

**LOIS Core Programme  
Sea Vigil 6  
Cruise Report  
14-18th March 1994**

**Personnel:**

Duncan Plummer (PML/Hull)  
Bekkqi Bellerby (PML)  
Matt Pinkerton (PML)  
Bob Clifton (PML)  
John Davey (PML)  
Rhu Nash (SUDO)  
Jeremy Hoad (UoH)

**Itinerary:**

**Sunday 13th March:** Due to forecasts of inclement weather (gale force winds) for the coming week arrangements had been made for a breif (telephone) conference between participants. This enabled the programme to be altered to gain the maximum out of the weeks work.

**Monday 14th March:** PML scientists traveled to Humberside and arrived at Blacktoft Jetty at 1445. At Blacktoft Bob Clifton and John Davey started their inter-tidal programme and Duncan Plummer and Bekkqi Bellerby changed over the EMP2000 (prepared by John Stephens). The group continued to Hull, met Matt Pinkerton and later traveled to Goole. PML equipment was loaded on board the Sea Vigil at 2100 and set up for the following fieldwork.

**Tuesday 15th March:** Departed Goole Docks at 0745 and went upstream to Aire Confluence and commenced Axial transect of the Ouse/Humber Estuary at 0915. The track included a short excursion into the Trent. During the profile measurements of conductivity, temperature, pH, dissolved oxygen, suspended particle load and nutrients (nitrate, nitrite, phosphate and silicate) were recorded. Samples were collected for gravimetrics, C/N and chlorophyll determinations. Stations 3-30 (see appendix) were visited during this down stream run. At the eastern most station (30) it was decided to take advantage of an improvement in the weather and tow the UOR. The UOR was towed easterly from 1432 to 1452 and westerly from 1457 to 1527. Vertical profiles of optical properties were conducted at the beginning and at the end of each UOR tow. In addition to measurements previously described samples were collected for phytoplankton identification and particle size analysis. Worsening weather meant that it was not possible to return to Hull along the north side of the estuary and hence we could not visit the remaining nutrient stations. The on-line instruments continued to record their measurements on the return to Hull. Sea Vigil locked into Alexandra Dock at 1900.

**Wednesday 16th March:** Mustered on board Sea Vigil at 0800 and departed Alexandra Dock around 0840. The UOR was towed from Hull to Bull Light Float (0910-1100). In addition to the suite of measurements made during Tuesdays tow, measurements of optical properties were made using a PR-650 Spectroscan Spectrocolorimeter. The track could not proceed further offshore due to the weather. On completion of the UOR tow we returned to Hull *via* the northern channel to complete stations 31-37 of the nutrient survey. On return to Alexandra Dock, at 1630, PML equipment was decommissioned and loaded into the van. PML scientists left the Sea Vigil at around 1800.

**Thursday 17th March:** Departed Alexandra Docks at 0930 for a transect of the Humber mouth from Tetney to Spurn. During the passage to and from, and while traversing the study site (the Flux Curtain), continuous underway surface measurements of conductivity, temperature, suspended particle load and dissolved oxygen were recorded. At the Flux Curtain vertical profiles of pressure, conductivity, temperature and suspended particle load were recorded at the set stations (with the exception of the southern most station as the water was too shallow) during a transect across the estuary. A list of the stations is appended to this report. Returned to Alexandra Dock at 1815 and departed Sea Vigil at 1900.

**Comments:** The third LOIS Core Programme field trip went well. Considering the weather it was an achievement to have completed most of the objectives. In this we are indebted to Peter Sargent, (Master of the Sea Vigil) for advice, and benefit of his experience, which enabled us to alter the programme as the conditions changed.

All the stations on the nutrient survey were visited. The new LOIS station numbering is an improvement on the old system. However due to problems with the analyser the data is not complete at the freshwater end of the track.

The UOR was towed on Tuesday and Wednesday but due to the conditions we did not proceed as far offshore as planned. This was not as big a set back as it could have been as the aircraft did not fly.

All the sites on the Flux curtain were sampled and the full suite of measurements were made.

The EMP2000 is easier to handle now that the frame is being used. During the change over a screw may have been cross threaded which will cause problems next time.

Duncan H Plummer 23rd March 1994

	Station	Latitude	Longitude
FA	Tetney	53° 31.20'N	00° 02.85'W
FB		53° 31.85'N	00° 03.10'W
FC		53° 32.07'N	00° 03.35'W
FD		53° 32.29'N	00° 03.60'W
FE		53° 32.52'N	00° 03.85'W
FF		53° 32.75'N	00° 04.09'W
FG		53° 32.94'N	00° 04.33'W
FH		53° 33.20'N	00° 04.58'W
FI		53° 33.42'N	00° 04.80'W
FJ		53° 33.64'N	00° 05.02'W
FK		53° 33.87'N	00° 05.30'W
FL		53° 34.10'N	00° 05.55'W
FM		53° 34.32'N	00° 05.77'W
FN		53° 34.54'N	00° 06.01'W
FO	Spurn	53° 34.78'N	00° 06.29'W