

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

1995 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 7

STAFF:

C T Macer  
L Woolner (20/8-7/9)  
T W Boon  
S Warnes  
R A Ayers (7-20/8)  
D J Brown  
P J Welsby  
B Horton  
N Strachan (TRS) (7-24/8)  
B McGregor (TRS) (7-24/8)

DURATION: Left Lowestoft 1800h 7 August.  
Arrived Lowestoft 0700h 7 September.  
All times are Greenwich Mean Time.

LOCALITY: North Sea

AIMS:

1. To carry out a groundfish survey of the North Sea using a standard GOV 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 and anthropogenic debris.
  - e) Surface and bottom temperature and salinity data using reversing bottles.
2. To carry out a full-scale trial of length and biological data recording using the electronic data capture system.
3. To collect material for fish identification courses. (T Watson).
4. To collect all hake under 30 cm for otolith structure studies. (T Watson).
5. To provide fish samples for contaminant analysis (A Franklin, Burnham).

6. To inspect herring (*Clupea harengus*) for the presence of Ichthyophonus and to preserve any infected fish. (S Feist, Weymouth)
7. To preserve material from diseased fish. (S Feist, Weymouth)
8. To collect biological data from *Myoxocephalus scorpius* (Bull rout), *Taurulus bubalis* (Sea scorpion) and *Callionymus lyra* (common dragonet). (IBTS).
9. To trial TRS equipment for fish identification and sorting. (TRS).
10. To collect haddock tissue samples. (A Child, Conwy).
11. To collect samples of squid.
12. Following completion of the grid, if time permits to replicate a random selection of stations to estimate within-survey variance.

## NARRATIVE

Sailing at 1800h on 7 August the ship proceeded overnight to the first station in the Thames estuary (rectangle 32F1), where work commenced at 0545h on 8 August. Working northwards with lines of trawl and hydro stations between the English and continental coasts, the vessel laid off Bridlington at 1400h on 13 August while some barcode measuring boards were collected by searider from the MAFF Fisheries Officer. Sailing again at 1530h, the grid was resumed in rectangle 38E9 at 0520h on 14 August, and continued until 1800h on 20 August, when the ship laid off North Shields in order to exchange two members of the scientific staff. The grid was resumed at 0515h on 21 August, proceeding in a northerly direction to rectangle 51E8 north of The Shetlands, which was completed at 0555h on 24 August. The ship then made for a mid-cruise break at Lerwick, where she docked at 1300h on 24 August. The TRS staff were disembarked and their equipment off-loaded.

The ship sailed from Lerwick at 1930h on 25 August and made overnight passage to rectangle 51E8, the original tow there having been invalid. Working southwards, the main part of the grid was completed with a repeat tow in rectangle 42F3 at 1345h on 3 September. Replicate tows were then carried out in 6 rectangles in the western central North Sea on 4 and 5 September, and on 6 September an unsuccessful attempt was made to repeat a previous invalid tow in rectangle 36F0. Work was therefore terminated at 0900h on 6 September, and the vessel left for Lowestoft where she docked at 0700h on 7 September.

## RESULTS

1. Valid trawl hauls were made in all but two of the 74 rectangles on the grid. In rectangles 36F0 and 49F2 gear damage invalidated all tows attempted. Successful repeats for invalid tows were made in 3 rectangles, while damage which did not invalidate the tow

occurred in a further 3 rectangles. The standard fishing positions had to be altered in some rectangles, due to the presence of oil pipelines or cables in rectangles 42F2 and 47E8, and gillnets in rectangle 40F4. Scanmar records for headline height and door spread were obtained for most tows, but the wing end units proved to be faulty. Macrobenthos was identified, weighed and counted, and photographed. Anthropogenic debris was weighed by classified groups. Surface and bottom temperature and salinity data were collected from all rectangles fished using Nansen reversing bottles.

2. The new electronic data capture system using direct input to PCs via a bar-code measuring board and light pen proved highly successful. The performance of the hardware was largely trouble-free in the demanding marine environment. Some minor improvements to the software were made during the cruise, and others identified for future action. The system largely eliminated the need for manual input of data, together with the associated checking procedures. Sampling was accomplished by one-man teams instead of two.

3. Specimens of a variety of species were collected for use on the SFI fish identification course.

4. All hake less than 30cm were collected for otolith studies.

5. Samples of dabs and whiting were collected from the vicinity of two standard rectangles for contaminant analysis. In addition, samples of monk, catfish, and elasmobranchs were collected from each roundfish area where possible.

6. Samples of herring from all rectangles where they were caught were inspected for infection with *Ichthyophonus* but none was found.

7. No unusual occurrences of diseased fish were noted as worthy of preservation.

8. Biological data were collected from bull rout, sea scorpion, and common dragonet as part of the IBTS minor species scheme.

9. Torry staff continued with trials of the fish identification and sorting equipment.

10. Staffing resources did not allow the collection of haddock tissue samples from the Shetland area, and the aim was deferred to Cirolana cruise 9 when more resources should be available.

11. Samples of squid were collected for Dr Lordan (University of Cork).

12. Replicate hauls from 6 rectangles were made for studies into within-survey variance.

13. All morlog caught was retained for analysis by British Geological Survey.

C T Macer  
7 September 1995

SEEN IN DRAFT:

M J Willcock (Master)

R F Graham (Senior Fishing Mate)

INITIALLED: JWH

DISTRIBUTION:

Basic list +

C T Macer

L Woolner

T W Boon

S Warnes

R A Ayers

D J Brown

P J Welsby

B Horton

N Strachan (TRS)

B McGregor (TRS)

# CRUISE TRACK FOR CIRO 7/95

SHOWING :  
CRUISE TRACK  
STATION POSITION  
COASTLINE

