

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

REPORT: RV CORELLA: Cruise 18

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

STAFF

M. Greer Walker
J. Pope
B. Knights
C. Garrod } 5-17 December
P. Griffiths }
N. Pearson } 3-5 December
L. Cox }

MINISTRY OF AGRICULTURE
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DURATION

Left Lowestoft 0915h 3 December

Arrived Lowestoft 0730h 17 December

All times are Greenwich Mean Time

LOCALITY

Southern North Sea

AIMS

1. To test the theory that plaice move southwards towards their spawning grounds by means of passive tidal transport, remaining in midwater during southerly tides and on the bottom during northerly tides.
2. To test the mini-scanner.

NARRATIVE

CORELLA sailed at 0915h, 3 December and inspected D.B.I. situated East of Benacre Ness. The coded transponding acoustic tags on each of the three anchors were identified using the mini-scanner. Paired three hour midwater tows began at 1400h and continued southwards along 2°15' of longitude. Mini-Scanner tests were continued as the main aim permitted. Messrs Griffiths, Pearson and Cox were disembarked by small boat at Lowestoft at 1900h, 5 December. Paired tows continued northwards along 2°25' of longitude and between 52°25' and 53°15' of latitude. CORELLA left the working area to take on water at 1315h and arrived at Ijmuiden at 2000h, 9 December sailing at 0730h the following morning. Work resumed close to the Brown Ridges with paired tows being made sequentially westwards. At 1600h, 11 December CORELLA steamed for the Indefatigable Bank to investigate the possibility of migrating plaice moving southeastwards through the Norfolk Banks. The first pair of tows was completed between the Indefatigable and Swarte Banks before deteriorating weather forced CORELLA to dodge and at 1030h, 13 December she arrived for shelter in the Gorleston Roads. Work resumed the following day in the Norfolk Banks with paired tows between the Lemn and Sherringham Banks and subsequently the Well and Broken Banks. A final pair of tows was concluded in the western deep water south of Smiths Knoll on 16 December. CORELLA anchored overnight in the Corton Roads and berthed at 0730h, 17 December.

RESULTS

1. A total of 13 valid paired tows were made. 77 plaice were caught on southerly and 19 on northerly tides giving a ratio of 4:1. In every case the paired tows south and east of the Norfolk Banks gave consistent results with 5 times as many fish on southerly as northerly tides. However, only 2 adult and 4 juvenile plaice were caught during the three paired tows through the Norfolk Banks and one of these was an anomalous result. It was also noted that the predominant species in the Banks area were herring and sprat, whereas elsewhere it was whiting and spurdogs. It appears that the migration passes east of the Norfolk Banks, southwards, and judging by the variation in the catches, sporadically.

Preliminary summary of all cruises to date

A total of 43 valid paired tows have been made. On 35 pairs more fish were caught on the southerly tide, on 6 pairs more fish were caught on the northerly tide and on 2 pairs equal numbers of plaice were caught on northerly and southerly tides. The total number of plaice caught is now 319 of which 254 were caught during northerly tides and 65 during southerly tides.

2. Initial tests with the mini-scanner were promising. The coded transponding tags on the anchors of D.B.I. were clearly seen, but there was some difficulty in seeing passive targets.

3. Samples of herring and various other species were collected for analysis at the laboratory.

4. Gadoids were collected for the F.C.U.

M Greer Walker
30 December 1975

SEEN IN DRAFT: JEMB
EJB

INITIALLED: AJL

DISTRIBUTION: Basic list +

M Greer Walker
J Pope
B Knights
C Garrod
P Griffiths
N Pearson=
L Cox
Dr Arnold