

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD

FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1990 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: Cruise 8

(Provisional: not to be quoted without prior reference to the author)

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Duration: 15 August - 17 September

Locality: North Sea

Aims:

1. To carry out a groundfish survey of the North Sea using a Standard Granton trawl in order to obtain information on:
  - (a) Distribution and abundance of all fish species.
  - (b) Length and age distribution of commercially important species.
  - (c) Distribution of fish in relation to their environment.
  - (d) Distribution of macrobenthos.
  - (e) prevalence of disease in dab.
2. To collect fish samples for Caesium analysis from a grid of stations in the North Sea.
3. To collect material for fish identification courses.
4. To provide fish samples for contaminant analysis for inclusion in the North Sea Task Force Quality Status Report (A Franklin).

Additional aims received too late for inclusion in the original cruise programme.

5. To describe the seabed sediments at each trawl station using acoustic methods and Day grab sampling.
6. To run an acoustic survey between trawl stations to monitor mean bottom fish traces.
7. To collect samples of 0-group mackerel for otolith examination.

8. To deep-freeze boxes of small fish for fish food.

9. To collect cod otoliths from Roundfish Area 2 and 4 for selection differential studies (C Rowell).

NARRATIVE:

RV CIROLANA departed from Lowestoft at 1607 h 15 August and proceeded to Smiths Knoll to commence the groundfish survey at 1844 h. During the first night at sea the bow thruster compartment was found to be flooded so the vessel returned to Lowestoft to dock at 0524 h 16 August to enable repairs to be carried out on a faulty gland seal. These were completed the same day and CIROLANA departed again at 1545 h to resume the survey.

A typical daily pattern of work was three one-hour tows in standard pre-determined positions with a Granton trawl which was fitted with SCANMAR sensors to record door spread and headline height. All species caught were weighed and measured and otolith samples were taken from cod, haddock, whiting, saithe, Norway pout, Lemon sole, plaice and herring. Except for herring, all otolithed fish were individually weighed and the sex and state of maturity recorded. Dabs were examined for disease status on most stations. Day grab samples were taken where permissible and CTD casts were made at each trawl station. A continuous record of temperature and salinity was logged. The SIMRAD ES400 colour sounder and printer was run throughout the trip.

The survey was carried out in a general northerly direction, concentrating on the eastern side of the North Sea once the stations south of 54°30 had been completed. Work continued uninterrupted by weather except for a short period spent dodging in a NW gale on 20 August. A mid-cruise break was taken in Lerwick where the vessel docked at 1745 h 3 September and sailed again at 0542 h 5 September. The survey then continued southwards, this time concentrating on the western side of the North Sea, in generally good weather. However on 7 September the glass in a porthole in the Students cabin was smashed in a moderate swell resulting in water damage in that, and some neighbouring cabins. Staff in the worse affected cabins were transferred to other accommodation for the rest of the trip. The survey was completed at 0754 h 16 September off North Shields. CIROLANA dry-docked at Wallsend at 0120 h 17 September.

RESULTS:

Aim 1

Ninety-one tows were made with the Granton trawl, four of which were invalid. An otolith target of 1 fish per 1 cm length group of selected species on each station was generally achieved. The number of otoliths taken in each ICES area was:

	104A	104B	104C
Cod	346	659	3
Haddock	711	317	0
Whiting	514	857	136
Norway Pout	240	88	0
Saithe	112	4	0
Plaice	117	933	106
Lemon Sole	122	219	0
Dab	0	463	158
Herring	300	326	23

All data were computer logged but on the fourth day of the cruise the HP 1000 central processor failed entailing a changeover to the back up unit. This was followed ten days later by a disk drive failure. A single disk system was installed and although general system capability was somewhat limited, it did permit the logging of trawl parameters and the normal storage of data for the remainder of the cruise.

Macrobenthos was weighed and photographed for later identification. Over 10,500 dabs from 65 of the 87 valid trawl stations were investigated for disease status. In addition, on eleven designated North Sea Task Force stations, dab otoliths were collected and spleen from 20-24 cm fish were preserved for subsequent histology and image analysis investigation.

A computer record was kept of headline height and door spread as recorded by SCANMAR sensors. As last year, the door spread sensors appeared to work better than the headline height sensor.

#### Aim 2

Forty-three samples from a range of species including cod, haddock, whiting, saithe, plaice, herring, mackerel and Queens were taken from the catch at selected trawl stations and deep frozen for return to the laboratory for radiocaesium analysis.

#### Aim 3

A small amount of material was deep frozen for fish identification courses.

#### Aim 4

Samples of cod, whiting, dab and plaice were deep frozen from eleven stations for contaminant analysis for inclusion in the North Sea Task Force Quality Status Report.

#### Aim 5

Acoustic data from the SIMRAD ES400 colour sounder was logged on each trawl station until the system failed just after leaving Lerwick. The data will be assessed to describe sea-bed sediment types and cross checked with information provided by the Day-Grab.

#### Aim 6

The SIMRAD ES400 colour sounder and printer was run between stations to monitor near bottom fish traces.

Aim 7

No 0-group mackerel were caught on the survey.

Aim 8

Boxes of small gadoids were deep frozen for fish food.

Aim 9

All cod caught in Roundfish Areas 2 and 4 were otolithed for selection differential studies. The number of fish involved however was rather small.

W Parnell  
20 September 1990

SEEN IN DRAFT: GS, JH

INITIALLED: JGP 

DISTRIBUTION

Basic list +  
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CIROLANA 8/90

SHOWING :  
CRUISE TRACK  
STATION POSITION  
COASTLINE

