

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

1982 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 15  
(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

A K Steele  
D J Allington  
C J Gough  
R J Read  
I C Simcoe

DURATION

Left Lowestoft 0950 h 3 November  
Arrived Lowestoft 2041 h 19 November

LOCALITY

Irish Sea

AIMS

1. To trawl for fish for radiocaesium analysis in four of the ICES sub-rectangles of the Eastern Irish Sea.
2. To collect and process for radiocaesium analysis, surface and near bottom seawater from a grid of stations in the Irish Sea, based on the above rectangles; and at selected stations to and from the Irish Sea.
3. To collect seawater samples at selected stations for analyses of Transuranic isotopes.
4. To determine the suspended load content of seawater of selected stations.
5. To carry out a survey of airborne dust sampling at sea.

NARRATIVE

CORELLA sailed on the morning tide of 3 November and proceeded south-about to the Irish Sea. At 15 stations between Lowestoft and the Irish Sea, 50 litre seawater samples were collected and processed on board for subsequent analysis of the  $^{134}\text{Cs}$  and  $^{137}\text{Cs}$  concentrations.

Seawater sampling in the Irish Sea commenced at 1350 h 5 November and continued until 0100 h 7 November when a lee was found under Gt Ormes Head. By 0550 h 7 November the weather had moderated sufficiently to continue sampling in Liverpool Bay until shelter had again to be sought under Gt Orme Head, at 1700 h 7 November.

At 0650 h 8 November sampling recommenced and the trawl station in ICES rectangle 36E6 was worked. In deteriorating weather conditions and a wind shift the ship worked a line of stations towards the Isle of Man where the ship sheltered from 0240 h until 0545 h 9 November. Sampling continued in the eastern Irish Sea, trawling in 37E5, where a top wing was torn and in 37E6 and seawater sampling in the vicinity of the BNFL/outlet at Sellafield, was completed.

By nightfall the weather had again deteriorated and the ship anchored in Ramsey Bay from 2320 h 9 November until 0850 h 10 November. The ship then steamed to Douglas to take on fuel, water and provisions between berthing at 1120 h 10 November and sailing at 1420 h 11 November. While in Douglas the opportunity was taken to obtain a sample of Fucus serratus from the shoreline adjacent to the harbour.

After leaving Douglas the ship sailed to Ramsey Bay to obtain better shelter from 1600 h 11 November until 0800 h 13 November. The poor weather forecast ruled out the possibility of returning north-about and the stations in the North Channel had to be abandoned. By working across from the final trawl station in ICES rectangle 38E5 to the Irish Coast and sampling the station offshore as weather permitted the remainder of the Irish Sea stations were worked until 1245 h 16 November when the south-about return passage commenced.

Continuing gale force winds and a heavy swell ruled out a passage up the French coast and the ship anchored in Sandown Bay from 2100 h 17 November until 0340 h 19 November when the passage to Lowestoft was resumed. The ship berthed in Lowestoft at 2041 h 19 November.

## RESULTS

Aim 1 of the cruise was completed. Samples retained for  $^{134}\text{Cs}$  and  $^{137}\text{Cs}$  analysis were as follows:

36E6	37E5	37E6	38E5
Cod	Cod	Cod	Cod
Monk Fish	L Sole	Plaice	Monk Fish
Queens	Mackerel	Whiting	L Soles
	Queens	Nephrops	Whiting
	Squid	Whelks	Queens
			Whelks

Aim 2. With the exception of the stations in the North Channel the seawater sampling in the Irish Sea was completed. Surface water was collected and processed at 66 stations and near bottom water was collected by 30 l Niskin samplers and processed at 40 stations, for subsequent analysis for  $^{134}\text{Cs}$  and  $^{137}\text{Cs}$  concentrations.

The outward and return south-about passages provided 31 surface samples to be processed for radiocaesium analysis.

Aim 3. At 4 stations between BNFL Sellafield and the North Channel surface samples were collected, filtered and retained for analyses of  $^{238}\text{Pu}$ ,  $^{239}\text{Pu}$  &  $^{240}\text{Pu}$  and  $^{241}\text{Am}$  concentrations.

Aim 4. At alternate stations, aliquots of 1 to 2 litres of seawater were processed for suspended load determinations.

Aim 5. Dry cloth dust collectors were mounted:-

1. On top of the wheelhouse.
2. On the Aft Gantry.
3. Above the starboard rail.
4. Above the port rail.

These were changed at approximately every 10 stations throughout the cruise. In general the muslin cloth stood up well to the severe testing, only 1 cloth was blown away from its frame and lost overboard.

A K Steele  
29 November 1982

SEEN IN DRAFT: G R Oliver - Master  
J Harper - Senior Fishing Mate

INITIALLED: HWH

DISTRIBUTION:

Basic List  
A K Steele  
D J Allington  
C J Gough  
R J Read  
I C Simcoe  
Mr J A Hetherington SDD  
Dr S Jones BNFL



