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

1976 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 1

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

STAFF

- P G W Jones
- A R Folkard
- B L Hampson
- R F Lincoln
- T C Doddington

DURATION

Left Lowestoft 1100 h, 6 January

Arrived Lowestoft 0715 h, 15 January

All time are Greenwich Mean Time

LOCALITY

Southern North Sea and eastern English Channel

AIMS

1. To survey the distribution of nutrient salts in the southern North Sea in order to monitor trends towards eutrophication. Analyses to be performed at sea by Auto-Analyser. Samples also to be returned to the Laboratory for analysis in order to test storage techniques for the Laboratory's North East coast survey.
2. To collect water samples for trace metal analysis at selected stations, mainly between the Thames Estuary and Hook of Holland.
3. To exchange trace metal intercalibration water samples with the Netherlands Rijkswaterstaat North Sea Directorate in the Hague.
4. To intercalibrate nutrient salt techniques and filtration equipment with the Texel Laboratory of the Netherlands Institute for Sea Research.
5. To collect live plaice and eggs for Dr Purdom.

NARRATIVE

After departure from Lowestoft, CORELLA inspected DB1 buoy off Benacre and then proceeded to the Belgian coast where the nutrient salt/trace metal survey was commenced at 1900 h the same day. During the morning of 7 January the stramin net was used at three localities between the Royal Sovereign light tower and Rye Bay in an attempt to collect live plaice eggs. The vessel docked at Scheveningen at 0800 h the following day and five frozen water samples for the trace metal intercalibration were exchanged with the North Sea Directorate of the Netherlands Rijkswaterstaat. Discussions on North Sea trace metal programmes were held with scientists from that Institute.

CORELLA departed from Scheveningen at 0800 h 9 January and continued the survey.

During the evening of 10 January it was decided to shelter in the Texel Stroom in view of the deteriorating weather conditions. The vessel remained at anchor for much of the following day and with a further increase in westerly winds CORELLA docked in Den Helder at 1700 h. The period spent sheltering, however, afforded an opportunity to catch up with the nutrient salt analysis on the Auto analyser.

On the morning of 12 January Mr Folkard visited the Netherlands Institute for Sea Research laboratory at Texel, taking with him samples for a nutrient salt intercalibration. CORELLA sailed out to the Marsdiep with equipment and two scientists from Texel to compare their filtration unit with the MAFF apparatus for trace metal water samples. During the afternoon scientific staff from CORELLA visited the Texel Laboratory to discuss matters of common interest.

The vessel departed from Den Helder at 1730 h, 12 January to continue the survey. Two trawl hauls for live plaice were made in the Outer Silver Pit during the morning of 14 January, by which time westerly winds had increased to gale force. Course was then set for Lowestoft, nutrient salt sampling stations being worked on passage. The vessel docked at 0715 h, 15 January. The area worked is shown on the attached chart.

RESULTS

1. Trace metal sampling was mainly confined to the Thames Estuary-Hook of Holland section where both filtered water and suspended particulate matter was collected. Analysis of the samples for Cd, Cu, Ni and Zn, together with those of the MAFF-Texel and MAFF-Rijkswaterstaat intercalibration exercises, will be made ashore.
2. Bad weather prevented completion of the nutrient salt sampling grid, but the most important coastal and Southern Bight region was surveyed. Most of the fresh samples were analysed at sea and preserved replicates were returned to the laboratory to compare different preservation techniques.

A preliminary examination of the data indicates a maintenance of the relatively high phosphate levels observed in coastal waters during recent winter surveys. Nitrate levels, however, appear higher than on the January surveys of the past two years.

An intercalibration of nutrient salt standard solution and water samples between the Texel and Lowestoft laboratory showed acceptable agreement apart from some nitrite samples. The standard solutions and phosphate and silicate water samples compared particularly well.

3. Attempts to obtain live plaice eggs in the vicinity of Rye Bay were unsuccessful. Two hauls of the Granton trawl in the Outer Silver Pit each caught approximately two baskets of plaice. Live fish returned to the Laboratory consisted of 18 plaice, two turbot and one brill.

4. A phytoplankton sample was collected off Bacton for Dr Dodge, Birkbeck College, London.

P G W Jones
4 Feb. 1976

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