



**LOIS RACS(C) Core Programme
Sea Vigil SV 30
Cruise Report
15th-19th April 1996**

Personnel:

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Mike Griffiths (PML)	
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Mark Williams (U of Plymouth)	
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Monday 15th: The scientific Party traveled to Hull from Plymouth and Newcastle. Late afternoon and early evening equipment was loaded and commissioned (1600-2045).

Tuesday 16th: Upstream Ouse Survey & Downstream survey

The party mustered from 0130 and the *Sea Vigil* locked out of Hull Marina at 0315. The upstream survey started at station 16 (0227) and continued upstream to Trent Falls (0342). The survey then went out of the Humber and into the Ouse and reached Selby station 40 at 0700. The survey returned downstream passing Trent Falls at 0900 and stopped briefly at Admiral Steps in Hull at 1130. After disembarkation of some personnel the survey restarted downstream at station 17 (1140) and proceeded to station 30 (1451). The survey then continued upstream and ended at station 17 (1646). The *Sea Vigil* locked into Hull Marina at 1655 and the scientific party disembarked. Between 1700 and 1930 equipment was loaded and commissioned for work the following day.

The survey measured nutrients (TON, phosphate, silicate, ammonium and urea), conductivity, temperature, turbidity, pH and DO. 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:

- a) carbon monoxide, stations 40, 39, 1, 3, 5, 7, 9, 11, 13, 17, 19, 21, 24, 26, 28, 29 & 30;
- b) nitrous oxide and methane, stations 40, 39, 38, 1, 3, 5, 7, 9, 13, 18, 21, 24, 26, 28, 29 & 30.
- c) trace metals and supporting analysis (U of Plymouth) at 40, 39, 38, 2, 3, 4 & 5.
(stations 16-1, 38-40, 40-38, 1-37, 19-17)

Wednesday 17th: Upstream Trent Survey

The party mustered on board from 0245 and *Sea Vigil* departed Hull Marina at 0400. The upstream Trent survey commenced at station 16 (0418) and continued into the Trent at 0525 and was at Gainsborough (station 50) at 0737. The survey then continued and returned downstream and ended at station 16 (1233). The *Sea Vigil* tied up along side Admiral steps at 1250 and at 1600 locked into Hull Marina. The scientific party departed the vessel at 1700.

The nutrient and standard parameter survey was as on Tuesday. Discrete samples were taken at all stations for gravimetric, C/N chlorophyll and DOC* analysis (* downstream survey). In addition samples were collected later determination of trace metals, and supporting analysis;

- a) (U of Plymouth) 50-44, (7 stations)
- b) (U of Southampton) 50-41 and 8-15, (18 stations)
(stations 16-8, 41-50, 50-41, 8-16)

Thursday 18th: Humber Flux Curtain

Canceled due to inclement weather.

Friday 19th: Humber Flux Curtain

Canceled due to inclement weather.

Notes: This was the twenty-sixth LOIS RACS(C) Core Programme survey of the Humber and Ouse. The second of a series of regular surveys into the Trent was completed. Nutrient and standard parameters were profiled through the Humber, Ouse and Trent. Nutrient analysis comprised of underway, and discrete sample, analysis.

Carbon monoxide, nitrous oxide and methane concentrations were monitored for the third 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.


The tidal reaches programme was involved in the work this week. The samples collected from *Sea Vigil*, and independently, were transported back to LOIS Hull laboratory for initial treatment and storage. This was the second trace metal profiles conducted during the series of surveys.

During the week the programme was affected by inclement weather. As a result work at the mouth of the Humber was not possible. This led to cancellation of the work at the Flux Curtain.

We thank Peter Sarjeant, Ulric Wilson and Tony Boulton of the NRA *Sea Vigil* for their help throughout the programme.

Duncan Plummer

20th April 96

 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	Flixborough	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