

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD  
 FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND  
 1981 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 1

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

STAFF:

M Greer-Walker

L E Woolner

B H Holford

T McLast

T J Storeton West

B F Riches

DURATION:

Left Lowestoft 0945h, 6 January

Arrived Lowestoft 2000h, 18 January

All times are Greenwich Mean Time unless stated otherwise

LOCALITY:

Southern Bight

AIMS:

1. To track mature acoustically tagged plaice on their spawning grounds using sector scanning sonar.
2. To test the 76 kHz long range tracking system.

NARRATIVE:

CLIONE left Lowestoft at 0945h 6 January and steamed to a position SW of the Brown Ridge previously identified (CIROLANA 2-78) as a plaice spawning area by the presence of eggs. The first fish was released at 1130h the following morning and was tracked until 0100h 10 January. During the day the weather deteriorated and CLIONE steamed for the Blackwater estuary arriving at 1000h that night. The following day was spent testing the 76 kHz long range tracking system; calibrations were carried out using the ship's lifeboat. CLIONE steamed to the tracking area early on the 12 January but the weather was unsuitable and the ship returned to shelter off the East Anglian coast. From the 12-15 January the weather made tracking impossible and the time was used to make modifications to the long range tracking system. The weather had abated sufficiently to track on the 16 January and the second plaice was released in the spawning area at 1403h and tracked until 1400h 18 January. CLIONE docked at Lowestoft at 2000h 18 January.

RESULTS:

1. Plaice 1 was released at 1130h 7 January in a position  $52^{\circ}14.9'N$ ,  $2^{\circ}49.1'E$  and tracked for 63h. The track began at HWS and during the first four tides the fish used selective tidal transport to move in a southerly direction. However, the fish moved into mid-water at 1300h 8 January, a time coincidental with the beginning of a northerly tide, where it remained until 1330h 9 January. This was the end of a southerly tide and the fish returned

to the bottom remaining there until sunset at 1610h (mid northerly tide). At sunset it regained a mid-water position which it maintained to the end of the track at 0100h 10 January. The overall movement was 25 miles in a SW direction.

This track suggests a transition from a semi diurnal rhythm used during migration to a diurnal rhythm of behaviour on the spawning grounds.

Plaice 2 was released at 1403h 16 January in a position 51°59.4'N, 02°25.6'E and tracked for 48h. The fish moved 25 miles in a direction N by E using selective tidal transport.

2. The 76 kHz tag was detected at a maximum range of 750 m using the Alden recorder connected to the Incastor sonar but only from the port side of the ship, no targets could be seen from the starboard side on eastern. The Murata wide angle transducer performed well but both the MAFF built transducers need modification. It appears that the 300 kHz tag was triggered by the 76 kHz tag and some method of screening will be necessary.

#### MISCELLANEOUS

1. Further modifications to the GSM 2400 spectroradiometer were tested, namely, a slower scan speed and the introduction of filters to reduce wave and roll induced oscillations. The system worked well at a depth of 5 m but because of prevailing weather conditions there was no measurable light at 10 m. Measurements of total quanta proved unsatisfactory because of a faulty underwater connector.
2. An oil slick was reported south of Smiths Knoll by the Coastguards on the 18 January. The position given was investigated during the return journey but no evidence of oil was found.

M Greer Walker  
2 February 1981

Seen in Draft: GFL

Initialed: DJG

Distribution:

Basic List +

M Greer Walker

L E Woolner

B H Holford

T M Last

T J Storeton West

B F Riches

F R Harden Jones

G P Arnold