Cruise Report: CO 0808
Vessel: RV *Corystes*
Date: 18th – 28th February 2008
Area: Irish Sea (north); ICES div. VIIa
Survey Type: Irish Sea Egg Production

Personnel:

S Beggs (SIC)	AFBI	18 - 28 Feb
J Peel	AFBI	18 - 28 Feb
A Prael	AFBI	18 - 28 Feb
G Brady	AFBI	18 - 28 Feb
F Goodsir	CEFAS	18 - 28 Feb
E Lane	CEFAS	18 - 28 Feb
D Sivyer	CEFAS	18 - 28 Feb
D Pearce	CEFAS	18 - 28 Feb
L Bristow	UEA	18 – 28 Feb

Objectives:

i. To conduct a plankton survey using a Gulf VII high speed plankton sampler to determine the distribution and abundance of cod, haddock and plaice eggs.

ii. To remove fish eggs from fresh plankton samples at sea. To measure, stage and preserve these eggs in ethanol prior to species identification using a DNA technique on return to the laboratory.

iii. To collect a salinity water sample at every third sampling station.

iv. To collect fine mesh PUP net samples at each of the sampling stations

Methods:
A Gulf VII High Speed Plankton sampler was deployed at a series of fixed sampling stations (Figure 1). The sampler was equipped with a 35cm aperture nose cone and 280µm mesh with 280µm mesh cod ends. A PUP sampler was also attached fitted with a General Oceanics standard speed mechanical flowmeter and fine mesh. The sampler was deployed using the PRONET system, logging depth, volume filtered, temperature, salinity and fluorescence.

The sampler was towed at between 3-4 knots passing steadily through the water column in a 'V' shape, i.e. forming a double oblique tow, the lowest point being ~3 m above the sea bed. Gadoid like eggs were removed from the fresh plankton samples at sea and measured, staged and

preserved in ethanol. The remaining plankton sample was preserved in a 4% formaldehyde solution. A thermosalinograph with attached positional data was run continuously to log sub-surface (5m) temperature and salinity. Salinity samples were taken at every third station.

Cruise Narrative:

The R.V. Corystes departed Belfast on the evening of Monday 18th February and headed directly to the first station in the North Channel. Scientific personnel were allocated shifts and tasks according to previous practical experience in the methodology. Due to the prevailing wind conditions it was decided to commence sampling in the eastern Irish Sea. Sampling continued in strata D and E until the 21st February when increasing wind speeds forced the vessel to take shelter off the north Welsh coast. Sampling recommenced on the evening of the 22nd February and the eastern Irish Sea strata were completed by the next morning. Taking account of the prevailing wind direction the vessel steamed directly for the western Irish Sea and began sampling in stratum A. Sampling was completed by the evening of the 24th February and the vessel began sampling in the remaining strata C and B. Due to worsening conditions the vessel once again took shelter off the Irish coast during the 25 and 26th February, resuming sampling on the 27th February. The survey was completed on the 28th February whereupon the vessel returned directly to Belfast.

Work Completed:

A total of 104 stations were sampled with the 3 most southern stations in stratum B (27, 28, 29) dropped from the sampling plan due to time constraints arising from the weather conditions. Stations 102, 101 and 22 were moved from the original positions due to navigational hazards such as low water and underwater obstructions. Fish eggs in early development stages 1A and 1B and between 1.10 and 1.75mm diameter were removed and individually preserved in ethanol. A total of 1614 eggs were obtained during this cruise, for subsequent species identification using the DNA technique (Figure 2). The PRONET logging system was used to log depth profiles at all stations sampled. A main plankton and PUP sample were preserved at each station and salinity samples collected at every third station.

Acknowledgements:

The Master and Crew of *RV Corystes* are thanked for their assistance and cooperation in ensuring the successful completion of the survey. The scientific staff are commended for their thorough and efficient work throughout the survey and general good humour and teamwork which was crucial to the successful completion of the survey.

Signed:

Scientist in charge (SIC)……..date ……

Head, AESD Aquatic Systems…… date ……

Master (seen in draft)……

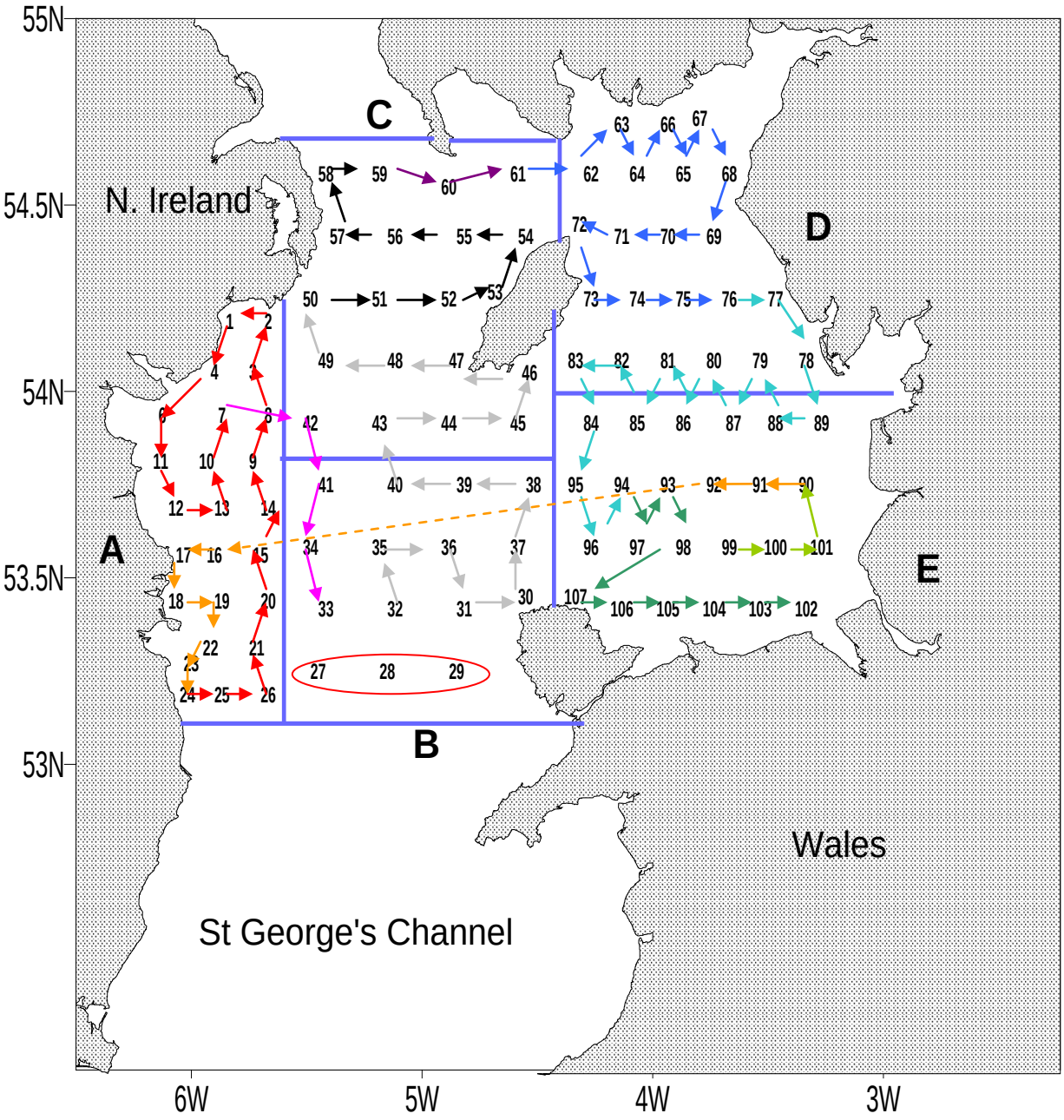

Figure 1. CO0808 Irish Sea egg production cruise survey track and sampling positions. Circled stations were not sampled. Changes in arrow colour represent days. First station sampled 59. Sampling breaks occurred after stations 102 and 33 due to poor weather, with sampling resuming at stations 99 and 32 respectively.

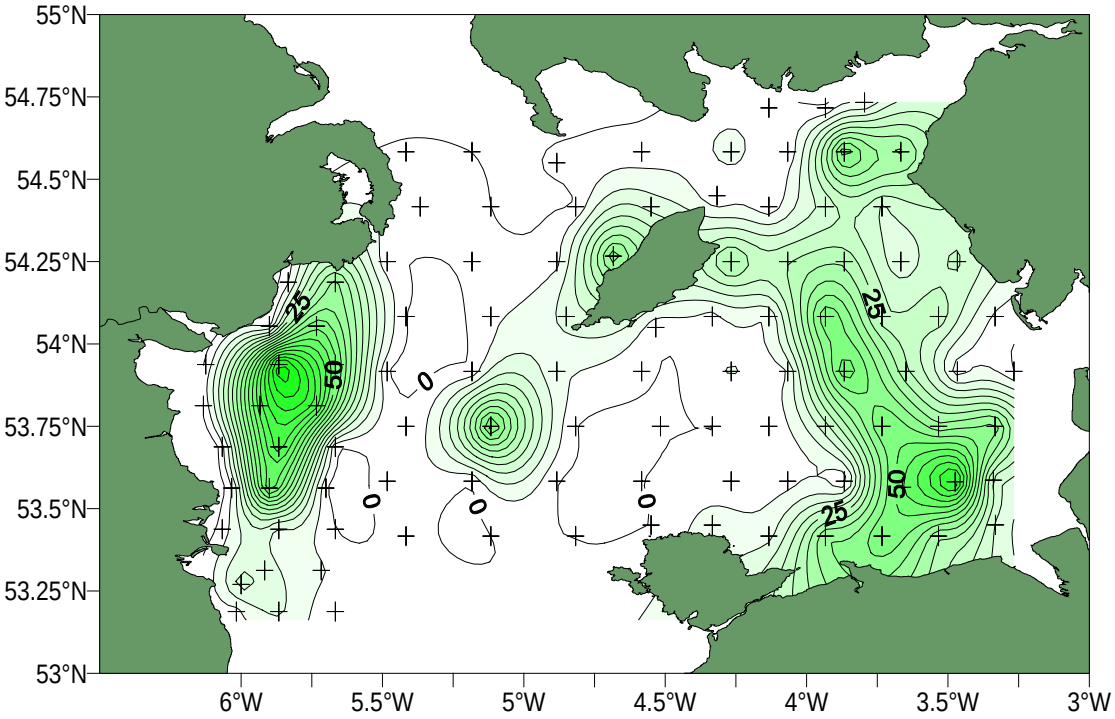

Figure 2. Distribution and numbers of gadoid like eggs removed, measured and staged from fresh plankton samples. Maximum number of eggs removed from one sample was ninety.