

**CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE,  
LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK NR33 0HT**

**CRUISE REPORT: CELTIC VOYAGER 04/2006**

**STAFF:**

Clive Fox (SIC)

Karen Burnett

Gurpreet Padda

Marie Conway (University Galway)

Matthew Eade

Nigel Lyman

Naomi Smith

Enda O'Callaghan (DARDNI)

**DURATION:** 24 March - 4 April 2006

**LOCATION:** Irish Sea (VIIa)

**AIMS:**

1. To conduct a plankton survey using a 76cm Gulf VII plankton sampler to determine the distribution and abundance of cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*) and plaice (*Pleuronectes platessa*) eggs.
2. 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.
3. To collect a surface nutrient sample at each of the sampling stations.
4. To collect surface chlorophyll samples at each of the sampling stations.
5. To collect surface salinity samples at every third station for calibration of the CTDs.
6. To collect surface phytoplankton sample at every third station for phytoplankton species identification.

**NARRATIVE:** Staff travelled over to Belfast on the morning of 24<sup>th</sup> March and embarked on Celtic Voyager at 14:00. During the afternoon equipment was assembled and the sorting gear set up in the laboratories. Due to strong (force 8 gale) sailing was delayed until the following morning. Celtic Voyager sailed at 9:45 and boat drills and safety briefings were completed. The first two stations were worked between 12:12 and 14:39 in slow time as training for all staff. The watch system was then started. Work continued until 21:08 (station 5) when deteriorating weather made deploying the plankton sampler unsafe. A strong southerly gale then developed forcing the ship to run for shelter in Douglas (Isle of Man). The vessel docked in Douglas at 10:45 on 26<sup>th</sup> March. Conditions improved sufficiently the following day to allow Celtic Voyager to depart at 09:30 and work stations to the north-east of the Isle of Man and in the Solway Estuary. Conditions again deteriorated the following day stopping sampling at 04:00. The vessel headed for Ramsay Bay where the anchor was dropped. The following day (March 29<sup>th</sup>) conditions had improved and Celtic Voyager weighed anchor at 08:30. Stations in the north eastern Irish Sea were completed but by 01:00 on the following morning the wind was again strengthening. By morning conditions were again unworkable and the ship dropped anchor in Ramsay Bay. Some moderation and a shift in wind direction to the south-west allowed the vessel to depart towards evening and head for the Irish coast. Stations inshore in Dundalk Bay were sampled but by 17:00 on 31<sup>st</sup> March another gale was developing. Work in Dundalk Bay was completed by 08:00 and an attempt made to head for Liverpool Bay/Red Wharf Bay. Heavy seas and a strengthening NW gale meant that this plan was unsafe and the vessel again headed for shelter in Ramsay Bay. Strong winds continued all day and overnight preventing any more stations being completed and Celtic Voyager weighed anchor on 3 April and headed back to Belfast in a NW-NE gale. The ship docked in Belfast at 19:30. The following day (4 April) was spent dismantling and packing gear and transferring all equipment across to RV Corystes for the last egg survey. Samples were transported to

DARDNI, Newforge Lane and arrangements made to ship them across to CEFAS, Lowestoft. CEFAS staff headed back to UK the following day.

## **RESULTS:**

Task 1. In total 55 plankton stations were sampled (see attached cruise track). A total of 885 stage I cod-like eggs were sorted at sea, measured, staged and individually fixed in ethanol for subsequent gene-probe analysis. Sorting eggs at sea is undoubtedly a difficult and tiring task particularly in rough weather and all scientific staff are to be commended for the effort and care they exercised in undertaking this task.

A chart showing the location and numbers of pre-sorted eggs is attached.

Task 2. At all stations salinity and temperature profiles were collected using the new Valeport CTDs mounted on the plankton sampler. Some problems were experienced with setting up the new CTDs and the supplied software required further development. However, once deployed the CTDs performed well although occasional spikes in the pressure sensor data did occur. Post-processing software is currently not available and this needs to be completed so that the stored profiles can be summarised. Similar protocols to convert the flowmeter records to volumes filtered need to be applied.

Task 3-6. All additional surface nutrient, chlorophyll and salinity samples were collected. Two nutrient samples were lost when the bottles leaked in the fridge.

## **EQUIPMENT:**

No equipment damage was sustained and the Celtic Voyager crew are to be complemented on their safe handling of the plankton samplers under poor weather conditions. The further software developments required to fully accept the new Valeport CTDs have been mentioned above.

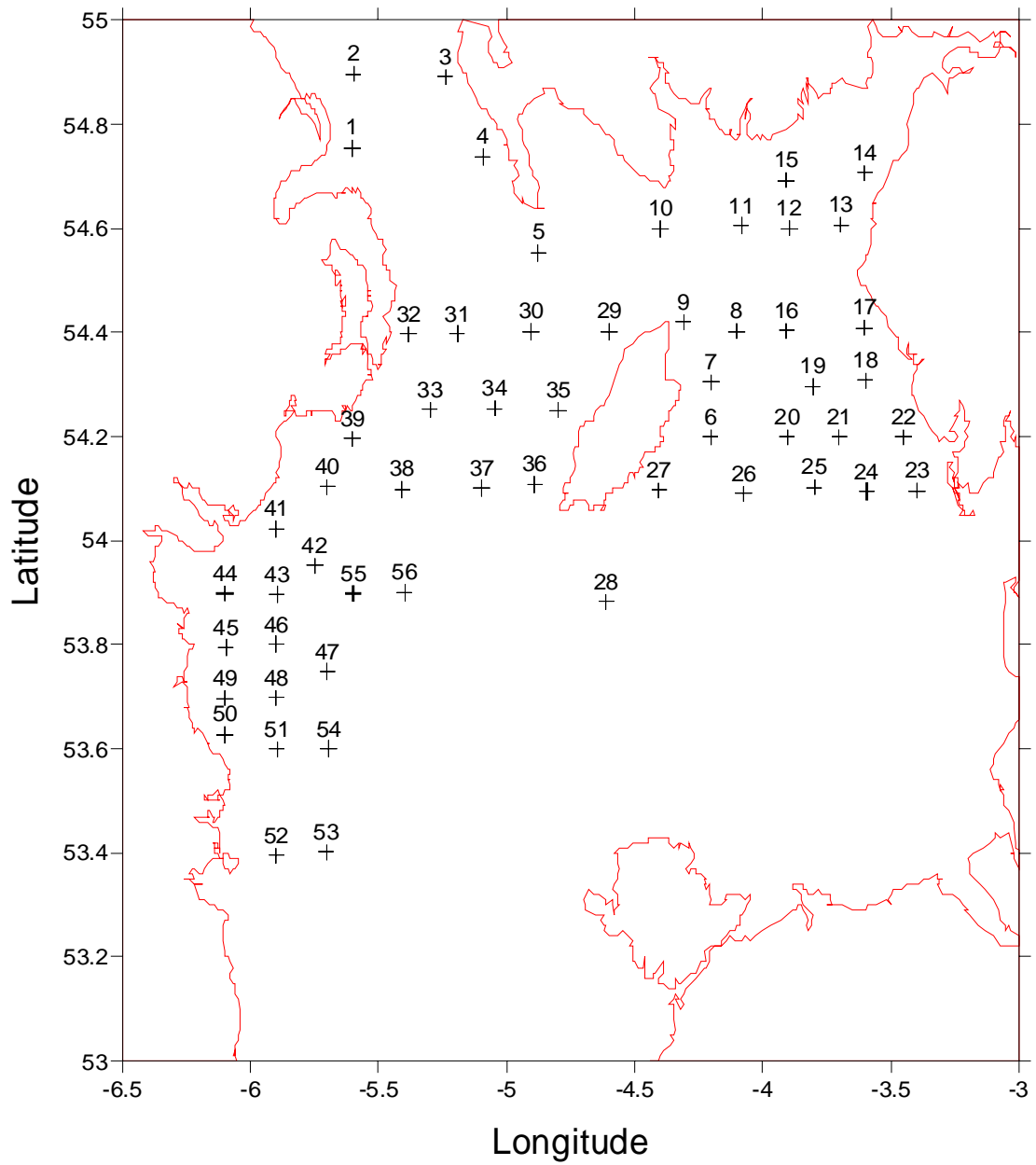
C J Fox  
6 April 2006 (at sea)

INITIALLED:

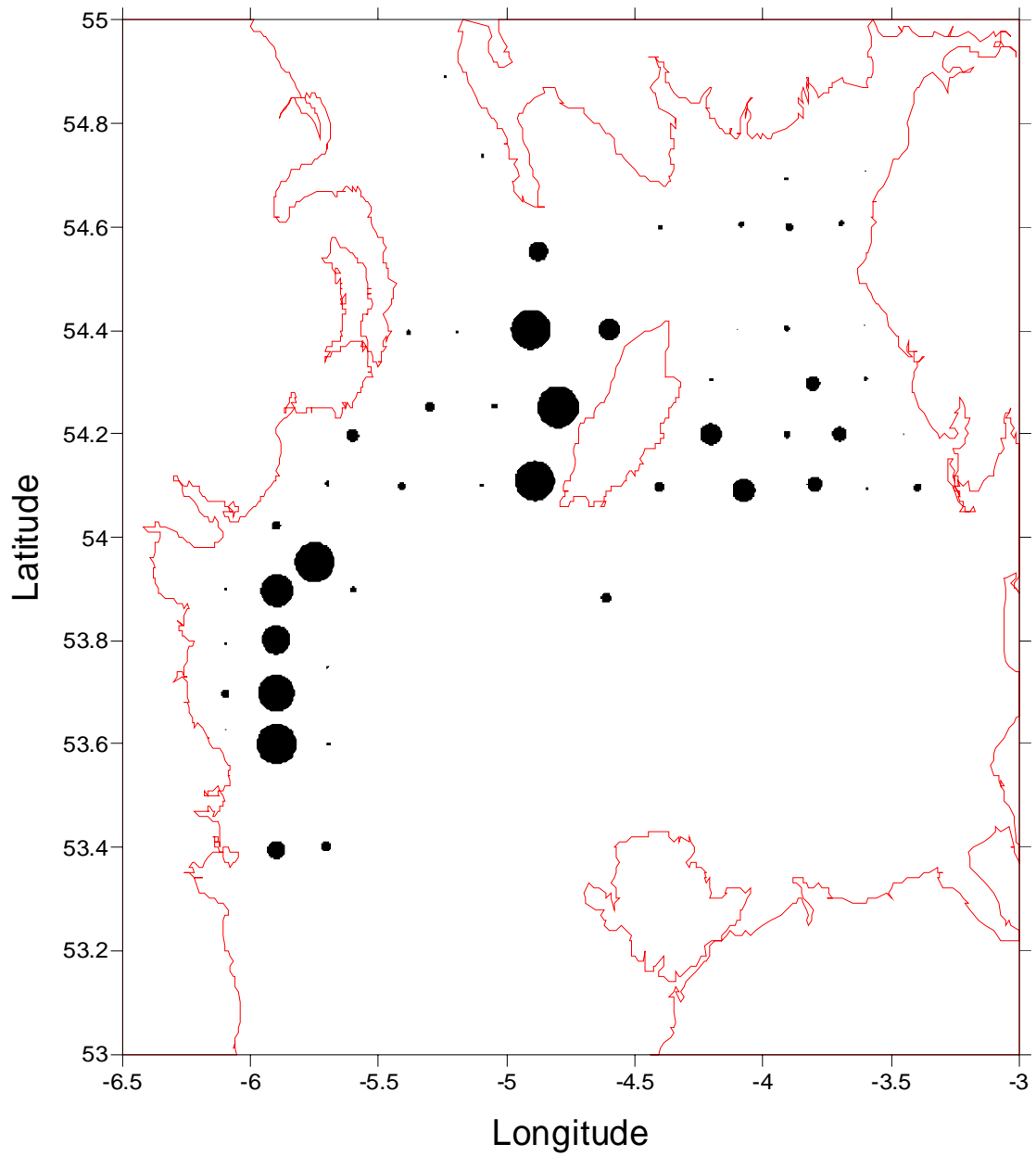
## **DISTRIBUTION:**

Basic list +  
Staff on cruise  
Mr S Milligan  
Dr Ted Potter  
Dr Michael Armstrong  
Dr Pieter jan Schon (DARDNI)  
Dr Steven Beggs (DARDNI)

Sea Fisheries Committees:



Celtic Voyager 4/06 Station Positions



Celtic Voyager 4/06  
Number of codlike eggs presorted

- 32 eggs
- 64 eggs