



**LOIS RACS(C) Core Programme**  
**Sea Vigil SV 29**  
**Cruise Report**  
**11th-15th March 1996**

**Personnel:**

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**Sunday 10th:** The scientific Party traveled to Hull from Plymouth and Newcastle. Late afternoon and early evening equipment was loaded and commissioned (1700-2130).

**Monday 11th:** Upstream Trent Survey & Downstream survey

The party mustered at 0530 and the *Sea Vigil* locked out of Hull Marina at 0645. The upstream survey started at station 16 (0712) and continued upstream to Trent Falls (0836). The survey then went out of the Humber and into the Trent and reached Gainsborough station 50 at 1104. The survey returned downstream passing Trent Falls at 1348 and stopped briefly at Admiral Steps in Hull at 1515. After embarkation of additional personnel the survey restarted downstream at station 17 (1527) and proceeded to station 31 (1830). The survey then continued upstream and ended at station 17 (2010). Due to inclement weather stations 27, 28 and 30 (all on the south bank at the mouth of the Humber) could not be visited during the profile. The *Sea Vigil* locked into Hull Marina at 2030 and the scientific party disembarked at 2100.

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. In addition samples were collected later determination of carbon monoxide at stations 17, 19, 21, 23, 25, 29, 31, 35 and 37 and for later determination of nitrous oxide and methane at stations 13, 10, 41, 47, 50, 19, 23.

(stations 16-8, 41-50, 50-41, 8-37, 19-17)

**Tuesday 12th:** Upstream Ouse Survey

The party mustered on board at 0630 and *Sea Vigil* departed Hull Marina at 0830. The upstream Ouse survey commenced at station 16 (0841) and continued to station 3 (1222) and returned downstream and ended at station 5 (1305). Between 1124 and 1206 the vessel was delayed east of the M62 bridge due to shallow water. The tide which was running at over 1.5 metres below prediction had also delayed the departure from Hull Marina. At 1214 and 1234 *Sea Vigil* passed under Boothferry Bridge where concomitant sampling was taking place. At 1330 the *Sea Vigil* locked into Goole Docks and was along side at 1345. The scientific party departed the vessel at 1430. Later in the afternoon equipment required for the work on Wednesday was loaded and commissioned (1600-1730).

The nutrient and standard parameter survey was as on Monday. Discrete samples were taken at all stations for gravimetric, C/N chlorophyll and DOC (including additional samples at Boothferry Bridge). In addition samples were collected later determination of carbon monoxide at stations 15, 13, 11, 9, 7, 5 and 3 and for later determination of nitrous oxide and methane at stations 9, 7, 5, and 3.

(stations 16-3, 3-5)

**Wednesday 13th: Organic Micropollutant Survey**

The scientific party was on board at 0915 and the *Sea Vigil* departed Goole Docks at 1010. The first station, Swinefleet, was sampled at 1021. A total of 8 stations were sampled in the Ouse, Trent and upper Humber. The final station, Hull West was sampled at 1636. The scientific party disembarked at Admiral Steps (1730) and the *Sea Vigil* made passage from Hull to Grimsby Fish Docks (2000). The vessel was fast at 2010 with operations concluded at 2045.

Samples of water, sediments and suspended particles were collected for later determination of organic micropollutants. Samples were collected for DOC analysis as part survey work. In addition samples were collected for later determination of suspended particle characteristics. The surface waters were monitored using the NRAs system to record the standard variables.

**Thursday 14th: Organic Micropollutant Survey**

The scientific party was on board at 0900 and the *Sea Vigil* departed Grimsby Fish Docks at 0950. The first station was sampled at 1007. The final station at BP was sampled at 1424. Due to inclement weather at the mouth of the Humber (org micro) station 12 was not sampled. The *Sea Vigil* locked into the Marina at 1505 and was at the pontoon at 1525. After recovering the vehicle from Grimsby and then unloading the party departed the vessel at 1700.

Samples of water, sediments and suspended particles were collected for later determination of organic micropollutants. Samples were collected for DOC analysis as part survey work. The surface waters were monitored using the NRAs system to record the standard variables.

**Friday 15th: Humber Flux Curtain**

Canceled due to inclement weather.


**Notes:** This was the twentyfifth LOIS RACS(C) Core Programme survey of the Humber and Ouse. The first of a series of regular surveys into the Trent was completed. A set of stations in the Trent was identified and is appended to this report. Nutrient and standard parameters were profiled through the Humber, Ouse and Trent.

Carbon monoxide, nitrous oxide and methane concentrations were monitored for the second of a series of two monthly investigations. The seventh of a series of seasonal surveys investigating the distribution of organic micropollutants was carried out. DOC concentrations continued to be monitored. All aspects of the study above were carried out over the full length of the estuary.

During the survey into the Ouse concomitant samples were collected at Boothferry Bridge.

During the week the programme was greatly affected by inclement weather. As a result work at the mouth of the Humber was not possible. This led to stations in the downstream survey and organic micropollutant work being omitted and to cancellation of the work at the Flux Curtain. In addition work upstream in the Ouse was curtailed at the Aire confluence due to the tide running around 1.5 meters below prediction. That so much was achieved was in large part due to the help of Peter Sarjeant (NRA). As the programme was altered on an daily basis (often leading to the use of different ports at the start and end of the day) the flexibility of the participants was a contributory factor to the amount of work achieved. The changes to the programme are best illustrated by comparing this report to the original cruise programme.

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

 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	Gainsborough-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	
	<b>Lat-Long</b>			
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	
	<b>Lat-Long</b>			
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