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

Cruise Report: CO 0708
Vessel: RV *Corystes*
Date: 10th – 15th February 2008
Area: Irish Sea (north); ICES div. VIIa & VIa
Survey Type: Biological Oceanography & NMMP Sampling

Personnel:

B Stewart	SSO	AFBI	10 – 15 Feb
M Service	PSO	AFBI	10 – 15 Feb
R Gilmore	SO	AFBI	10 – 15 Feb
C Smyth	SO	AFBI	10 – 15 Feb
C Woods	SO	AFBI	10 – 15 Feb
A Callaway	Student	UUC	10 – 15 Feb
C Scherer	Student	Napier	10 – 15 Feb

Objectives:

i. To maintain an insitu monitoring programme at open sea station 38A.

ii. To investigate the spatial distribution of nutrients along "Liverpool Bay" & IOM Transects

iii. To maintain long term monitoring of chemical & biological trends in the marine environment

iv. To investigate nutrient and CTD profiles along the Beaufort Dyke in the North Channel

Circulation	✓
DCSO & CSO	✓
Ship Managers	✓
Fisheries Division	
ANIFPO	
NIFPO	

Comments

Signed Head of Branch

Methods:

- All stations were sampled using a Seabird 911 water sampler and Falmouth Scientific CTD
- Vertical zooplankton net hauls were taken using a 200 micron mesh bongo net with a 500mm diameter inlet.
- Seabed samples were taken using a Day grab

Cruise Narrative:

Sunday 10 February 2008

In preparation for the cruise, all AFBI scientific crew and students were onboard by 1900 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 2040 hrs and sailed overnight in a light southerly wind to station NMMP1 off the North Coast.

Monday 11 February 2008

The vessel arrived on station NMMP1 at 0630 hrs. The weather was dry and bright with a light southerly wind when work commenced at 0800 hrs with the deployment of the Day grab. Replicate sediment samples were taken for biota, metals and organic analysis. Following deployment of the rosette water sampler the vessel sailed to sample along a coastal transect of stations extending into the Foyle estuary. Sampling completed, the ship sailed overnight to station NMMP2 off the Glenarm coast.

Tuesday 12 February 2008

Sediment and water sampling at station NMMP2 commenced at 0800 hrs and followed the protocol of the previous day at NMMP1. Following this the vessel sailed to the Beaufort Dyke where the rosette water sampler and CTD was deployed at the four standard stations. In the late afternoon the camera and sledge was deployed for a UWTV survey of a dredge spoil dump site close to the mouth of Belfast Lough. Unfortunately the initial survey was abandoned owing to strong tidal currents but a further attempt during low tide in the late evening proved successful. Dr Matthew Service was transferred ashore on board the MV Ken Vickers and the survey continued as the ship sailed overnight to the mooring site at station 38A.

Wednesday 13 February 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 instruments were reprogrammed and mooring components reassembled. After an additional large volume water sampler was attached the instrument mooring was then successfully redeployed at 1330 hrs in depth 92 metres on position $53^0\ 46^l.947N\quad 005^0\ 38^l.070W$. Following deployment of the rosette water sampler and CTD the vessel sailed towards the Irish coast to sample at stations 37 and 36 before commencing an east – west water sampling transect on station 47D. The survey continued with Liverpool Bay stations 8, 7 and 6 sampled before midnight.

Thursday 14 February 2008

Sampling along the east – west transect continued overnight and finished on Liverpool Bay station 1 before breakfast. The ship then sailed north to arrive on station I at 1015 hrs and continued along a westerly transect sampling at stations H, G, F and finishing on station E at 1330hrs. Survey work completed the vessel then sailed to dock in Belfast at 2100 hrs.

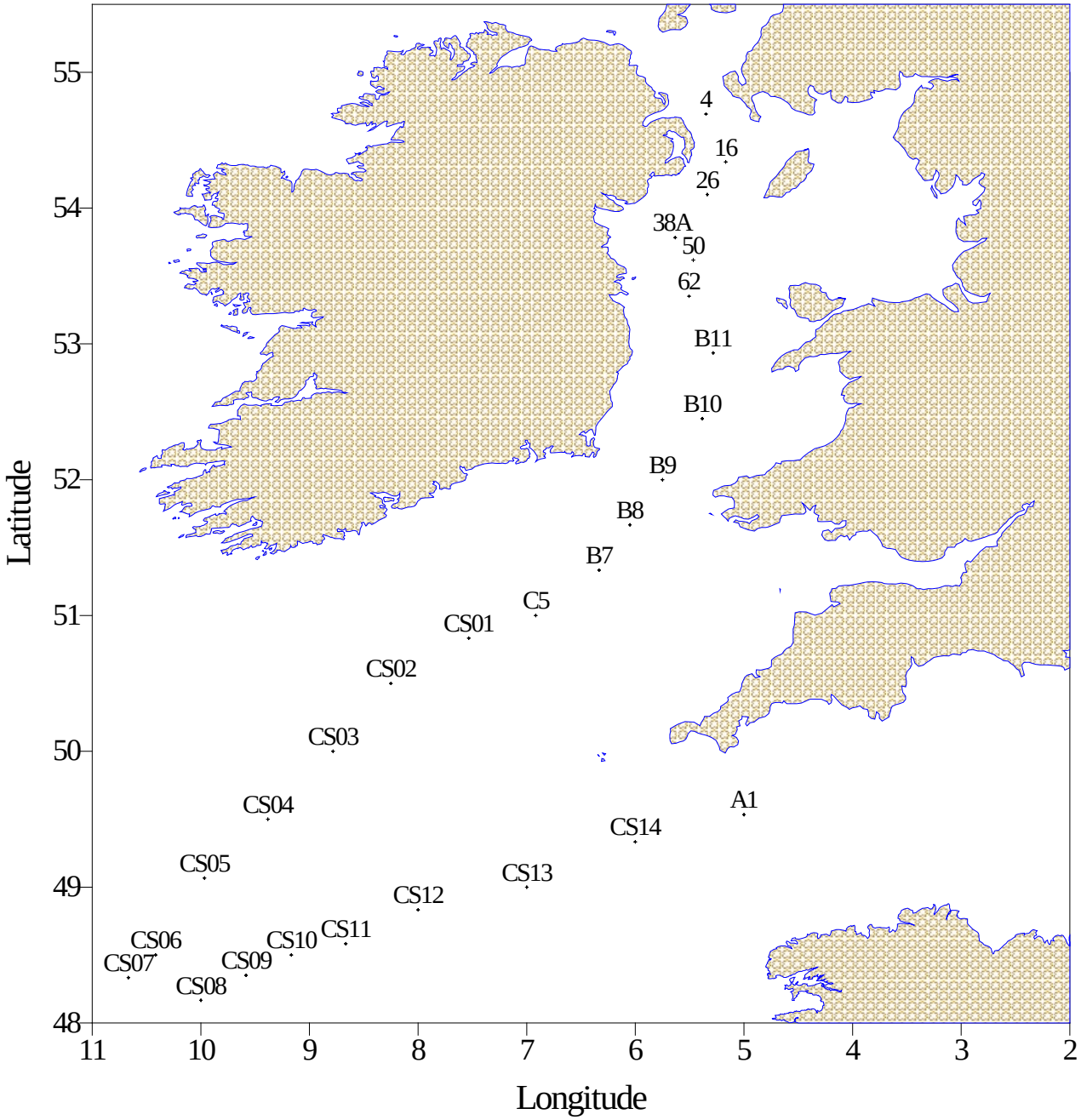
Work Completed:
Comfortable weather conditions during the survey enabled scientific staff to complete all work objectives.

Results:
At the time of mooring service, the water column at station 38A was vertically mixed with salinity 34.21 and mean temperature 8.85 ^{0}C, approximately 1.5 degrees lower than recorded in early January. Other stations sampled were vertically mixed and typical of temperature and salinity recorded at the mooring site. Concentrations of phosphate, total oxidized nitrogen and silicate, at all stations sampled, were typical for the time of year; at mooring station 38A, phosphate ranged 0.66 to 0.68 □M, total oxidised nitrogen 6.89 to 7.53 □M and silicate 7.32 to 7.45 □M. The three nutrients were uniformly distributed throughout which reflects the vertically mixed nature of the water. However nutrient concentrations had increased since the January survey as values approached the winter maximum. Chlorophyll concentrations were baseline and typically $\leq$ 0.4 □g l^{-1}. At the second attempt tidal conditions during the underwater camera survey enabled the capture of good quality footage of the sea bed condition.

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 were satisfactory and there was an acceptable 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 acknowledge 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: 19 March 2008



Survey Transect CO 2606