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FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1979 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 11

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

STAFF:

Part A
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Part B
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DURATION:

Part A
Left Lowestoft 1145h 26 October
Arrived Lowestoft 1200h 6 November

Part B
Left Lowestoft 0930h 7 November
Arrived Lowestoft 0030h 11 November

LOCALITY:

Part A East Anglian Coast

Part B NE Coast/Thames Estuary

AIMS:

Part A To track migrating silver eels using acoustic tags and sector scanning sonar.

Part B To recover and service JONSIS, Tees and South Falls current meter stations.

NARRATIVE: Part A.

CLIONE sailed at 1145h 26 October, a day late due to bad weather, and was further delayed at the North Wall while the active rudder was repaired. The first current meter rig was laid (52°22.1'N, 2°01.0'E) by 0748h the following morning, followed by an automatic release cage containing an acoustically tagged eel (52°07.8'N, 01°54.9'E). The second current meter rig (52°01.6'N, 01°52.2'E) was laid by 1200h and CLIONE reached Harwich at 1815h where the dome was fitted. The ship returned to the eel cage at

0300h 28 October but although the acoustic tag was located with the scanner the dahn was missing and so it was abandoned. A second eel cage was set at 1045h (52°06.8'N, 01°54.4'E) and the eel released at 1515h. This eel was tracked until 0150h 30 October. CLIONE then steamed back to the working area and the third eel cage was laid (52°7.0'N, 1°52.0'E) at 0915h. This fish was released at 1518h and tracked for a short time in deteriorating weather before it was lost at 0345h. 31 October. The cage containing eel 4 (52°7.7'N, 1°59.8'E) was set at 0845h and the eel released at 1515h; the track continued until 1645h 1 November. The next eel was adapted overnight in a cage but was found to have escaped the following morning and cage 6 was therefore set at 0935h 2 November and the eel released at 1630h. This eel was tracked until 1300h 3 November when, again, heavy seas prevented further work and CLIONE steamed to the Corton Roads for shelter. At 0730h 4 November the seventh eel cage was laid closer inshore (52°8.1'N, 1°46.8'E) to avoid the weather and the fish released at 1445h. This track was terminated at 1115h 5 November because of a failure in the azimuth control of the scanner. CLIONE then steamed to shelter off Thorpness for repairs, arriving at 1400h. The vertical gyro which had failed earlier was repaired but it was not found possible to repair the azimuth control. Consequently the dome was removed at slack water (2350h) and the southerly current meter station was raised by 0640h 6 November. The northerly station was raised by 1030h and CLIONE docked at 1200h.

Part B

CLIONE sailed again at 0930h, 7 November and reached the South Falls current meter rig at 1600h. During recovery the subsurface buoy did not surface under its own buoyancy on lifting the bottom weight, and once aboard was found to be badly gashed and waterlogged. There was evidence of interference by fishing gear but both current meters were nevertheless recovered. The station was relaid by 1745h and the sea-bed drifters deployed.

JONSIS 1 was reached at 1445h the following day and recovered and relaid uneventfully.

No surface buoy was visible at the Tees Buoy position on the evening of the 8 November. Acoustic contact with the rig was attained however and further efforts delayed until first light the next day. The rig was again contacted acoustically and a number of fixes taken from various positions. During the last of these fixes the surface buoy was spotted visually, 1.3 miles off position, and recovered. The rig had obviously been interfered with and only the bottom of the two current meters, with a badly damaged fin, remained.

CLIONE reached JONSIS 2 at nightfall and, as expected after a previous report from RV CORELLA, no surface buoy was visible. Acoustic contact was made but as there was little point in triggering the cutting mechanism at night, several unsuccessful attempts at dragging were made. The morning of 10 November was spent unsuccessfully trying to trigger the cutting mechanism and in dragging over the general area. A new rig was laid before CLIONE set off for Lowestoft, where she docked at 0800h.

RESULTS:

PART A: There were 5 eel tracks that yielded significant results and a brief summary of each follows:

Eel 2 - This was a large (97 cm) silver eel captured in the River Ure and this fish provided the first unequivocal demonstration of selective tidal transport in eels. It was released at H.W.S. and moved 14 km northwards during the following northerly tide, remaining close to the surface. At slack water the fish moved on to the bottom and the southerly tide was spent in midwater or on the bottom for short periods: the overall movement being 3.6 km westwards. This pattern was continued, the fish moving 13 km northwards on the next tide and remaining nearly stationary on the following southerly tide. The fish moved 20 km on the final northerly tide reaching the Winterton shoal (9 cm NE of Winterton) by L.W.S. The total tracking time was 35 h.

Eel 3 - This fish was caught at Whitstable and measured 78 cm. It was tracked for 13 h during which it swam in an easterly direction but moved north and south with the tides. The overall movement was 13 km E. The eel spent most of the time close to the surface with occasional and brief visits to the bottom.

Eel 4 - Eel 4 was captured in the River Ure and measured 83 cm. This fish showed a similar pattern to eel 3, moving in a NE direction in 25½ h.

Eel 6 - Caught at Whitstable this fish measured 70½ cms and was tracked for 21 h. Evidence was shown of tidal transport but unfortunately the weather terminated the track before a clear-cut pattern emerged. During the two southerly tides movement in that direction was only 7.4 and 6.5 km respectively. The northerly movement was 13 and 11 km, the fish was lost during the latter tide.

Eel 7 - Eel 7 was captured in the River Ure and measured 93 cms. It was tracked for 20½ h. This fish swam predominantly in midwater but moved north and south with the prevailing tides. The overall displacement was 13 km SE.

PART B: Of the four current meter rigs deployed on an earlier cruise only one survived the period intact - JONSIS 1. Despite the interference suffered by three of the rigs, five of the eight current meters were recovered.

Initialled: AJL

Seen in draft: JRF
GFL

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28 November 1979

DISTRIBUTION:

Basic list +

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