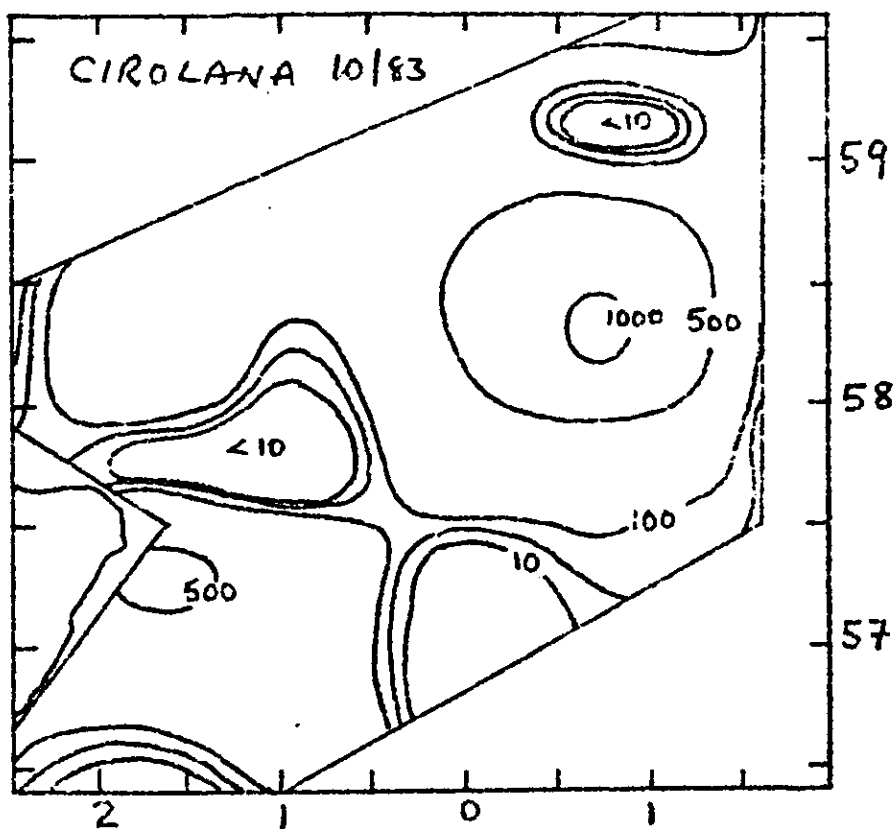


FIG 2. NORWAY PORT DISTRIBUTIONS (Kg/Hr)