

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

1977 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 1

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

STAFF

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DURATION

Left Lowestoft 1742 h 5 January  
Arrived Lowestoft 1500 h 17 January  
All times are Greenwich Mean Time

LOCALITY

North Sea and English Channel

AIMS

To search for groundwater escaping from the seabed.

NARRATIVE

CORELLA sailed at 1742 h 5 January, having been delayed by an exceptionally low tide, and steamed north to the Flamborough Head area where work began the following morning and continued until the evening of 7 January: the weather was good. CORELLA steamed south overnight, and after a delay due to fog, work was resumed the next day in the Humber and continued in the Inner Silver Pit while on passage to Yarmouth Roads where Dr O'lier left and Mr Holford joined the vessel at 1015 h 9 January.

CORELLA continued south to work off the North Falls that evening and between South Foreland and Rye Bay the following day: work was broken off at 1600 h when the weather deteriorated rapidly. CORELLA sheltered under the lee of Dungeness in the East Roads, Hythe. It was a violent night: small ships stopped and big ships trembled. The anchor was lost at 0037 h on 11 January and 36 hours later, after periods of dodging and a troubled passage, CORELLA reached Plymouth and tied up at Millbay Dock at 1202 h on 12 January. The Hunttech Boomer equipment was put ashore at high water the following morning and CORELLA left Plymouth at 0925 h. Light meter trials were carried out off Salcombe and after completing a groundwater survey in Tor Bay, CORELLA steamed up the Channel. Work continued along the south coast on 14 January, and in the Thames Estuary and Southern Bight on 15 January. After collecting plaice eggs by stramin net (Hinder Ground area) and live fish by otter trawl (Sizewell Bank and Smith's Knoll area) CORELLA returned to Lowestoft at 1500 h on 17 January 1978.

## RESULTS

1 Groundwater survey. The continuous sampling equipment (plastic pipe taking water 1 m above the bottom associated with a shipboard pump and temperature and salinity recorder) worked well and water was taken from depths of 18-60 m, at rates of 70-90 l min<sup>-1</sup>, at through-the-water-speeds of 3½-5 knots. Grids or transects were worked at Baymans Hole; off Filey Brigg, off Flamborough Head; Immingham-Clee Ness Sand-Bull Sand Fort; Inner Silver Pit; Hinder Ground; Black Deep; east side of North Falls; South Foreland-Dover-Shakespeare cliff-East Wear Bay; Rye Bay; Saltdean-Worthing; and Tor Bay. Dr D'Olier's advice was particularly valuable in selecting areas of geological and hydrogeological interest. While small differences in temperature between bottom and surface water were found on several occasions, consistently lower bottom salinities were only found off Clee Ness Sand.

2 Boomer equipment. With Dr D'Olier's assistance a number of trials were carried out with the Huntech Boomer, hydrophones and EG and G 254 processing and recording equipment. The results were not satisfactory and further thought should be given to towing arrangements, the hydrophone array, and filter systems in relation to ship's noise before any subsequent trials are carried out.

### Other activities

1 Samples of near bottom organisms were filtered from the bottom water and preserved at several stations.

2 Live plaice eggs were collected at the Hinder Ground.

3 A number of ripe plaice and other fish were brought in alive to meet specific requests.

F R Harden Jones  
19 January 1978

SEEN IN DRAFT: JEMB, RCN

INITIALLED: AJL

### DISTRIBUTION:

Basic list  
F R Harden Jones  
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