

LOIS RACS(C) Core Programme
Sea Vigil SV 12
Cruise Report
8th-12th August 1994

Personnel:

Duncan Plummer (PML/LOIS Hull)
Richard Murphy (PML)
Marie-Claire Robinson (PML/U of Plymouth)
Malcolm Woodward (PML)
Helen Rouse (U of Hull)
Nick Hughes (U of Hull)

Monday 8th: The party mustered on board *Sea Vigil* at 0745 and locked out of Hull Marina at 0815. Headed for the station at the southern end of the Flux Curtain. The station which was mid way between Haile Sand Fort and 2C Light Float was reached at 1020. Vertical profiling of conductivity, temperature and depth with concomitant measurements of current velocities commenced at 1100. The profiles continued until 1600. The surface waters were monitored by the NRAs system for conductivity, temperature, pH, DO, turbidity and fluorescence. The *Sea Vigil* returned to Hull Marina at 1845 when apparatus from the University Of Hull was unloaded and starting at 1900 the equipment from Plymouth was loaded. The equipment was set up and initial commissioning completed at 2115.

Tuesday 9th: The scientific party boarded at 0700 and continued to commissioning the nutrient analyser. The *Sea Vigil* departed Hull Marina for the down stream survey at 0845. Due to problems with the underwater pump the nutrient analyser was connected to vessels pumped water system. The start of the survey was delayed until 1012 (station 17) and the nutrient analyser came on line at 1045. The UOR was deployed at 1115 (near station 22) and towed eastwards. Samples were collected for gravimetrics, C/N, salinity, chlorophyll analysis and in addition, when the UOR was engaged, for phytoplankton identification and particle size analysis. Because of problems with the ships supply the nutrient analyser was off line from 1207 (after station 25) until 1309. During this time the UOR was twice towed across the Humber. The first transect was from south to north through MC4 between 1223-1250. This track is along the Flux Curtain. The second transect was from north to south through MC3 and took from 1303 to 1322. The nutrient survey was continued at station 26. The UOR was recovered at 1608 just west of station 36. Having passed through all the remaining stations back to Hull the survey was completed at 1700. During the survey the NRAs system had been recording conductivity, temperature, pH, DO and turbidity. The *Sea Vigil* tied up at Admiral steps until locking into the marina at 1810. After the vessel had been moored the UOR was deployed along side the NRAs system for cross calibration. The party disembarked at 1845. Due to 8/8 cloud cover the aircraft did not fly.

Wednesday 10th: From 0600 to 0700, when the *Sea Vigil* left the Marina, the nutrient analyser was set up and standards recorded. The survey was from Hull at 0730 (station 16) to the Derwent (station 1) at 1019. After a pause for a set of standards the survey was repeated downstream. Starting at station 1 at 1053 and completed at station 16 at 1352. Samples were collected for gravimetrics, C/N, salinity and chlorophyll analysis. During the survey the NRAs system had been recording conductivity, temperature, pH, DO, turbidity and fluorescence. The *Sea Vigil* tied up along Admiral Steps at 1410 until 1800 when it locked into the Marina. The equipment was decommissioned and packed during this period. Unloading was completed at 1745.

Thursday 11th: Due to weather, 8/8 cloud cover and rain, the second overflight day which had been planned was canceled. The programme was to be dependent upon the results from Tuesday.

Friday 12th: Contingency day

All times in this report are BST.

Notes:

The eighth LOIS RACS(C) Core Programme surveys of the Humber was restricted by the weather.

The remote sensing part of the programme was restricted to UOR tows along the river and across the mouth. Even this activity occurred without an accompanying aircraft overflight. It had been apparent from the forecast that the only possible day for such work was to be the Tuesday. This slight possibility turned out to be a non starter.

On Wednesday Richard Murphy and Marie-Claire Robinson visited the area around Spurn for some visual observations related to recent CASI images.

The nutrient survey was extended beyond the Aire to the Derwent confluence. All the stations were visited at least once.

Because of problems with the PML underway pump there is no data from the fluorometer on Tuesday as the nutrient analyser was plumbed in its place. On Wednesday the system was rearranged such that the fluorometer was back on line.

The help and assistance of Peter Sarjeant and Tim Rhodes of the NRA (*Sea Vigil*) played a large part in the success of the programme.

Duncan Plummer

11th August 1994