

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND
1984 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 56

STAFF: J H Nichols
J M Last (25 April only)
R Flatt C R Hood (0730h - 1530h)
S P Milligan L Cope (" ")
A Lawler B R Riches (1130h - 1530h)

DURATION: Left Lowestoft 0730h 25 April
Arrived Lowestoft 0720h 1 May
(All times GMT)

LOCALITY: West central North Sea

- AIMS:
1. To test a new towed vehicle for transducer mounting.
 2. To carry out a plankton survey for sole eggs, as part of the ICES international sole egg survey.
 3. To examine haul to haul variation in the numbers of sole eggs in selected areas.

NARRATIVE:

The first six hours were spent in Corton Roads testing the towing stability of a new transducer mounting vehicle. During these trials the 300kHz mini-scanner and the 76kHz Incastor sonars were installed and subsequently demonstrated to the staff on the cruise. Repairs to the towing cable joint on the plankton sampler and installation of the Ulvertech altimeter were carried out concurrently. The first plankton sampling station was completed by 1500h in Yarmouth Roads prior to disembarking Messrs Hood, Cox and Riches at 1530h by service boat off Gorleston. The remaining 72 stations of the plankton grid were completed by 0300 30 April at 52°50'N 1°30'E.

Two mini-sampling grids of 10 stations each were sampled in the 15nml x 9nml rectangles, which had the highest numbers of sole eggs during the survey. The first of these, in the vicinity of the Haddock Bank, was completed by 1300h 30 April. The second mini-grid, north of the Leman gas field was completed at 2145h on the same day, when course was set for Lowestoft.

The weather remained calm throughout most of the cruise with wind strengths rarely exceeding force 4. This enabled the whole work programme to be completed without interruption or incident.

RV CLIONE docked in Lowestoft at 0720h 1 May.

RESULTS:

1. Stability tests on the new towed vehicle were satisfactorily completed. They indicated the need to make some minor modifications to the fins in order to improve its towing performance at 8 knots.
2. 76kHz and 300kHz long life transponding tags were fitted to the plankton sampler as acoustic identification targets in case of loss at sea. The mini-scanner and Incastor sonars were installed and tuition was given on the use of the equipment and search procedures. During the trials an anchored rig of two long life tags could be detected at 400 metres using the Incastor, and at 300 metres using the mini-scanner. It was concluded that a combination of the Incastor and mini-scanner sonars would be a powerful aid to the search and recovery of lost equipment.

All 73 stations of the proposed survey grid were completed starting at the southern end and working northwards (figure 1). Samples from south of latitude 54° north were examined on board and the number of sole eggs noted. Sole eggs were found in more than half of the stations in this area (figure 1) but their density was very low, never exceeding one egg per cubic metre.

Surface temperatures were generally above 6.5°C (figure 2) and in spite of some surface warming during the calm spell bottom temperatures showed a similar pattern (figure 3). In the area north of Flamborough Head a thermocline was beginning to form at 10-15 metres depth with surface to bottom temperature differences of about 2°C .

3. Ten hauls were made in each of the two rectangles (figure 1) to examine spatial variation within a rectangle. Sole eggs were found in both rectangles during the initial survey but the replicate hauls were not examined on board.

OTHER OBSERVATIONS:

The skipper of a rig standby vessel MV MIN CARLO, operating in the Indefatigable gas field (Lat: $53^{\circ}21'\text{N}$; Long: $02^{\circ}33'\text{E}$) reported his observations of sole, turbot, plaice and dabs swimming at the surface on three consecutive nights (0100-0300h) during the calm conditions of the cruise. He had been unable to catch any but reported that the SUFFOLK KINSMAN, working in the same area, but moored to the Shell-Juliet platform, had taken 17 soles and 2 turbot with a surface didle. We were unable to make contact with the SUFFOLK KINSMAN.

SEEN IN DRAFT: JF
PM

INITIALLED: DJG

J H Nichols
1 May 1984

DISTRIBUTION: Basic list +
Staff on cruise
R Houghton (4 copies)
G P Arnold





