

Cruise Report

1. Participants

A.G Davies	MBA, Plymouth (Principal Scientist)
R. Longmore	" " (from 10 June)
Jill Sleep	" "
D.V.P. Conway	IMER, Plymouth (from 10 June)
S.H. Coombs	" " "
R. Williams	" " "
S. L'Helgner	University of Western Brittany, Brest, France
P. Taylor	RVS Barry

2. Itinerary

The attached chart shows the ships' track and principal stations occupied. These were :

	N	W
M	49°23'	3°20'
E5	49°06'	6°30'

Great Sole Bank transect

49°18'	to	9°42'
49°59'		10°59'

The ship left Falmouth at 1500 on 5 June. After a rendezvous off the Scillies with R V Squilla, it steamed to M. On 9 June, the ship proceeded to Plymouth where, on 10 June, the rest of the scientists embarked. The ship then continued on to the Great Sole Bank transect after which it proceeded to Station E5 arriving on 14 June. The ship left E5 on 20 June and returned to the southern end of the Great Sole Bank transect but bad weather prevented the commencement of work and on 21 June with further depressions forecast for the region, it was decided to return to Plymouth where the ship docked in at 0830 on 22 June.

3. Work carried out

Station M Nutrient enrichment experiments using the phytoplankton population present at this station and measurements of N-labelled nutrient uptake rates were carried out. The water column was regularly profiled using the Neil Brown CTD system and a suite of physical and chemical parameters determined.

Great Sole Bank transect On the south-east to north-west leg, the Undulating Oceanographic Recorder was deployed to determine plankton distributions in relation to the topography of the area. On the return leg, detailed profiling of the water column was carried out at 6 stations using the CTD system and its associated water bottle rosette to investigate whether there was a link between mackerel larvae distribution, the physical and chemical properties of the water and the levels of phytoplankton and zooplankton. The LHPR was towed between these stations to obtain further information on plankton distributions.

Station E5 The main work here was the trial of dialysis cultures of a nutrient-limited diatom (Skeletonema costatum) as a bioassay for nutrient regeneration rates in stratified waters. The dialysis cultures were attached to frameworks suspended from free-floating Dahn buoys and remained in the sea for up to 60 hours. Intensive chlorophyll a profiling was also carried out using the CTD system to examine whether in situ chlorophyll fluorescence varies diurnally and to measure the extent to which the chlorophyll maximum moved vertically due to migration of the phytoplankton.

A. G. Davis

9 September 1985

# RRS Frederick Russell Cruise 3B/85

5-22 June 1985

