



**Agri-Food and Biosciences Institute**  
 Agriculture, Food and Environmental Science Division  
 Fisheries and Aquatic Ecosystems Branch

**Cruise Report:** CO 4908  
**Vessel:** RV *Corystes*  
**Date:** 1<sup>st</sup> – 3<sup>rd</sup> December 2008  
**Area:** Irish Sea (north); ICES div. VIIa  
**Survey Type:** Biological Oceanography & Mooring Service

**Personnel:**

B Stewart	SSO	AFBI	1 – 3 December
R Gilmore	SO	AFBI	1 – 3 December
C Smyth	SO	AFBI	1 – 3 December
A M Coyle	ASO	AFBI	1 – 3 December

**Objectives:**

- i. To maintain an insitu monitoring programme at open Irish Sea station 38A.
- ii. To investigate the distribution of dissolved nutrients along a grid of stations between the mooring site and Liverpool Bay.
- iii. To investigate the distribution of dissolved nutrients and phytoplankton in the water column along a grid of stations at the Beaufort Dyke in the North Channel

<b><u>Circulation</u></b>	<input checked="" type="checkbox"/>	<b><u>Comments</u></b>    <hr style="border: 0.5px solid black;"/> <p style="text-align: center;">Signed Head of Branch</p>
DCSO & CSO	<input checked="" type="checkbox"/>	
Ship Managers	<input checked="" type="checkbox"/>	
Fisheries Division	<input type="checkbox"/>	
ANIFPO	<input type="checkbox"/>	
NIFPO	<input type="checkbox"/>	

**Method:**

- Stations were profiled using a Seabird SBE 32 water sampler and SBE 911 CTD
- Vertical zooplankton net hauls were taken using a 200 micron mesh bongo net with a 500mm diameter inlet.

**Cruise Narrative:**Sunday 30 November 2008

Following a talk on ship's safety and a demonstration of personal life saving equipment, the RV Corystes departed Belfast at 2100 hrs and sailed overnight to the mooring station 38A

Monday 1 December 2008

The vessel arrived on station 38A at 0630 hrs. The weather was dry and bright with a light westerly wind when work commenced at 0800hrs with recovery of the instrument mooring to ship deck. Data from thermistors, CTD and water sampler were down loaded. Samples were removed from the water sampler and following a detailed inspection of mooring components the instruments were reprogrammed and mooring components reassembled. The instrument mooring was then successfully redeployed at 1130 hrs in depth 92 metres on position  $53^{\circ} 46' .891N$   $005^{\circ} 38' .119W$ . Following deployment of the rosette water sampler and CTD the vessel sailed to sample stations 47D, 36, 37 and at stations 8, 7 and 6 along the "Liverpool Bay" transect. Work for the day finished at 2130 hrs.

Tuesday 2 December 2008

In a fresh westerly wind work commenced at 0800 hrs on station LB05 and continued in an easterly direction to complete the grid of stations at the CEFAS mooring in the early afternoon. The vessel then sailed in a northerly direction to commence sampling at stations along the "Isle of Man" transect. At this stage of the survey, progress was hampered by an ongoing hydraulic problem with the hydrographic winch. Nevertheless four of the transect stations were successfully surveyed before a hydraulic pipe fractured and work had to be abandoned at 2130 hrs. The vessel sailed slowly overnight to dock in Belfast at 0830 hrs.

**Work Completed:**

Although weather conditions at times were marginal the mooring service was successfully completed and the bulk of the transect stations surveyed. Unfortunately owing to failure of the winch hydraulic system, sampling at the Beaufort Dyke had to be abandoned.

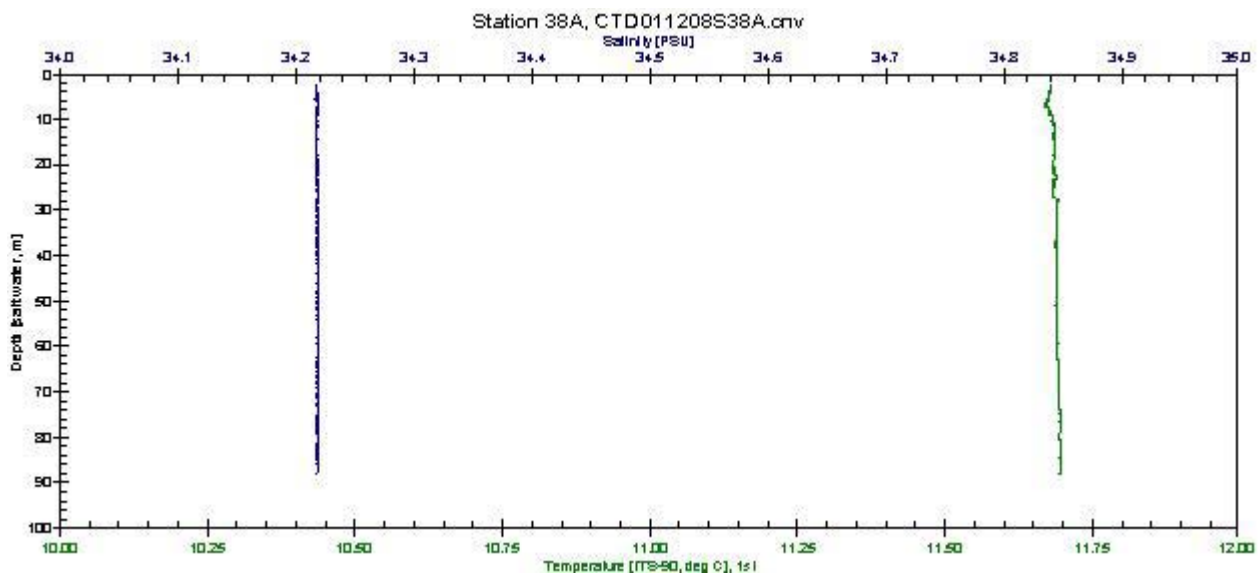




## Mooring service operations

### Results:

At the time of mooring service, the water column at station 38A was vertically mixed with salinity 34.23 and mean temperature 10.38 °C (Figure 1).



Concentrations of phosphate, total oxidized nitrogen and silicate were typical for the time of year; at mooring station 38A phosphate ranged 0.53 to 0.56  $\mu\text{M}$ , total oxidised nitrogen 5.10 to 5.88  $\mu\text{M}$  and silicate 5.73 to 5.89  $\mu\text{M}$ . The three nutrients were uniformly distributed throughout which reflects the vertically mixed nature of the water column expected at this time of year. Chlorophyll concentrations were baseline and typically  $\leq 0.3 \mu\text{g l}^{-1}$ .

### 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. Problems were encountered with the hydraulic system of the hydrographic winch that resulted in part of the survey being abandoned.

No other problems were encountered with ship's equipment nor indeed with any of the scientific equipment. The hotel and catering service was of an acceptable 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: 29 December 2008

Not to be cited without prior reference to AFBI (Fisheries & Aquatic Ecosystems Branch)