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

1978 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 6

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

STAFF:

M S Rolfe
M G Norton (until 24 April)
R S Nunny (until 24 April)
J M Everett
S E Southern

DURATION:

Left Lowestoft 1600 h, 17 April

Arrived Lowestoft 1245 h, 28 April

All times are Greenwich Mean Time

LOCALITY:

North Sea

AIMS:

1. To delimit areas of solid waste on the sea bed in the vicinity of disposal grounds between the Tees and Blyth using high resolution side scan sonar and, where suitable, underwater television and photography (B1.4).

2. To collect samples of bed sediments from these areas for ground truth and analysis as necessary (B1.4).

3. To collect samples of fish and benthos for chemical analysis from off the Teas, Tyne and Humber (B1.1,1.4,2.4,2.6).

*4. To investigate ability of high resolution side scan sonar to distinguish trailer dredge tracks in vicinity of Southwold Experimental Gravel Area and to delimit areas of dredging. To collect samples of bed sediments from within this Experimental area and control zone for benthos and physical analysis, and to collect additional bed sediment samples for ground truth as necessary (C1.1).

*5. PRIORITY: To collect 10 x 5 cm groups of commercial sized plaice and gadoids for Mr Macer for calculation of live weight/gutted weight ratios.

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* These aims added since release of cruise programme.

NARRATIVE:

After leaving Lowestoft, CORELLA steamed south and side scanning was commenced over the Southwold Experimental Gravel Area at 1657 h. After completing the scanning grid at 1045 h, 18 April, bed sediment samples were taken with a 1/10 m^2 Day grab at seven stations within the experimental area, five from the control zone plus an additional two stations. Underwater television viewing was attempted, but excessive ship motion and turbulence near the sea bed prevented any satisfactory results.

CORELLA then steamed north and from 1111 h, 19 April until 1105 h, 20 April a side scanning survey was conducted in Tees Bay, covering both the Tees and Hartlepool's dumping grounds. This was followed by 42 grab stations for sediment ground truth, for physical and chemical analysis and for benthos. On 21 April a further side scan survey was undertaken off Horden, Durham, followed by 23 grab stations for sediments and benthos as in Tees Bay.

Side scanning was then continued at 1628 h, 22 April, from off Horden, over the Wear dumping ground area (colliery waste) and as far north as Blyth where a grid was worked over the fly ash dumping area. Nine grabbing stations were worked in this area while a fault in the scanner recorder was traced, after which the scanning was completed at 1658 h, 23 April. The underwater camera and television were lowered over the fly ash disposal ground and again off Horden, where CORELLA anchored overnight (23-24 April) before berthing at Sunderland at 1157 h, 24 April to take on water and to put M G Norton and R S Nunny ashore with the side scanning equipment.

CORELLA left Sunderland at 0903 h the following morning and commenced trawling 10 miles east of the Tyne where samples of fish were obtained for chemical analysis and also for Mr Macer. However as few large plaice were present in the hauls, CORELLA steamed to the Dogger Bank area in the hope of completing Aim 5. This necessitated abandoning the remainder of Aim 3. Trawling was commenced near the South West Patch at 1100 h, 26 April, but catches were poor and an easterly gale prevented any more than one day's fishing in the area. Gales were still forecast for the Dogger and Humber areas, so CORELLA steamed south at 0600 h, 27 April. En route the weather moderated and two further trawl hauls were made during 27 April near Markham's Hole and a further haul was made the following morning at Smith's Knoll before CORELLA docked at Lowestoft at 1245 h, 28 April.

RESULTS:

Aim 1: Satisfactorily completed. EG plus G side scan sonar successfully distinguished capital dredging deposits in Tees Bay, areas of colliery waste off the Wear, and fly ash off Blyth. In addition the major background sediment types were distinguishable in these areas. Underwater TV was successfully deployed over the fly ash area and off Horden where good pictures were obtained after first modifying the rig by strapping 'legs' on to the frame. Underwater camera pictures were also obtained on B/W negative film at these two areas.

Aim 2: Satisfactorily completed.

Aim 3: Samples of plaice, lemon sole, cod, whiting, thornback ray, Nephrops and Pandalus borealis were obtained from off the Tyne; plaice, dab, grey gurnard, lemon sole and whelk from the Dogger area and plaice, dab, spotted ray, whiting, cod and whelks from Smith's Knoll.

Aim 4: Satisfactorily completed. EG plus G side scan sonar clearly distinguished trailer dredge tracks on different sediment backgrounds. All necessary sediment samples were collected.

Aim 5: The following fish were collected and deep frozen for Mr Macer:

Size grouping (cm)	Plaice	Cod	Whiting
15-19	-	-	9
20-24	1	2	10
25-29	10	10	10
30-34	10	10	10
35-39	10	10	10
40-44	10	10	2
45-49	10	10	
50-54	5	10	
55-59	1	10	
60-64	1	6	
65-69		3	
70-74		2	
75-79		2	
80-84		2	
85-89		-	
90-94		1	

M S Rolfe
28 April 1978

SEEN IN DRAFT: GS (Master) RCN (Fishing Skipper)
INITIALLED: AJL

DISTRIBUTION:

Basic list+
M S Rolfe
M G Norton
R S Nunny
J M Everett
S E Southern
C Macer