

Dr. Greer-Walker

dw

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

1975 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 12

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

STAFF:

- M Greer Walker
- D J Garrod
- D Harding
- J Horwood
- L Cox
- I L Davies (12 & 13 August only)
- R B Mitson + 8 others from Technical Advisory Committee on advanced forward look sonars - 13 August only.

DURATION

Left Lowestoft 0155 h, 2 August

Arrived Lowestoft 1430 h, 13 August

All times are G.M.T.

LOCALITY

Southern North Sea

AIMS

1. To measure the efficiency of RV CORELLA's Granton trawl rigged with door to door tickler chains using acoustically tagged plaice and the MAFF scanner.
2. Detection and Resolution trials (Caterpillar) with the MAFF scanner.

NARRATIVE

During trials in harbour the derrick supporting the scanner was found to be weakened and the repair caused delay, CLIONE sailing at 0100 h, 2 August. The live fish were transferred by small boat from RV CORELLA at 1000h and CLIONE reached Den Helder at 1420 h. The dome was fitted. The scientific staff were familiarised with the scanner and certain adjustments made for a short period off the Dutch coast before proceeding to the Black Bank. Efficiency experiments began with RV CORELLA at 0400 h, 3 August. Work continued until 2400 h, 11 August without interruption. The dome was removed in Den Helder between 0600 h and 0900 h, 12 August. During the return journey tests were carried out with the Alden recorder and CLIONE docked at Great Yarmouth at 0400 h, 13 August. The scientific staff disembarked and Mr Mitson and party sailed for the demonstration. CLIONE docked at Lowestoft at 1430 h, the same day.

RESULTS

1. Granton Trawl efficiency.
80 attacks were made on 26 plaice: there were 45 valid attacks with the fish

between the doors and 17 of these were caught (37%). Of the 26 in the path of the net 10 were caught (38%) and of the 19 between the doors but not in the path of the net 7 (37%) were caught. On two occasions the wing to wing tickler parted.

During a number of attacks the fish reacted to the gear in the following manner:-

1. Swimming ahead of warp (1)
2. Herding by bridles and tickler chains (6)
3. Moving away from doors being initialled outside them (2)
4. Moving into midwater before as ^{or} after the gear passed over them (5)

2. Resolution and Detection trials with the Caterpillar.

The Caterpillar, an array of floats at different heights above the seabed, was towed by CORELLA and observed and photographed with the scanner.

3. 2 acoustically tagged sole were released, one was tracked for 12 h and 3 valid attacks were made: it was not caught and no response was elicited. Contact with the other was lost shortly after release.

4. The 30" multipurpose plankton sampler was examined for stability. The sampler was fitted with the standard and conical nose cones and standard and double towing bridles. While being towed by CORELLA these combinations were observed with the scanner. All combinations appeared stable in the horizontal and vertical planes.

5. Chlorophyll 'A' was measured with the fluorometer and samples taken while in a noctiluca patch.

6. The Alden recorder was used in conjunction with the scanner during the return journey close to the Brown Ridges. Something was learnt of its operation and potential.

M Greer Walker
22 August 1975

SEEN IN DRAFT: GS
RCN

INITIALLED: AJL

DISTRIBUTION:

Basic List
M Greer Walker
D J Garrod
J Horwood
L Cox
F L Davies
R B Mitson + 8 others