

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

1977 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 10

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

STAFF

Part 1	Part 2	Part 3
F R Harden Jones	F R Harden Jones	K J Medler
G P Arnold	G P Arnold	J Wooltorton
J Last	J Last	C J G Leeds
S Stevens	S Stevens	B R Rivett
L Cox	L Cox	C Griffiths)
C Dennis	C Dennis	D Stoner) SCS
Capt Sellers		
P Scholes		
G C Baxter		
J H Nichols		
BBC team (9)		

DURATION

Part 1 Left Lowestoft 0921 h 18 July
Arrived Lowestoft 2100 h 18 July

Part 2 Left Lowestoft 2114 h 18 July
Arrived Lowestoft 1800 h 29 July

Part 3 Left Lowestoft 1000 h 30 July
Arrived Lowestoft 0850 h 1 August

LOCALITY

North Sea

AIMS

Part 1 To provide BBC with facilities in connection with Open University course on Oceanography.

Part 2 To continue the studies on the efficiency of the Granton trawl (with door-to-door tickler chain) in co-operation with RV CORELLA using sector scanning sonar and plaice fitted with acoustic transponding tags.

Part 3 To service the Spurn Point and the two Jonsis current meter stations.

NARRATIVE

CLIONE left Lowestoft at 0921 h on 18 July and stayed in the Pakefield-Southwold sea area until the BBC work was completed. CLIONE returned to port at 2100 h and the BBC team and other staff left the ship which then left at 2114 h for Ijmuiden. CLIONE entered Ijmuiden at 0851 h the following morning. After the sonar dome had been fitted CLIONE left port at 1258 h and steamed to the Texel area. CORELLA arrived early the following morning

but bad weather delayed the start of work until the afternoon of 20 July. Thereafter work continued, with interruptions for spells of unseasonable weather, until the evening of 28 July when CLIONE returned to Ijmuiden to remove the sonar dome. CLIONE entered Ijmuiden at 2202 h and left port at 0015 h the next morning to enter Lowestoft at 1800 h on 29 July. CLIONE sailed from Lowestoft at 1000 h 30 July and arrived at the Spurn Point Buoy at 1835 h. The rig was recovered and successfully relaid by 1945 h. Passage was made overnight to the position of the Jonsis 1 station, which was recovered by 0605 h 31 July. The frame supporting the bottom meter of this rig was found to be badly twisted and it is possible that the rig may have been interfered with by a fishing vessel. The station was relaid by 0706 h and CLIONE steamed to Jonsis 2, arriving there at 1200 h. The station was recovered and then relaid by 1422 h, when course was set for Lowestoft, docking there at 0850 h 1 August.

RESULTS

Part 1 - Work for the Open University programme was almost continuous throughout the period when CLIONE was at sea and the BBC team appeared pleased with what was achieved.

Part 2 - The results can be summarized as follows:

Plaice		Attacks			Valid attacks		
released	attacked	total	within boards		total fish caught		
				%			%
21	18	34	25	74	21	13	62

There was a marked increase in the proportion of attacks in which the fish was positioned between the otter boards, the figure of 74% being a substantial improvement on the earlier figure of 59% (based on 342 attacks). The overall efficiency of the otter trawl when fitted with a door-to-door tickler chain was 62%, as compared with 44% without a tickler chain (166 attacks). The efficiency of the gear for plaice between the doors and lying inside or outside the path of the net were as follows:

Position of fish in relation to net

Outside			Inside		
attacks	caught	%	attacks	caught	%
10	5	50	8	5	63

The 63% efficiency for fish lying in the path of the net is almost the same for the figure of 61% for 57 attacks without a door-to-door tickler, but an efficiency of 50% for fish lying outside the path of the net is a substantial improvement when compared with the earlier efficiency of 22% based on 16 attacks without a door-to-door tickler chain. Plaice clearly responded to the tickler chain and were herded into the path of the net from positions lying outside the wing end. In some early attacks fish were not caught and these observations taken in conjunction with the apparent catenary of the door-to-door tickler suggested that it was too long and that its rig could be improved. Both Fishing Skippers agreed with this so the chain was shortened by 10% and alterations made to the rig so that the tickler reached the bottom close to the heel of the board and the catenary followed the line of the bridles rather than lying outside it. In two attacks made during a rare period of fair weather plaice responded to the gear when 10-15m away from an otter board or the tickler chain; one plaice lying 10m within the starboard otter board swam out of the path of the net.

Reliability of equipment: The sector scanner was run for 120 h during the cruise; 8 working hours were lost due to a small leak from a hairline crack in a hydraulic pipe for which no spare was on board. The pipe was disconnected and temporarily repaired so that work could continue. One of the 15 acoustic tags failed; overall, the signals from the acoustic tags might be easier to detect if the transponding pulse appeared somewhat longer on the display. The solid state video recorder could not be used for the purpose for which it was required and a reliable playback facility was only available when the digital inputs were disconnected. The sector scanner display was very seriously noise limited at ranges over 110m. The sonar dome cover (RN canvas 2), new this cruise, was found to be torn to shreds when the dome was removed at Ijmuiden. It has been in place for only 147.5 n miles.

Part 3 - The three current meter stations were successfully recovered and relaid.

Four of the five current meters were still operating when recovered. The "Lensref" radar device attached to the surface buoys had broken off in two instances (one had previously been returned) but proved useful in locating the buoy at Jonsis 1.

F R Harden Jones
K J Medler
17 August 1977

INITIALED: AJL

SEEN IN DRAFT:

Master - J Sinclair
Fishing Skipper - R C Newrick

DISTRIBUTION:

Basic List	
F R Harden Jones	K J Medler
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