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2 Prof Pearce
This report of a short two-day cruise belies a much greater sampling effort undertaken by our autonomous mooring. It also demonstrates considerable interannual variability in phytoplankton production & its onset between 1997 & 1998. We also know that the composition of the plankton has varied between these years. You will also note the cooperation with a UK C B [illegible]
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Biological Oceanography Cruise : LF1798

Cruise Report
(April 19 - 20)

Personnel

R. Gowen (SIC)	SSO	(DANI)
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G. M^C^Cullough	RA	(QUEENS)
M. Trimmer	PD	(ESSEX)

Cruise Objectives

1. to determine oxygen consumption and denitrification at the sediment-water interface at the DANI mooring site in the central Irish Sea.

2. to collect data on water column structure at the DANI mooring site and standard station in Irish coastal waters.

3. to collect water samples for determination of phytoplankton biomass and dissolved inorganic nutrients.

4. to collect zooplankton samples from the two stations.

Cruise Narrative

R.V. Lough Foyle departed Belfast at 2100 on Sunday April 19 and sailed for the DANI mooring station in the central Irish Sea. On Monday April 20, bottom sediments were collected and used in ship-board experiments to determine rates of sediment oxygen consumption, sulphate reduction and nutrient efflux. A CTD profile was recorded and water samples for estimation of phytoplankton biomass and concentrations of dissolved inorganic nutrients were collected. Zooplankton samples were collected using a 0.6 m 280 μm mesh ring net (vertical hauls). On completion of the work at the mooring station the ship sailed for the standard DANI station in Irish coastal waters. The CTD work and collection of water samples and zooplankton was repeated at this station. On completion of the work, Lough Foyle steamed for Belfast and docked at 2100.

Preliminary Results

All of the experimental work was undertaken successfully and counting of the isotope labelled sediment samples is on schedule. At the time of the cruise the water column at

the mooring site was vertically mixed with a surface to bottom temperature difference of 0.1° C. Concentrations of chlorophyll were < 0.6 mg m^{-3} suggesting that the spring phytoplankton bloom had not started. It is interesting to compare these conditions with those of April 23 last year, when the surface to bottom difference in temperature was 1.3° C and the near surface chlorophyll concentration was 11.8 mg m^{-3}.

At the shallow (20 m) coastal station the maximum chlorophyll concentration was 2.4 mg m^{-3} suggesting the spring bloom was well under way at the time of sampling.

Acknowledgments

I would like to thank the captain, officers and crew of the R.V. Lough Foyle for their assistance during the cruise. I also wish to express my thanks to the scientific staff who participated in the cruise..

Richard Gowen

May 08, 1998