5690

BIOLOGICAL OCEANOGRAPHY CRUISE REPORT

Date 9 - 12 October 1994

PERSONNEL

B Stewart	SSO (SIC)
S Bloomfield	ASO
G McCullough	Student, Queen's University
R Anderson	Student, Coventry University
L Blee	Student, University of Ulster

CRUISE OBJECTIVE

To assess early autumn temperature, salinity and nutrient distributions in the north western Irish sea.

CRUISE NARRATIVE

Monday 10 October 1994

The RV Lough Foyle departed Belfast 2145 hrs Sunday 10 October 1994 and sailed overnight to arrive on station 36 north of Dundalk Bay (see attached samplong grid) at 0700 hrs. The weather was dry and bright with only light winds. The vessel proceeded south along a grid of coastal sampling stations to arrive on station 59 at 1105 hrs. The open sea sampling commenced with station 62 at 1335 hrs and proceeded north along a grid to finish on station 46 at 1930 hrs. Work was completed at 2030 hrs and the vessel sailed slowly overnight in a north westerly direction towards station 24.

Tuesday 11 October 1994

The survey continued from station 24 at 0700 hrs and departed in a south easterly direction to arrive on station 38 at 0945 hrs. Again the weather was dry and bright with light winds. The vessel then sailed in a northerly direction along a grid of six sample stations to finish on station 14 where work was completed at 1935 hrs. The vessel anchored overnight off the Scottish coast.

Wednesday 12 October 1994

Work commenced at 0830 hrs on station 6 and continued to station 4 where the survey finished at 1000 hrs. The vessel then sailed to dock in Belfast at 1230 hrs.

PARAMETERS MONITORED

At all stations on the sampling grid the CTD/rosette water sampler was deployed to acquire nutrient, chlorophyll a, temperature, salinity and fluorescence data from the depth profile. Daylight permitting Secchi disc readings were taken at all stations. Underwater light measurements were made using a multi spectral light meter at stations 4, 15, 38, 45, 47 and 62. Algal samples were taken at stations 47 and 38 and stored frozen for carbon/nitrogen analysis. The Bowers & Connelly sediment corer was successfully deployed at stations 47 & 38 where sediment samples were acquired and stored for C/N and chlorophyll a analysis with a further sample from each of the two stations stored preserved with formalin for benthic assessment.

SUMMARY OF RESULTS

From the acquired nutrient and CTD profile data the entire survey area was found to be mixed from surface to bottom with a typical temperature and salinity of 12.9 °C and 33.80 ppt for the open sea; 12.4 °C and 33.60 for the coastal area south of Dundalk Bay and 12.9 °C and 33.9 ppt respectively for the county Down coastal area. Nutrient concentrations were fairly constant throughout the open sea, North Channel and and northern coastal regions with typical inorganic nitrogen values ranging 5.0 - 7.0 micromoles N l^{-1} with Dundalk Bay and southern coastal regions typically 2.0 - 3.0 micromoles N l^{-1}. The concentrations show a condiderable increase over August 1994 values but are similar to concentrations monotored in October 1992/93.

PROBLEMS ENCOUNTERED

Light Meter

Light intensity at various wavelengths was recorded during depth profiling but without response from the depth sensor.

CTD Software

Salinity, temperature, fluorescence and depth was recorded during profile descent but the system had to be rebooted to allow bottle closure during profile ascent.

ACKNOWLEDGEMENTS

The ship's master, officers, engineers, catering staff and crew are thanked for their cooperation during this cruise.

BM Stewart

BM STEWART

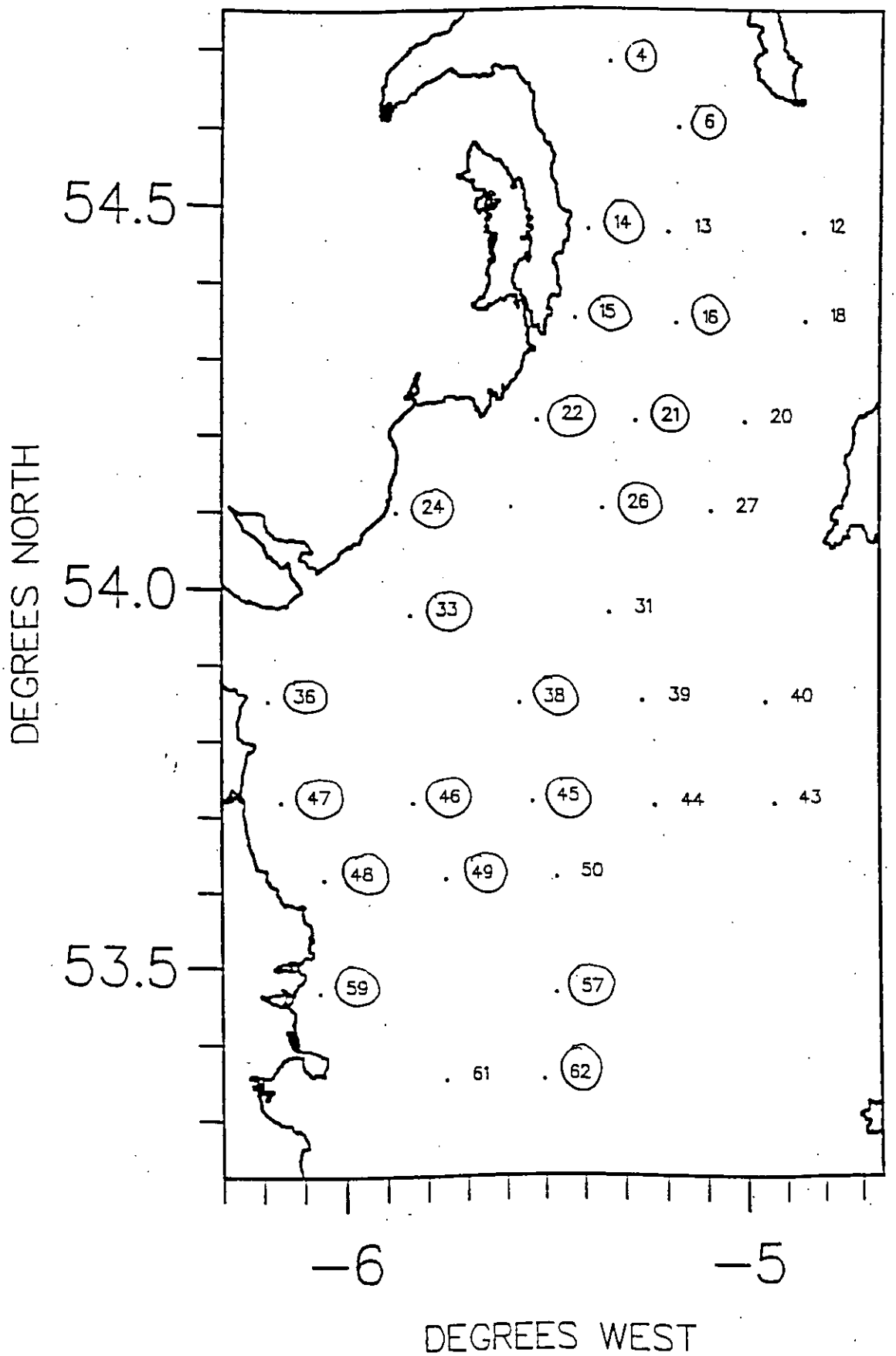
14 October 1994

BIOLOGICAL OCEANOGRAPHY CRUISE LF 2594, 10 - 14 October 1994

PROPOSED WORK SCHEDULE

STATION	Lat.	Long.	Activity
36	53 51	06 11	CTD, Secchi.
47	53 43	06 09	CTD, Secchi, light, corer + sediment C/N & Chl a,
48	53 37	06 03	CTD, Secchi.
59	53 28	06 03	CTD, Secchi.
62	53 21	05 30	CTD, Secchi, light.
57	53 28	05 28	CTD, Secchi.
49	53 37	05 45	CTD, Secchi.
46	53 43	05 50	CTD, Secchi.
45	53 43	05 32	CTD, Secchi, light.
38	53 51	05 34	CTD, Secchi, light, corer + sediment C/N & Chl a
4	54 41	05 20	CTD, Secchi, light.
6	54 36	05 10	CTD, Secchi.
16	54 21	05 10	CTD, Secchi.
21	54 13	05 16	CTD, Secchi.
26	54 06	05 21	CTD, Secchi.
33	53 58	05 50	CTD, Secchi.
24	54 06	05 52	CTD, Secchi.
22	54 13	05 31	CTD, Secchi.
15	54 21	05 25	CTD, Secchi, light.
14	54 28	05 23	CTD, Secchi.

10-14 October 1994



It is proposed to sample and monitor at enriched stations only.