INSTITUTE FOR MARINE ENVIRONMENTAL RESEARCH

CRUISE REPORT
IMER B/8/76
LEG 2.
RVB 12/76

VESSEL	RRS JOHN MURRAY		
CRUISE PERIOD	9-10 September 1976		
PERSONNEL	R M Warwick	PSO	Senior Scientist
	C George	ASO	
ITINERARY	Wednesday 8 September		Travelled to Barry.
	Thursday 9 "		Loaded equipment aboard. Gales prevented sailing. Cruise abandoned 1400 in view of no improvement in weather and bad forecast. Unload equipment, returned to Plymouth.
OBJECTIVE	To continue the regular sampling programme to measure the annual production of macrofauna species of a Modiolus community off Ilfracombe (51°16.0'N 4°08.0'W).		

Prepared by: R M Warwick
Approved by: A R Longhurst
Date: 17 September 1976.

VESSEL RRS JOHN MURRAY

CRUISE PERIOD 1 - 8 September 1976

PERSONNEL

A W Morris	PSO	Senior Scientist
R J Uncles	SSO	
M B Jordan	HSO	
A J Bale	SO	
R J M Howland	SO	
N R Cotter	ASO	

ITINERARY (for cruise tracks and station positions see corresponding cruise programme)

Tuesday 31 August	Travel to Barry. Install equipment on board.
Wednesday 1 September	Depart Barry 10.00. Proceed to start of Celtic Sea track. En route, check, calibrate and commission all scientific equipment. Commence track at 19.19.
Thursday 2 "	Stations 1 to 8 of Celtic Sea track completed and at anchor station 11.14. Commence analytical work and equipment overhaul. Return to Celtic Sea track 23.35.
Friday 3 "	Celtic Sea track complete 17.26 (Stations 9 to 18). Work stations 28, 29 and 30 of St Ives Bay regional survey before proceeding to anchor at 20.28. Carry out analytical work and equipment overhaul.
Saturday 4 "	St Ives Bay regional survey commenced at 0822 on station 31. Survey complete at 2016. Proceed to anchor for analytical work and equipment overhaul.
Sunday 5 "	12.13 Commence Hartland to St Ives track.
Monday 6 "	Hartland to St Ives track completed at 09.06. Proceed to sediment sampling grid, taking water samples en route for chemical analysis. Sediment sampling commenced 14.09.
Tuesday 7 "	Sediment sampling completed 08.24. Time prior to occupation of anchor station (SETWP exercise) utilised by taking samples for water analysis at IMER standard stations 12, 17, 18, 21, 22, 23, 25, 26 and 27 - completed 15.09; proceed to anchor station ($51^{o}20.2'N$; $3^{o}08.0'W$). Overhaul scientific equipment and recommission.

	Wednesday 8 September	Anchor station sampling and measurements commenced 06.00 and completed 18.16. Proceed to Barry; lock-in at ~20.00 and start unloading.
	Thursday 9 "	Return to Plymouth, 14.00.

OBJECTIVES

1. To consolidate Bristol Channel chemical data.
2. To continue investigations of short-term variability in the Bristol Channel sediment resuspension zone.
3. To characterise the Celtic Sea component of the Bristol Channel admixture.
4. To investigate the influence of land drainage from the N.Devon and N.Cornwall coast on the chemistry of the Bristol Channel and Celtic Sea.
5. To occupy an anchor station as part of the SETWP multiboat sampling investigation, over a tidal period.
6. To collect sediment samples for metal analysis.

PROCEDURES AND METHODS

1. The chemistry of the region along cruise tracks was surveyed by continuous monitoring of surface salinity, temperature, turbidity and nutrients. Data was consolidated by discrete sampling at fixed stations; taking surface and near bottom samples for nutrients and surface samples only for particulate and soluble metal analysis.

2. Sediment sampling were collected by Day grab and stored under refrigeration for subsequent laboratory analysis.

3. At the anchor station in the sediment resuspension zone of the Severn Estuary, current and turbidity profiles in depth and continuous surface recording of salinity and temperature were carried out. Discrete sampling for nutrients at half hourly intervals and metals at hourly intervals for surface and near bottom samples was included. Samples for nutrients (half-hourly) and metals and bacteriological assay (every two hours) were collected f the SETWP exercise. These samples were transferred by helicopter, visiting at approximately 4 hourly intervals. Surface dissolved oxygen was also recorded at half hourly intervals.

EQUIPMENT PERFORMANCE

All equipment performed satisfactorily.

RESULTS

Firm conclusions await the availability of laboratory results The prevailing weather throughout the previous summer months has been settled, hot and dry. The influence of land drainage was clearly very restricted as shown by the salinity and nutrient records. In many areas away from the immediate coast or Severn Estuary domination, dissolved nitrate-nitrogen was extremely low, (possibly limiting to phytoplankton growth).

Prepared by: A W Morris
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