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FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1971 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 7

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

STAFF:

F R Harden Jones
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M Greer Walker
C R Hood
W L Huggins
I G Priede (Stirling University)

LOCALITY

Southern Bight

DURATION

Left Lowestoft 1015 hours 8 June

Arrived Lowestoft 1300 hours 28 June

All times are British Standard Time

AIMS

To use the ARL Scanner to:

1. Track plaice and cod tagged with acoustic transponding tags

2. Investigate noise from selected areas of the sea bed.

NARRATIVE

CLIONE sailed from Lowestoft at 1015 hours, 8 June and entered Harwich at 1800 hours. After the dome had been fitted CLIONE left Harwich at 2330 hours the same evening. Work started on 9 June in the Shipwash-Gabbard-Kentish Knock area and continued until 27 June. Strong winds (NE, 25 knots) forced us to stop work on the afternoon of 14 June and CLIONE took shelter in Boulogne. Moderating conditions allowed work to continue on 16 June. CLIONE returned to Harwich at 2100 hours, 27 June and the dome was removed, the ship returning to Lowestoft to enter port at 1300 hours, 28 June.

RESULTS

1. Tracking cod and plaice (Aim 1)

Six fish were tracked continuously as summarised below

Track No	Fish	Duration of track in hours	reason for ending track
1	plaice 1	43	tag batteries ran out
2	cod 1	51	bad weather
3	plaice 2	38	tag batteries ran out
4	plaice 3	6	tag failed
5	plaice 4	34	tag batteries ran out
6	plaice 5	54	sufficient information collected

In tracks 1, 3, and 6 the fish had an overall movement northwards, but tracks 2 and 5 had an overall movement southwards. A preliminary examination of the results shows that the fish gained ground in the direction of overall movement by riding on the northerly (tracks 1, 3 and 6) or southerly (tracks 2 and 5) tides respectively in midwater or near the surface. On the opposing tides (southerly for tracks 1, 3 and 6; northerly for tracks 2 and 5) the fish were very close to or on the bottom, and showed less or no change of position. The fish would join or leave the transporting tide at slack water by day or by night: diurnal effects, although present, were of secondary importance. Detailed observations were made of the vertical movements of the fish at slack water and the behaviour of the fish at this time appears to be critical in determining the overall direction of movement. Track 6 (plaice 5) was outstanding. This fish moved from 51°59' to 52°25' (Bawdsey to Kessingland) along a NNE course for 29 n miles during the period of tracking with a predictable and consistent behaviour with regards to the north and south going tides.

2. As the tidal streams are obviously important in relation to the movements and behaviour of the fish in midwater and on the bottom, a 25 h track was made of a midwater parachute drogue in the working area. For bottom currents an acoustic tag was fitted to a Woodhead sea bed drifter which was followed for 25 h.

3. Noise from the seabed (Aim 2)

On the three days when weather conditions were suitable for this work CLIONE was already committed to a tracking exercise so no work was carried out under this aim.

4. Reliability of equipment

On this cruise the sector scanner and ancillary equipment ran for 315 h and for periods of continuous running up to 60 h. On no occasion was contact with a tagged fish lost through failure of the scanning equipment. Some of the Mitson-West tags are clearly matching the performance required for tracking: the tags left working after 50 h showed no sign of weakening, and while optimum working ranges lie within 100-340 m (depending on bottom reverberation), detection was possible out to a range of 560 m.

5. Survey of wrecks

One wreck from a list supplied by Hydrographer was surveyed: the others were outside our working area. Three apparently uncharted wrecks were detected and surveyed. Details of this work will be forwarded to the Wreck Officer.

F R Harden Jones
1 July 1971

SEEN IN DRAFT: M R Sutcliffe (Master)

A Larner (Fishing Skipper)

A H B (Navigator)

INITIALLED: AJL

DISTRIBUTION:

Basic List

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