

**Department of Agriculture and Rural Development (Northern Ireland)**  
**Agriculture and Environmental Science Division**

**Cruise Report:** CO 0206

**Vessel:** RV *Corystes*

**Date:** 8<sup>th</sup> – 15<sup>th</sup> January 2006

**Area:** Irish Sea (north); ICES div. VIIa

**Survey Type:** Biological Oceanography & Mooring Service

**Personnel:**

B Stewart (SIC)	SSO	DARDNI
R Gilmore	SO	DARDNI
C Smyth	SO	DARDNI
P McShane	ASO	DARDNI
A Harrison	Guest	Univ. Liverpool
T Shammon	Guest	Univ. Liverpool

**Objectives:**

- i. To maintain *insitu* monitoring at inshore and offshore sites in the NW Irish Sea.
- ii. To investigate the distribution of dissolved nutrients and phytoplankton in relation to water column structure in the Irish Sea, Celtic Sea and Celtic Shelf Edge.
- iii. To investigate the spatial distribution of dissolved nutrients over a grid of stations in the Irish Sea.

**Circulation**



**DCSO & CSO**

**Ship Managers**

**Fisheries Division**

**ANIFPO**

**NIFPO**


**Comments**

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**Signed Head of Branch**

**Methods:**

- Stations 38A and 47D were sampled using a Seabird 911 and Falmouth Scientific CTD.
- Vertical zooplankton net hauls were taken using a 200 micron mesh bongo net with a 500mm diameter inlet.
- Samples for nutrients and chlorophyll analysis were taken over a grid of 98 stations from the ship's clean seawater.
- Throughout the cruise surface salinity and temperature recordings were made using a Sea-bird SBE21 Thermosalinograph.

**Cruise Narrative:**Sunday 8 January

In preparation for the cruise, all DANI scientific crew were onboard by 2000 hrs when mooring components and the automated sampler were prepared for deployment. Following a talk on ship's safety and a demonstration of personal life saving equipment, the RV Corystes departed Belfast at 2140 hrs and sailed overnight in a light southerly breeze to the mooring site at station 38A.

Monday 9 January

The vessel arrived on the mooring site at 0700 hrs. The weather was dry and bright with a moderate to fresh westerly wind. Work for the day commenced after breakfast with the instrument mooring eventually recovered to ship deck at 0830 hrs. The mooring components were inspected for corrosion and replaced where necessary. The thermistors and Sea-bird CTD were removed from the mooring and data downloaded. The McLane automated water sampler was removed and replaced with a similar pre programmed unit. The mooring components, thermistors and CTD were then reassembled and the instrument mooring was successfully redeployed at 1112 hrs in depth 93 metres on position  $53^{\circ} 47' .042N$   $5^{\circ} 38' .046W$ . Following the deployment of the rosette water sampler and zooplankton net the vessel sailed to coastal station 47D arriving at 1500 hrs. The inshore mooring was recovered to ship deck at 1515 hrs, components inspected for corrosion and replaced where necessary and redeployed at 1610 hrs in depth 28 metres on position  $53^{\circ} 44' .557N$   $6^{\circ} 03' .958W$ . Following deployment of the rosette water sampler and zooplankton net the vessel sailed in a southerly direction to commence a grid of stations leading to the Celtic Sea shelf edge. As the evening progressed heavy weather with winds often in excess of 50 knots forced the vessel to shelter in Liverpool Bay.

Tuesday 10 January

Work for the day commenced at 0800 hrs when it was decided in view of the forecast to abandon the Celtic Sea shelf edge survey and to continue the cruise with intensive spatial monitoring of surface nutrients in the northern Irish Sea. A shift working system was agreed to enable 24 hr working and a grid of stations were sampled in the shelter of Liverpool Bay.

Wednesday 11 January

With no improvement in weather conditions work continued throughout the day in relative shelter along a grid of stations between Liverpool Bay and the Cumbrian coast.

Thursday 12 January

Having sampled station 63 in an extremely heavy swell work was abandoned and the vessel sailed for shelter off the Irish coast where the survey continued throughout the day along an inshore grid of stations.

Friday 13 January

Work continued along inshore stations until daybreak when a crewmember with a neck injury was put ashore on the Howth lifeboat. Following this the vessel tracked in a northerly direction before

proceeding east to commence on a final grid of stations between the Isle of Man and the Cumbrian coast.

#### Saturday 14 January

Work continued in a westerly direction along the final section of the sampling grid with the vessel sailing to dock in Belfast at 0200 hrs Sunday morning.

#### Sunday 15 January

Work for the day commenced at 0800 hrs when scientific staff prepared equipment for unloading. Equipment was transferred to Newforge and stored when work for the day finished at 1200hrs.

#### **Work Completed:**

Apart from the initial day when moorings were serviced the remainder of the cruise was successfully conducted in marginal weather most of the time with some very severe wind and sea conditions.

#### **Results:**

Detailed results of the hydrographic data collected during the cruise will be made available as the data is worked up and interpreted by the laboratory. Samples taken for nutrient analysis were returned to the laboratory and processed for ammoniacal nitrogen, phosphate, total oxidised nitrogen, silicate, nitrite and chlorophyll. Results will be available when the data is fully worked up by the laboratory.

#### **Operational aspects of the Ship:**

During the cruise the A-frame, main trawl winches, both hydrographic winches and the ship's clean seawater supply were used. No problems were encountered with any of the ship's equipment nor indeed with any of the scientific equipment. The hotel and catering service was of the usual high standard and there was a good working relationship between the scientists and the ship's crew. Prior to the ship departing Belfast a comprehensive and detailed safety briefing was delivered to the scientific crew.

#### **Acknowledgements:**

I am indebted the deck crew of the RV Corystes for their co-operation and assistance during the mooring recovery and deployment operation. The ship's master, officers, engineers and catering staff are also thanked for their co-operation during this cruise.

*Scientist in Charge*

*Master (seen in draft)*

Date

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### Surface Nutrient Monitoring Station Grid

