LOIS LOIS

LOIS RACS(C) Core Programme
Sea Vigil SV 31
Cruise Report
17th-21st June 1996

Personnel:

Duncan Plummer (PML/LOIS Hull)	Senior Scientist
Bek Bellerby (PML)	
Mike Griffiths (PML)	
Jack Hardisty (U of Hull)	
Nick Hughes (U of Hull)	
Brendan Murphy (U of Hull)	
Axel Miller (PML)	
Jon Barnes (U of Newcastle)	
Tristan Sjoberg (UEA/PML)	

Monday 17th: Humber Flux Curtain

The scientific party was on board at 0510 and the vessel departed Grimsby Fish Dock at 0530 and proceeded to the Humber flux curtain. The transects across the Humber mouth along the Flux Curtain commenced at Haile Sand Fort at 0630. Each line took approximately 1 hour. The twelfth transect was completed at 1830. Measurements were made of temperature, conductivity, suspended particle load and depth. The surface waters were monitored using the NRAs system. The *Sea Vigil* locked into Grimsby Fish Dock at 1920 and was fast at 1930. The party disembarked at 1940.

Tuesday 18th:

Between 0545 and 0800 *Sea Vigil* made passage from Grimsby Fish Dock to Hull Marina. The scientific party traveled from Plymouth and Newcastle. In the late afternoon and early evening equipment was loaded and commissioned (1600-2200). All equipment was set up and calibrated ready for work on Wednesday.

Wednesday 19th: Upstream Ouse survey & Downstream survey

The party mustered from 0430 and the *Sea Vigil* locked out of Hull Marina at 0620. The upstream survey started at station 16 (0625) and continued upstream into the Ouse and reached Selby station 40 at 1005. The survey returned downstream passing Hull and proceeded to station 30 (1720) close to Spurn Head. The survey then continued upstream and ended at station 17 (1913). The *Sea Vigil* locked into Hull Marina at 1930 and the scientific party disembarked at 2130 after analysis of standards and blanks on the underway analysers.

The survey measured nutrients (TON, phosphate, silicate and ammonium), conductivity, temperature, turbidity, pH and DO. CO was measured in a semi-continuous way over the whole survey. Discrete samples were collected at all stations for gravimetric, C/N, chlorophyll and DOC* analysis (* downstream survey). In addition samples were collected during the downstream run starting from Selby (station 40) for later determination of nitrous oxide and methane, stations 40, 39, 38, 2, 4, 6, 8, 10, 12, 18, 24, 26 & 29.

(stations 16-1, 38-40, 40-38, 1-37, 19-17)

Thursday 20th: Upstream Trent Survey

The party mustered on board from 0500 and *Sea Vigil* departed Hull Marina at 0640. The upstream Trent survey commenced at station 16 (0555) and continued into the Trent at 0815 and was at Gainsborough (station 50) at 1022. The survey then continued and returned downstream and ended

at station 16 (1434). The *Sea Vigil* tied up along side Admiral steps at 11600 and at 1915 locked into Hull Marina. The scientific party departed the vessel at 1945.

The nutrient and standard parameter survey was as on Wednesday. Discrete samples were taken at all stations for gravimmetric, C/N chlorophyll and DOC* analysis (* downstream survey). CO was measured in a semi-continuous way over the whole survey

(stations 16-8, 41-50, 50-41, 8-16)

Friday 21st: Contingency day.

Notes: This was the twentyseventh LOIS RACS(C) Core Programme survey of the Humber and Ouse. The third of a regular series of surveys into the Trent was completed. This was the third of the two-monthly surveys in 1996.

Carbon monoxide, nitrous oxide and methane concentrations were monitored for the forth of a series of two monthly investigations. DOC concentrations continued to be monitored. All aspects of the study above were carried out over the full length of the survey.

We thank Peter Sarjeant and Alistair Davis of the Environment Agency *Sea Vigil* for their help throughout the programme.

Duncan H Plummer 27th June 1996

LOIS	LOIS-RACS(C) Core Programme Trent-Ouse-HUMBER Station Grid			
Station No	**E'ing-N'ing**	**Station Name**	**River**	
50	E 480 753, N 390 281	Gainsbrough-Beckingham Warf	Trent	TC
49	E 478 637, N 392 962	Walkerith	Trent	
48	E 480 717, N 397 898	Wildsworth	Trent	
47	E 483 747, N 403 627	Kelfield	Trent	
46	E 483 683, N 405 811	Butterwick	Trent	TC
45	E 483 903, N 409 820	Althorpe	Trent	TC
44	E 483 779, N 412 353	Keadby	Trent	
43	E 485 687, N 414 522	Flixbourgh	Trent	
42	E 486 350, N 418 450	Burton Stather	Trent	
41	E 486 472, N 422 008	Flats Light	Trent	
	Lat-Long			
40	53 46 88 N 01 03 01 W	Cochranes Selby	Ouse	
39	53 45 74 N 01 01 69 W	Marrow Bone Reach	Ouse	
38	53 45 06 N 00 59 46 W	Newhay Barn	Ouse	
1	53 44 97 N 00 58 28 W	Barnby Barrage (Derwent Conf.)	Ouse	
2	53 43 98 N 00 56 60 W	Longfield Drain	Ouse	
3	53 43.61 N 00 54.41 W	Aire Confluence	Ouse	
4	53 43.51 N 00 51.39 W	Howden Dyke Island	Ouse	
5	53 42.78 N 00 50.40 W	Goole Rail Bridge	Ouse	
6	53 41.35 N 00 51.42 W	Earnshaw Clough	Ouse	
7	53 42.22 N 00 48.90 W	Hall Staith	Ouse	
8	53 41.73 N 00 46.05 W	Whitgift (Tide Guage)	Ouse	
9	53 42.20 N 00 43.05 W	Blacktoft Jetty	Ouse	
	Lat-Long			
10	53 42.20 N 00 40.23 W	Walker Dyke	Humber	
11	53 43.20 N 00 37.00 W	Whitton Ness	Humber	
12	53 42.22 N 00 39.92 W	Oyster Ness	Humber	
13	53 42.60 N 00 30.67 W	North Ferriby	Humber	
14	53 42.80 N 00 27.44 W	Hessle	Humber	
15	53 42.50 N 00 24.25 W	Barton & Barrow	Humber	
16	53 43.57 N 00 21.60 W	No 26A Light float	Humber	Hull
17	53 44.22 N 00 18.30 W	No 24 Lightfloat	Humber	Hull
18	53 43.55 N 00 15.32 W	Salt End	Humber	
19	53 41.68 N 00 14.10 W	Paull Sands	Humber	
20	53 40.13 N 00 12.57 W	No 15A N. Killinghome	Humber	
21	53 38.60 N 00 10.80 W	No 11A S. Killingholme	Humber	SB
22	53 37.53 N 00 08.56 W	No 10A Stallingborough Haven	Humber	SB
23	53 36.58 N 00 05.50 W	Diffuser-Burcom	Humber	SB
24	53 35.60 N 00 02.30 W	Grimsby Road	Humber	SB
25	53 34.95 N 00 00.20 E	No 4B South Shoal	Humber	SB
26	53 34.50 N 00 03.47 E	No 4 Bull Channel	Humber	
27	53 33.06 N 00 03.20 E	Haile Channel	Humber	SB
28	53 32.25 N 00 02.52 E	Haile Sand Fort	Humber	HM
29	53 33.36 N 00 04.82 E	Bull Sand	Humber	HM
30	53 33.43 N 00 07.58 E	Binks	Humber	HM
31	53 35.20 N 00 05.55 E	No 51 Trinity	Humber	NB
32	53 36.45 N 00 02.29 E	No 55 Hawke	Humber	NB
33	53 36.94 N 00 00.50 W	No 58 Sunk	Humber	NB
34	53 37.17 N 00 03.47 W	No 62 Hawkins Point	Humber	NB
35	53 37.66 N 00 06.63 W	No 7A	Humber	NB
36	53 38.82 N 00 09.65 W	No 71 Holme Deposit	Humber	NB
37	53 40.28 N 00 11.50 W	No 72 Foul Holme Sands	Humber	NB