

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

1974 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 2

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

STAFF

R G Houghton
 M R Vince
 M Macdonald
 R Tucker } (to 8 February)
 T Watson }
 B C Bedford (from 8 February)

DURATION

Left Lowestoft 2352 h, 28 January

Arrived Lowestoft 0720 h, 18 February

All times are Greenwich Mean Time

LOCALITY

North-east coast

AIMS

1. To determine the distribution of cod eggs.
2. To tag 1500 spawning cod.
3. To tag 500 spawning plaice.
4. To determine the distribution and abundance of all fish species by means of a trawl survey on inshore grounds from 53°30'N to 56°N, out to 1°E.
5. To collect 25 live plaice (15-18 cm) for Hamilton Dock.
6. To collect dab heads and gonads for Mr Htun Han.
7. To collect 5 live flounder for Dr Purdom.
8. To collect blood and tissue sample from 100 cod.

NARRATIVE

The Tin Tow Net (TTN) grid was begun off the Humber at 1030 h, 29 January and was continuously followed, with two breaks for bad weather, until 1000 h, 5 February. Although several TTN stations had yet to be worked, trawling for cod commenced at 1254 h, 5 February in Bayman's Hole. No concentrations of mature cod were found in the eleven hauls completed between Bayman's and Flamborough by 7 February. An echo-survey on the night of 5 February, using the Humber Gear, picked up a 1 mile diameter patch of strong fish targets close to the sea bed 22 miles northeast of Scarborough. It was not identified. Bad weather continued to interrupt trawling every day. CLIONE anchored in Filey

Bay on 30 January and in Bridlington Bay on 7 February.

Whilst anchored in Filey Bay, Mr C A Julings became ill and was taken off CLIONE by Filey Lifeboat. He died in Scarborough Hospital on the afternoon of 30 January.

CLIONE left Bridlington Bay at 2000 h, 7 February and entered the Tyne at 0730 h, 8 February to take on fresh food and water. Two scientists disembarked and, with one replacement scientist, the vessel sailed from North Shields at 0800 h, 9 February. In better weather, several trawl hauls were carried out E of Tyne and the TTN grid completed on the night of 10 February. Refuge was again sought in Filey Bay on 11 February. Trawling recommenced at 0950 h, 12 February 7 miles east of Flamborough Head. Each of the seven hauls on this ground produced some mature cod with almost ripe gonads. An echo-survey during the night of 12 February picked up several $\frac{1}{2}$ to 2 m diameter patches of strong fish targets close to the sea bed 14 miles east-north-east of Scarborough. Trawling in this area on the following day yielded larger quantities of cod than had been found elsewhere with a higher proportion of mature fish of a large size. Comparison of the sounder record with the trawl catches made it seem likely that the patches of fish targets found on the echo-survey were mainly small whiting or perhaps herring. The stomachs of the larger cod contained whiting.

The Scarborough Ground was fished, with one long interruption due to bad weather, until the last haul of the trip at 1620 h, 17 February. CLIONE left for Lowestoft at 1700 h and docked at 0720 h, 18 February.

RESULTS

1. 42 TTN stations were completed. Sea surface temperature was measured and a salinity sample taken at each station.
2. 469 cod were tagged. A quarter of these were mature, none of which could be said to have been captured in the act of spawning although most were very ripe.
3. 813 plaice were tagged. Again, none of these were actually spawning although most of the mature fish were very ripe.
4. A third of the area, which was to have been surveyed, was covered during trawling for spawning cod. In these hauls a covered codend was used most of the time and the weight of each species which was caught was recorded. Measurements were carried out routinely on cod, plaice, haddock, lemon sole, whiting and dabs and a length stratified otolith sample was collected for each of these species.
5. Only 8 live plaice of the necessary size group were obtained.
6. The heads and gonads of 20 dabs were preserved in different fixatives and samples of 10 whole fish from each 5 cm length group were deep frozen.
7. 8 live flounder were collected.
8. Blood samples and samples of heart, liver tissue and body muscle were collected from 54 cod. A vertebral count was made on each fish and their otoliths collected.

Additional results: A sample of 100 herring was deep-frozen for Pelagic Section; some food for fish-rearing was deep-frozen; samples of 10 whole fish of plaice, whiting, cod and herring were deep-frozen for Dr Fortmann; 117 lemon soles were tagged for the N.E. inshore programme; 5 hydrographic stations employing casts of 5 reversing water bottles were completed.

R G Houghton
26.2.74

SEEN IN DRAFT: JRF

AHB

INITIALLED: AJL

DISTRIBUTION:

Basic List

R G Houghton
M R Vince
M Macdonald
R Tucker
T Watson
B C Bedford
DI (North Shields)
DI (Hull)