

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

1984 RESEARCH VESSEL PROGRAMME

REPORT: RV CEROLANA: CRUISE 9

(PROVISIONAL: Not to be quoted without prior reference to the author)

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DURATION:

Left Grimsby 0930 h, 17 October  
Arrived Grimsby 0730 h, 13 November  
All times are Greenwich Mean Time

LOCALITY:

North Sea.

AIMS:

1. To carry out a groundfish survey of the North Sea using a short-winged GOV trawl in order to obtain information on:
  - (i) the distribution and abundance of all fish species caught by the trawl.
  - (ii) species interactions by examining stomach contents of selected predators.
  - (iii) length and age distributions of cod, haddock, whiting, saithe, Norway pout and plaice.
  - (iv) the distribution of fish in relation to environmental conditions.

All data will be entered on the ship's computer to create a data base for this cruise and summaries of the data obtained before the ship docks.

2. To sample the environment via the pumped sea water supply to shipboard sensors including:
  - (a) shallow water CTD
  - (b) Turner 10 fluorometer rigged to sample chlorophyll 'a'.
3. To take vertical CTD profiles of temperature, salinity and oxygen.

All instruments will be data logged and programmes tested to give depth profiles and surface transects.

## NARRATIVE:

Sailing at 0930 h on 17 October, the ship commenced fishing at 1330 h the same day, at a station just off the Humber. However, the following day, severe south-westerly gales forced the vessel to seek shelter off Scarborough, where she remained until conditions eased on 21 October. Working northwards, the ship anchored off Aberdeen on 24 October and some stomach samples were put ashore via the Searider inflatable. The northernmost station NE of Muckle Flugga was reached on 28 October, work being interrupted by bad weather on 26 October. The vessel then commenced working southwards in the Norwegian sector. Dodging was necessary on 1 November and on 4 November the Norwegian coast guard carried out a boarding inspection. The southernmost station in the Southern Bight was reached on 10 November and the final station was completed at 0820 h on 12 November in the Outer Silver Pit.

On request from the Laboratory, the vessel then steamed for an area near the Outer Dowsing and at 1330 h commenced searching for a drifting argos buoy which had been released by RV CLIONE. The buoy was located and recovered 4 miles NNE of the Dowsing light vessel at 1530 h, after which the ship steamed for Grimsby, where she docked at 0730 h on 13 November. The ship's cruise track is appended.

## RESULTS:

### Aim 1 Groundfish survey

A total of 66 trawl and CTD stations was completed, 4 less than the planned survey. Significant trawl damage was sustained on only one station and this haul was repeated successfully at a different position. Samples of all species were measured and weighed, and otoliths were taken by Roundfish Area from the following species: plaice (315), haddock (721), whiting (834), cod (619), lemon sole (303), Norway pout (216), saithe (118), and megrim (97). Stomach samples were collected by depth strata from cod (516), haddock (364), whiting (420), and saithe (173).

Data on catch weight, catch number, and length were input to the computer database, as was the standard station log information. Decca positions were data-logged during each trawl tow and the Koden colour-sounder echo-records were recorded on cassette tapes. Standard retrievals from the database, giving positional and gear details, catch data and length compositions, were made at the end of the cruise.

The headline transducer was used at 3 stations before it was damaged, and a headline height of 4 $\frac{1}{2}$ -5 metres was indicated regardless of depth of water.

### Aim 2 Surface seawater monitoring

Continuous underway monitoring of temperature, salinity and chlorophyll 'A' was effected via a chart record of the Guildline CTD and Turner fluorometer. Technical problems prevented computer data-logging.

### Aim 3 Vertical profiles

At each trawl station a vertical profile of temperature, salinity and oxygen was obtained from the Guildline CTD. The data were logged on the computer, which also produced plots after each station. A marked thermocline was present in the deeper water areas.

Miscellaneous

1. Samples of many species were frozen for the Fish Identification Course.
2. Samples were preserved as requested by various sections. FSM 1: herring, sprat; FSM 2: scad, monk; FSM 3: hagfish; AEP: Norway pout, herring.

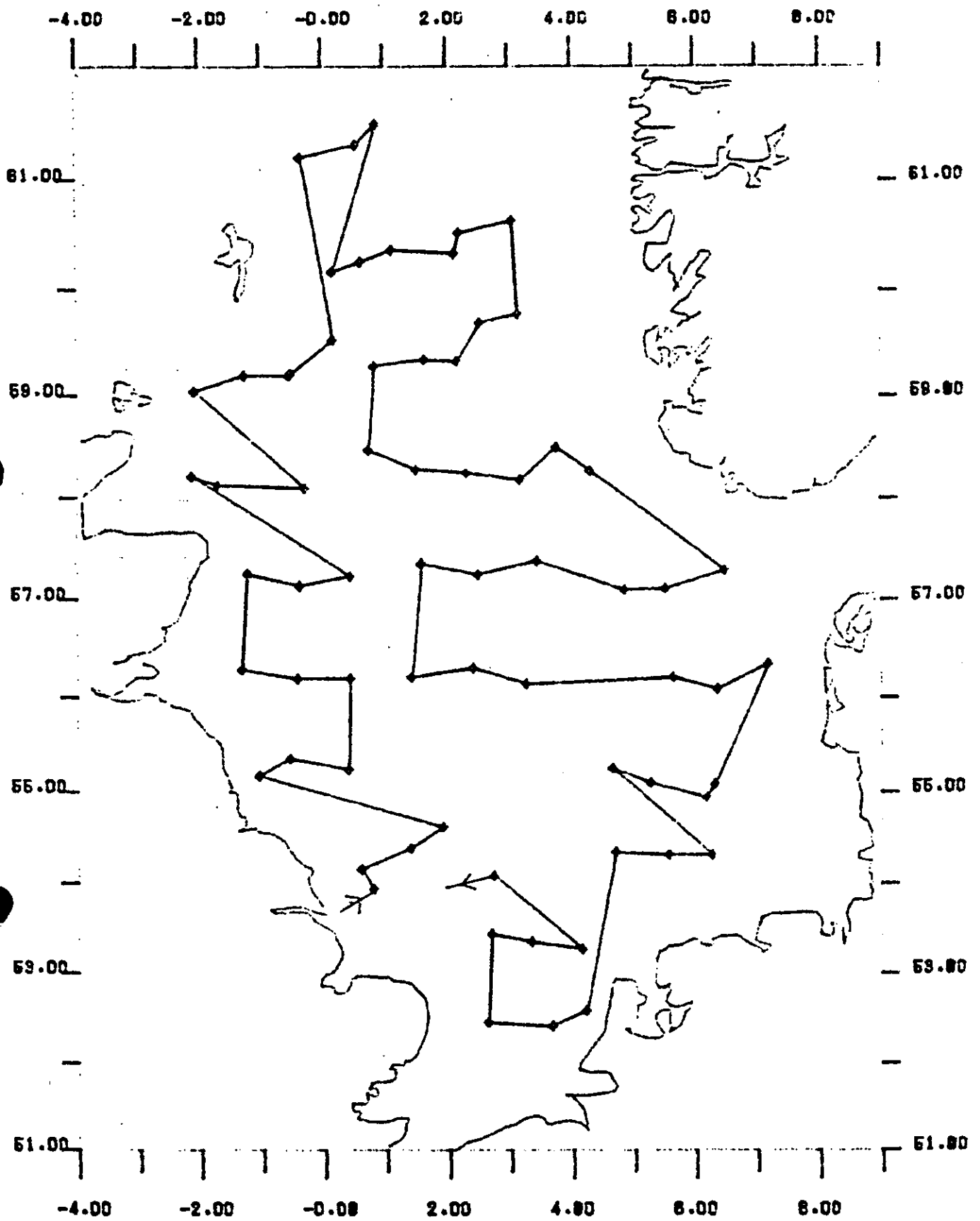
C T Macer  
23 November 1984

SEEN IN DRAFT: MJW, EWP

INITIALLED: DJG

DISTRIBUTION:

Basic list +  
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I L Davies  
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C G Brown  
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D Harding



CIROLANA 9/84 CRUISE TRACK