

**Data Report
for
Collection and Analysis of Field Data for the
Environmental Assessment of the Removal of the
Rustico Island Causeway, Prince Edward Island**

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for

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Data Report for Collection and Analysis of Field Data for the Environmental Assessment of the Removal of the Rustico Island Causeway, Prince Edward Island

1.0. Introduction

This report summarizes the data collected as part of a program to determine the potential affects on water quality in Rustico Bay that may result from the removal of the Little Harbor Causeway. It is based on field studies carried out between 15 July-1 August 1997. The major objectives of the water quality portion of the field studies were (1) to determine existing water quality within the Bay and the two rivers entering the Bay and (2) to determine the potential nutrient fluxes that may result from resuspension of sediments within the Bay. In addition, data was collected to determine the extent of water column stratification within the Bay and the estuarine portion of the rivers.

2.0. Water Quality Transects

A total of four water quality transects were carried out, one on the Hunter River system and three on the Wheatley River system. The Hunter River transect was carried out on 28 July and included a total of 11 stations extending from the bridge at New Glasglow to the centre of North Rustico Harbour (Figure 2.1.). The three Wheatley River transects were carried out on 17-18, 19 and 29 July and included 10, 8 and 13 stations respectively. The uppermost stations were at the bridge at the town of Wheatley River and the lowermost stations extended to the lower part of Rustico Bay (Figures 2.2-2.4). Table 2.2 lists the dates and locations of each sample station.

The parameters measured at each station of the transect are listed in Table 2.1. Tables 2.3-2.6 list the value of each parameter at each station of the transects. This data is also presented graphically in Appendix A as the variation with distance from the head of the River.

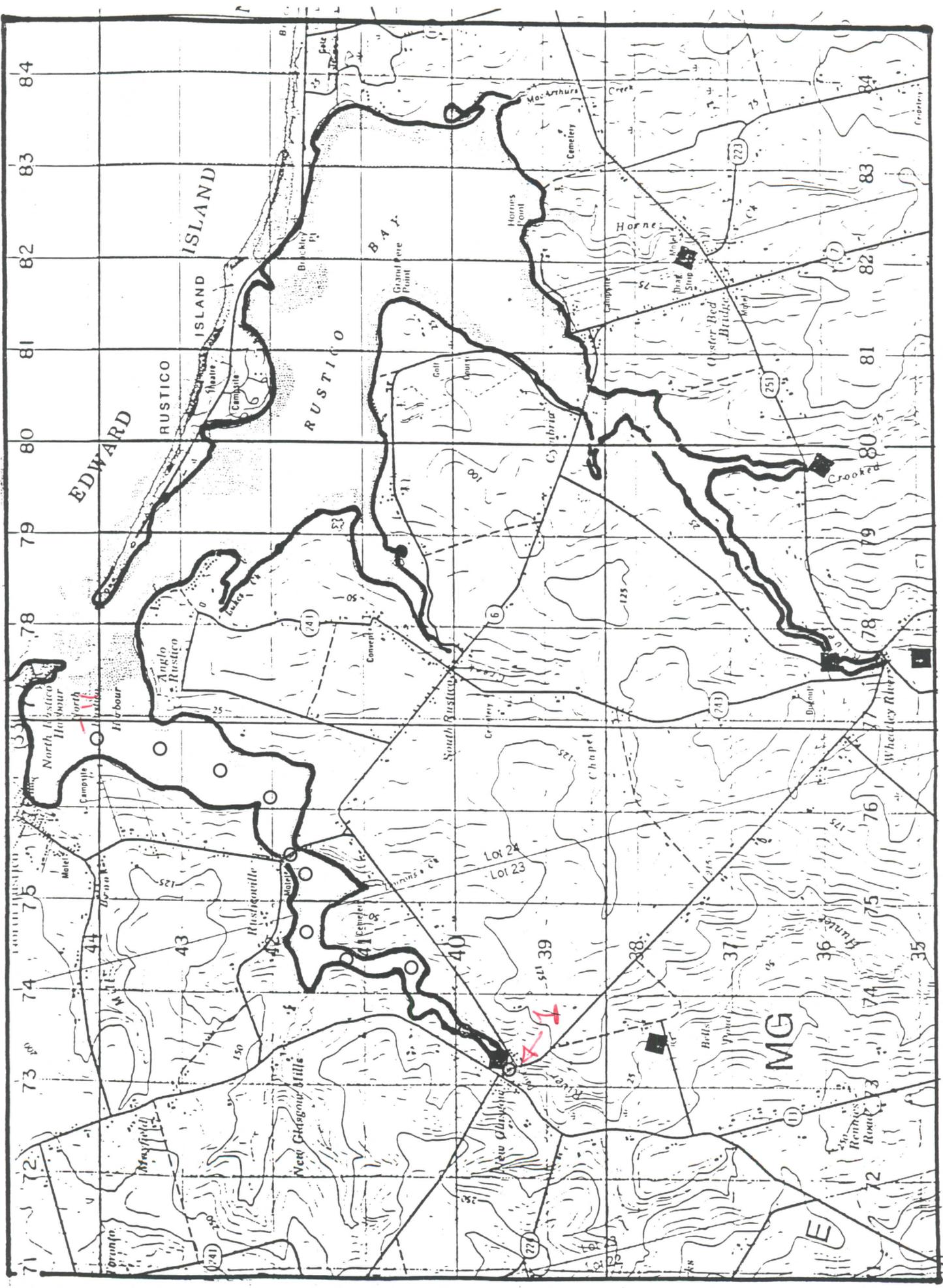


Figure 2.1. Location of stations for the water quality transect carried out on 28 July 1997 at the Hunter River.

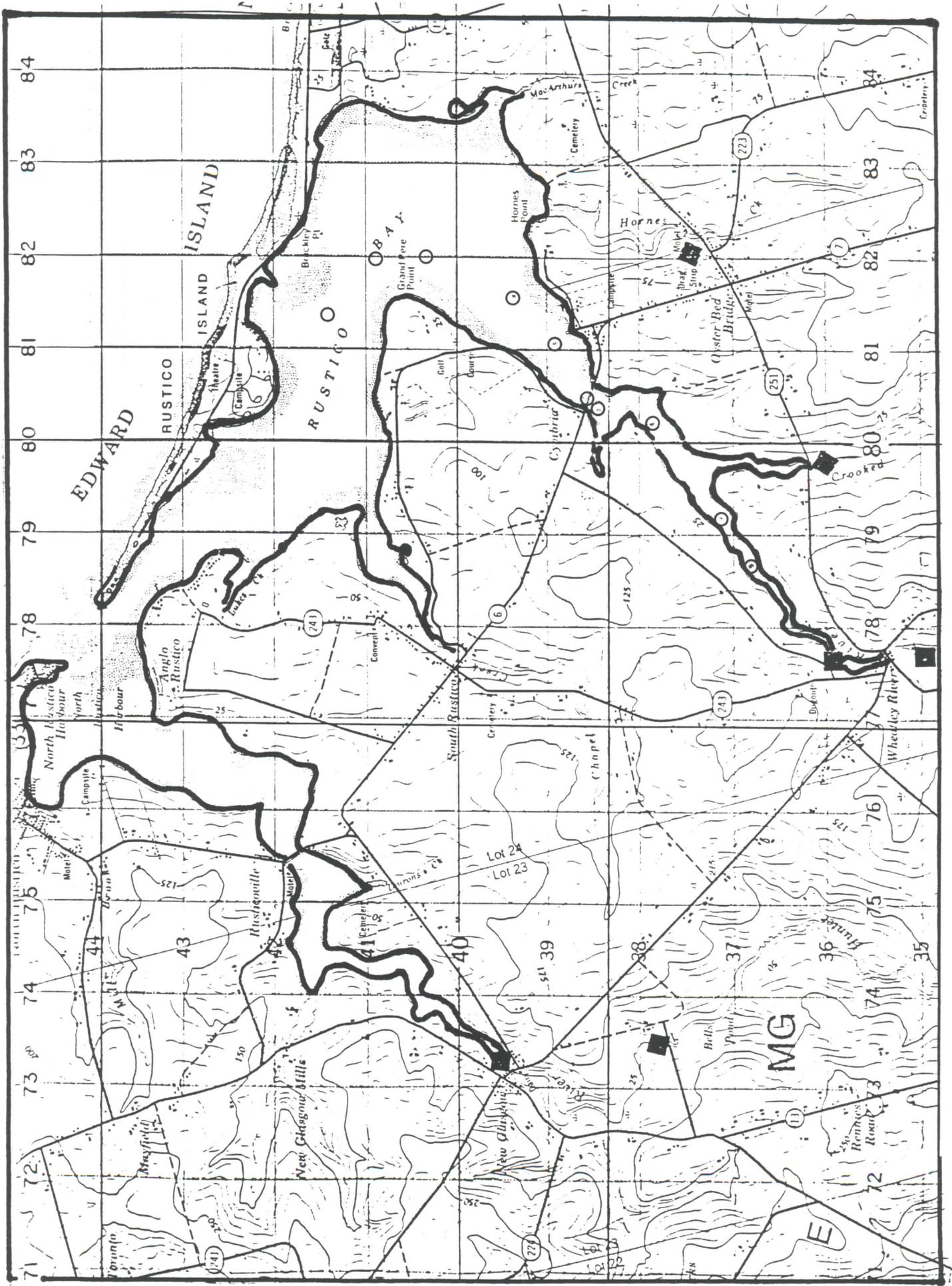


Figure 2.2. Location of stations for the water quality transect carried out on 17-18 July 1997 at the Wheatley River.

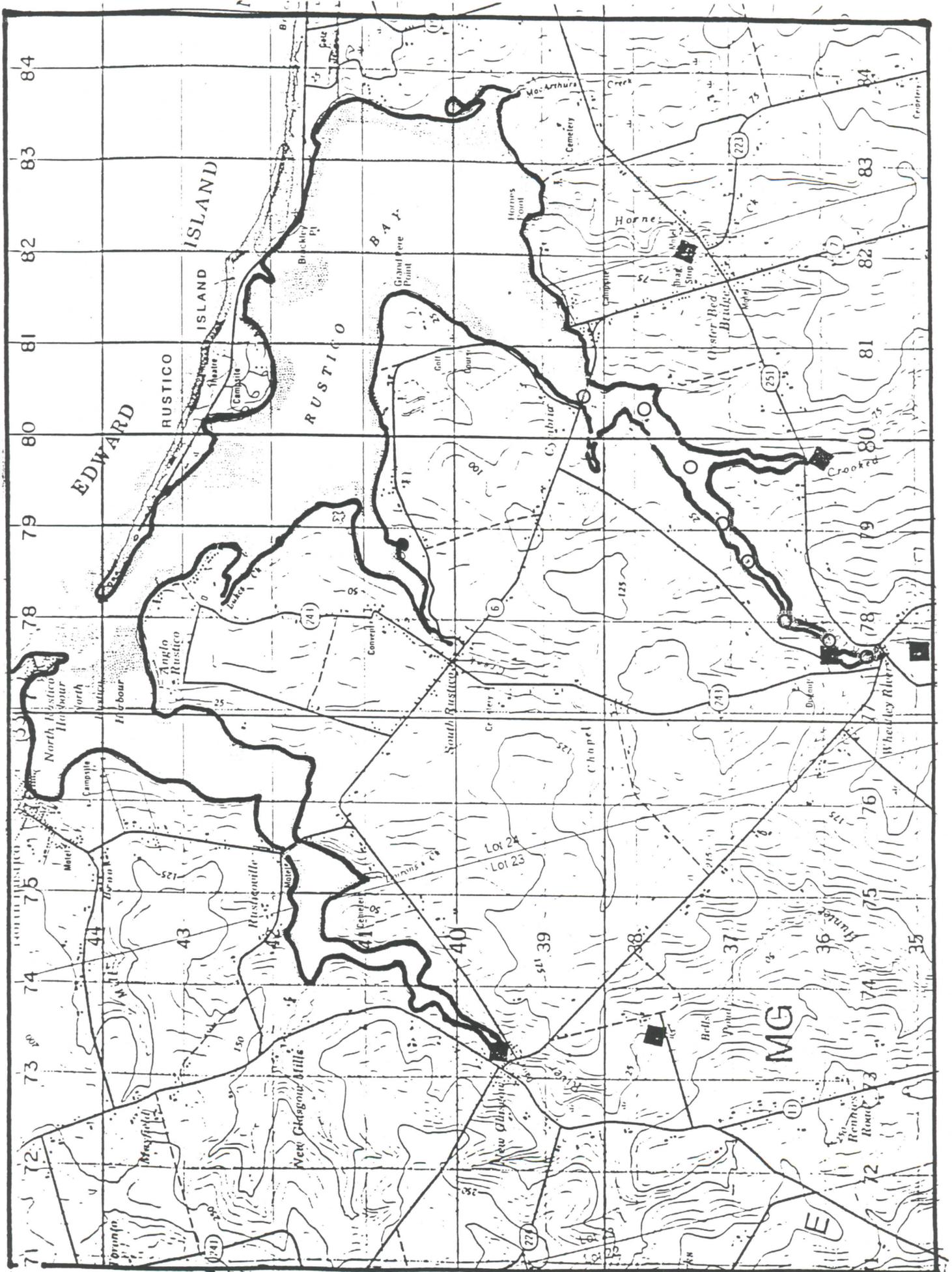


Figure 2.3. Location of stations for the water quality transect carried out on 19 July 1997 at the Wheatley River.

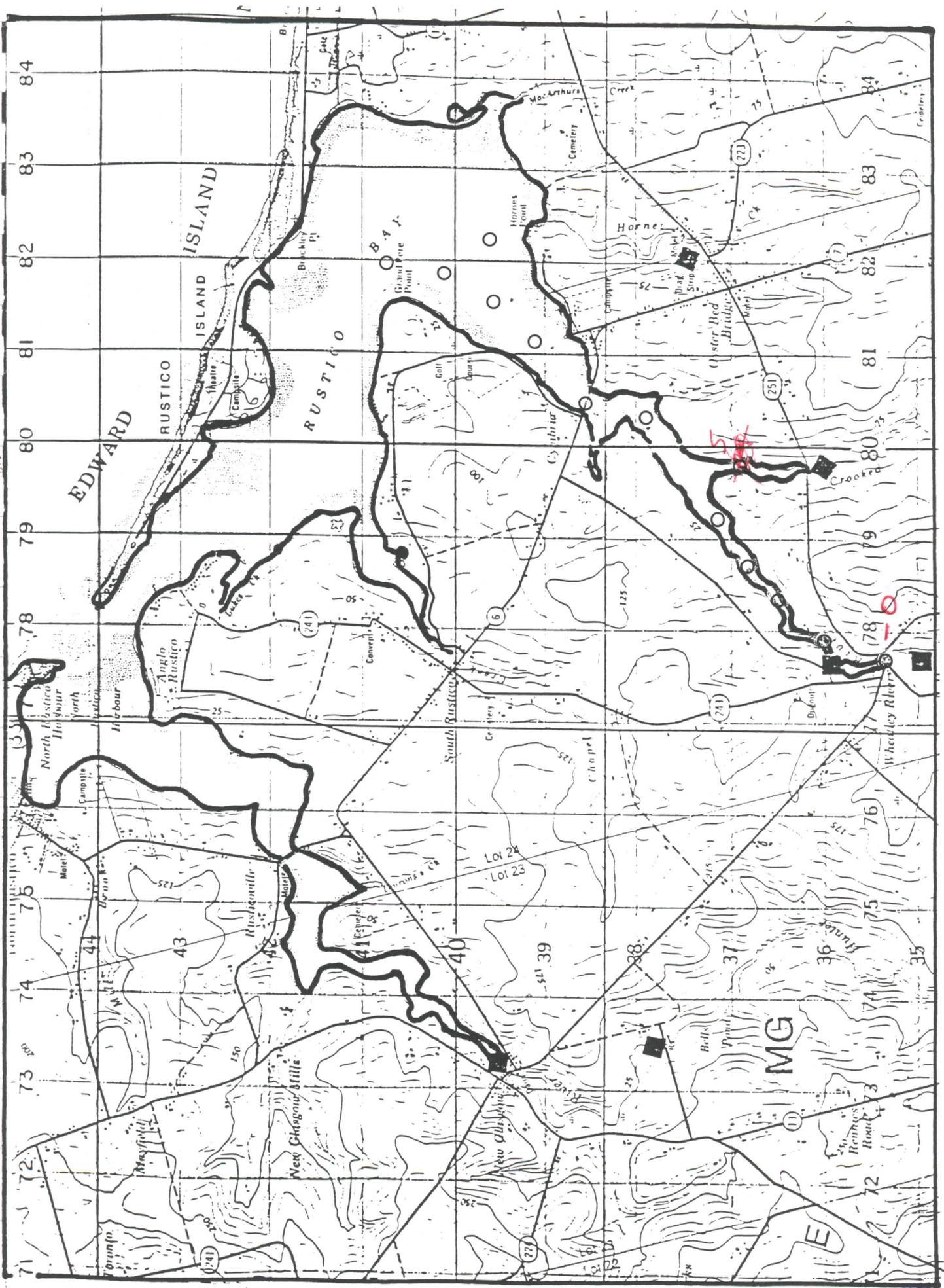


Figure 2.4. Location of stations for the water quality transect carried out on 29 July 1997 at the Wheatley River.

Table 2.1. Water quality parameters measured at each station of the water quality transects.

Salinity/Temperature Depth Profiles
Secchi Disk Depth
Dissolved Oxygen Concentration
Percent Dissolved Oxygen Saturation
Chlorophyll *a* Concentration
Total Phosphorous
Total Nitrogen
Nitrate
Ammonium
Total Suspended Particulate matter
Suspended Particulate Inorganic Matter
Suspended Particulate Organic matter

Table 2.2 Dates and locations of water quality sampling stations.

DATE	SITE	TRANSECT	STATION #	LAT	LON	NORTHING	EASTING
970728	Hunter	A	1	46 24.60	63 20.92	5139443.76	473205.50
970728	Hunter	A	2	46 24.90	63 20.53	5139997.18	473698.96
970728	Hunter	A	3	46 25.20	63 19.96	5140549.66	474427.14
970728	Hunter	A	4	46 25.52	63 19.98	5141136.19	474408.26
970728	Hunter	A	5	46 25.76	63 19.85	5141598.45	474580.95
970728	Hunter	A	6	46 25.84	63 19.13	5141718.14	475499.18
970728	Hunter	A	7	46 25.97	63 18.88	5141963.78	475820.29
970728	Hunter	A	8	46 26.02	63 18.54	5142054.60	476268.82
970728	Hunter	A	9	46 26.34	63 18.27	5142639.72	476612.54
970728	Hunter	A	10	46 26.73	63 18.05	5143379.42	476892.76
970728	Hunter	A	11	46 27.11	63 18.09	5144089.49	476852.80
970717	Wheatley	A	1	46 23.13	63 16.71	5136706.31	478576.18
970717	Wheatley	A	2	46 23.20	63 16.16	5136827.33	479281.48
970717	Wheatley	A	3	46 23.72	63 15.40	5137780.87	480267.11
970717	Wheatley	A	4	46 23.98	63 15.13	5138273.62	480610.38
970718	Wheatley	A	5	46 24.12	63 15.2	5138520.81	480525.75
970718	Wheatley	A	6	46 24.27	63 14.66	5138796.44	481209.91
970718	Wheatley	A	7	46 24.57	63 14.49	5139351.29	481446.49
970718	Wheatley	A	8	46 25.16	63 14.06	5140460.83	481983.54
970718	Wheatley	A	9	46 25.42	63 14.05	5140923.75	482006.26
970718	Wheatley	A	10	46 25.67	63 14.55	5141388.65	481367.33
970719	Wheatley	B	1	46 22.53	63 17.53	5135598.95	477525.45
970719	Wheatley	B	2	46 22.64	63 17.37	5135783.35	477739.77
970719	Wheatley	B	3	46 22.94	63 17.04	5136337.37	478169.02
970719	Wheatley	B	4	46 23.13	63 16.70	5136706.23	478597.54
970719	Wheatley	B	5	46 23.31	63 16.34	5137044.11	479068.63
970719	Wheatley	B	6	46 23.55	63 15.73	5137473.63	479838.96
970719	Wheatley	B	7	46 23.59	63 15.14	5137532.86	480608.01
970719	Wheatley	B	8	46 24.12	63 15.20	5138520.81	480525.75
970729	Wheatley	C	0	46 22.40	63 17.36	5135350.00	477750.00
970729	Wheatley	C	1	46 22.95	63 17.16	5136368.85	477998.24
970729	Wheatley	C	2	46 22.98	63 16.90	5136429.36	478340.24
970729	Wheatley	C	3	46 23.24	63 16.63	5136891.12	478683.63
970729	Wheatley	C	4	46 23.45	63 16.22	5137290.52	479218.98
970729	Wheatley	C	5	46 23.23	63 15.65	5136886.84	479943.82
970729	Wheatley	C	6	46 23.79	63 15.26	5137903.78	480438.35
970729	Wheatley	C	7	46 24.13	63 15.13	5138551.40	480611.26
970729	Wheatley	C	8	46 24.44	63 14.76	5139105.49	481082.76
970729	Wheatley	C	9	46 24.51	63 13.82	5139256.15	482300.23
970729	Wheatley	C	10	46 24.69	63 14.38	5139566.96	481575.24
970729	Wheatley	C	11	46 24.9	63 14.14	5139967.24	481896.68
970729	Wheatley	C	12	46 25.34	63 14.12	5140769.67	481920.42

Table 2.3 Salinity and temperature at each station of the water quality transects.

Date	Site	Transect	Station #	Time	Surface Temp (C)	Bottom Temp (C)	Surface Salinity (ppt)	Bottom Salinity (ppt)
280797	Hunter	A	1	11.33	19.0	18.8	0.00	0.00
280797	Hunter	A	2	11.58	21.0	22.5	2.20	4.80
280797	Hunter	A	3	12.08	22.2	21.9	14.50	20.80
280797	Hunter	A	4	12.42	21.9	21.2	17.50	23.30
280797	Hunter	A	5	12.58	22.0	21.9	21.70	21.70
280797	Hunter	A	6	12.83	21.9	22.0	20.70	20.70
280797	Hunter	A	7	13.66	20.9	20.2	24.20	24.90
280797	Hunter	A	8	13.90	21.1	21.0	23.20	23.30
280797	Hunter	A	9	15.08	21.0	21.0	24.00	24.10
280797	Hunter	A	10	14.25	21.1	21.1	24.70	24.60
280797	Hunter	A	11	14.58	18.8	18.3	25.90	26.50
170797	Wheatley	A	1	13.50	20.9	20.9	7.50	16.00
170797	Wheatley	A	2	13.72	21.0	19.2	20.00	26.00
170797	Wheatley	A	3	14.12	21.1	20.9	8.00	21.00
170797	Wheatley	A	4	14.33	22.3	20.9	19.90	20.70
180797	Wheatley	A	5	15.23	22.9	21.5	22.90	23.10
180797	Wheatley	A	6	15.57	19.9	19.0	25.10	25.50
180797	Wheatley	A	7	15.75	20.5	19.5	26.00	26.00
180797	Wheatley	A	8	16.00	20.5	20.0	25.90	25.90
180797	Wheatley	A	9	16.20	22.0	21.0	26.50	26.30
180797	Wheatley	A	10	16.47	21.9	21.1	27.00	27.00
190797	Wheatley	B	1	13.75	13.5	13.5	1.70	1.70
190797	Wheatley	B	2	14.00	14.9	21.0	3.10	22.00
190797	Wheatley	B	3	14.50	18.1	21.9	4.50	19.00
190797	Wheatley	B	4	14.93	26.0	22.1	10.50	16.90
190797	Wheatley	B	5	15.25	22.0	22.2	14.00	24.50
190797	Wheatley	B	6	15.48	23.0	21.1	19.80	25.10
190797	Wheatley	B	7	15.67	19.0	21.0	22.50	27.50
190797	Wheatley	B	8	15.70
290997	Wheatley	C	0	16.30	14.9	14.9	0.00	0.00
290997	Wheatley	C	1	11.50	18.6	18.6	8.10	8.10
290997	Wheatley	C	2	11.92	20.0	20.3	10.80	15.50
290997	Wheatley	C	3	12.25	21.2	21.9	16.80	20.20
290997	Wheatley	C	4	12.50	21.0	21.5	20.30	23.50
290997	Wheatley	C	5	12.80	23.0	22.0	18.10	19.50
290997	Wheatley	C	6	12.07	21.0	21.0	21.50	21.50
290997	Wheatley	C	7	14.75	20.9	20.9	22.50	25.50
290997	Wheatley	C	8	15.05	20.1	20.0	24.50	24.90
290997	Wheatley	C	9	15.20	20.0	20.1	25.80	25.80
290997	Wheatley	C	10	15.42	20.1	.	25.90	.
290997	Wheatley	C	11	15.55	20.1	.	25.90	.
290997	Wheatley	C	12	15.73	19.9	.	25.70	.

Table 2.4 Dissolved oxygen concentration and percent dissolved oxygen saturation at each station of the water quality transects.

Site	Transect	Station	Date	Time	Dissolved Oxygen Surface (mg/l)	Dissolved Oxygen Bottom (mg/l)	% DO Saturation Surface	% DO Saturation Bottom
Hunter	A	1	280797	11.33	9.6	19.0	104	204
Hunter	A	2	280797	11.58	12.2	12.0	139	143
Hunter	A	3	280797	12.08	8.8	10.2	110	131
Hunter	A	4	280797	12.42	10.0	10.4	126	134
Hunter	A	5	280797	12.58	10.2	.	132	.
Hunter	A	6	280797	12.83	9.6	.	124	.
Hunter	A	7	280797	13.66	8.8	.	114	.
Hunter	A	8	280797	13.90	9.4	.	121	.
Hunter	A	9	280797	15.08	9.4	.	121	.
Hunter	A	10	280797	14.25	9.2	.	119	.
Hunter	A	11	280797	14.58	10.2	.	128	.
Wheatley	A	1	170797	13.50	10.4	.	122	.
Wheatley	A	2	170797	13.72	0.0	.	0	.
Wheatley	A	3	170797	14.12	2.4	2.4	28	30
Wheatley	A	4	170797	14.33	5.0	13.4	65	169
Wheatley	A	5	180797	15.23	12.4	.	165	.
Wheatley	A	6	180797	15.57	9.2	10.8	117	136
Wheatley	A	7	180797	15.75	8.6	9.6	111	122
Wheatley	A	8	180797	16.00	9.0	11.0	116	141
Wheatley	A	9	180797	16.20	10.2	12.2	136	160
Wheatley	A	10	180797	16.47	8.8	10.0	118	132
Wheatley	B	1	190797	13.75	10.4	10.4	101	101
Wheatley	B	2	190797	14.00	10.4	4.6	105	59
Wheatley	B	3	190797	14.50	8.6	4.0	94	51
Wheatley	B	4	190797	14.93	4.8	0.4	63	5
Wheatley	B	5	190797	15.25	6.0	0.0	74	0
Wheatley	B	6	190797	15.48	3.2	0.0	42	0
Wheatley	B	7	190797	15.67	3.6	2.8	44	37
Wheatley	B	8	190797	15.70	9.4	9.0	.	.
Wheatley	C	0	290997	16.30	15.4	.	152	.
Wheatley	C	1	290997	11.50	11.4	11.4	128	128
Wheatley	C	2	290997	11.92	13.8	14.0	162	170
Wheatley	C	3	290997	12.25	10.4	5.6	129	72
Wheatley	C	4	290997	12.50	8.6	.	109	.
Wheatley	C	5	290997	12.80	14.0	7.4	181	95
Wheatley	C	6	290997	12.07	10.6	.	135	.
Wheatley	C	7	290997	14.75	10.0	.	128	.
Wheatley	C	8	290997	15.05	8.8	.	112	.
Wheatley	C	9	290997	15.20	8.6	.	110	.
Wheatley	C	10	290997	15.42	8.6	.	110	.
Wheatley	C	11	290997	15.55	8.6	.	110	.
Wheatley	C	12	290997	15.73	8.8	.	112	.

Table 2.5 Nutrient concentrations at each station of the water quality transects.

Site	Transect	Station #	Date	Time	Total Nitrogen (mg/l)	Nitrate (mg/l)	Ammonium (ug/l)	Total Phosphorous (ug/l)
Hunter	A	1	280797	11.33	0.7	0.2	0.1	96
Hunter	A	2	280797	11.58	1.6	0.2	0.4	182
Hunter	A	3	280797	12.08	0.5	0.022	0.1	109
Hunter	A	4	280797	12.42	0.8	0.1	0.3	130
Hunter	A	5	280797	12.58	0.6	0.008	0.2	97
Hunter	A	6	280797	12.83	0.6	0.008	0.2	91
Hunter	A	7	280797	13.66	0.7	0.1	0.3	100
Hunter	A	8	280797	13.90	0.5	0.015	0.2	85
Hunter	A	9	280797	15.08	0.6	0.02	0.2	82
Hunter	A	10	280797	14.25	0.4	0.002	0.1	63
Hunter	A	11	280797	14.58	0.7	0.054	0.1	93
Wheatley	A	1	170797	13.50	1.3	1.1	0.1	55
Wheatley	A	2	170797	13.72	2.3	0.1	0.8	222
Wheatley	A	3	170797	14.12	1.6	0.3	0.5	144
Wheatley	A	4	170797	14.33	1.0	0.1	0.3	98
Wheatley	A	5	180797	15.23	0.9	0.1	0.3	126
Wheatley	A	6	180797	15.57	0.6	0.1	0.2	79
Wheatley	A	7	180797	15.75	1.6	0.1	0.1	224
Wheatley	A	8	180797	16.00	0.5	0.03	0.2	78
Wheatley	A	9	180797	16.20	0.5	0.014	0.2	77
Wheatley	A	10	180797	16.47	1.5	0.1	0.1	257
Wheatley	B	1	190797	13.75	1.6	1.2	0.1	118
Wheatley	B	2	190797	14.00	1.4	1.0	0.2	101
Wheatley	B	3	190797	14.50	1.4	1.0	0.2	77
Wheatley	B	4	190797	14.93	1.7	1.0	0.3	131
Wheatley	B	5	190797	15.25	1.3	0.032	0.2	139
Wheatley	B	6	190797	15.48	1.7	0.1	0.6	136
Wheatley	B	7	190797	15.67	1.9	0.1	0.4	127
Wheatley	B	8	190797	15.70	1.2	0.1	0.4	110
Wheatley	C	0	290997	16.30	2.4	2.3	0.1	64
Wheatley	C	1	290997	11.50	1.5	1.0	0.2	80
Wheatley	C	2	290997	11.92	1.4	0.7	0.3	97
Wheatley	C	3	290997	12.25	2.6	0.4	1.0	152
Wheatley	C	4	290997	12.50	1.9	0.2	0.6	151
Wheatley	C	5	290997	12.80	2.0	0.1	0.6	127
Wheatley	C	6	290997	12.07	1.6	0.02	0.4	122
Wheatley	C	7	290997	14.75	0.9	0.016	0.3	104
Wheatley	C	8	290997	15.05	0.7	0.02	0.2	93
Wheatley	C	9	290997	15.20	0.7	0.018	0.1	84
Wheatley	C	10	290997	15.42	0.8	0.012	0.1	86
Wheatley	C	11	290997	15.55	0.5	0.006	0.2	77
Wheatley	C	12	290997	15.73	0.4	0.004	0.1	71

Table 2.6 Suspended Particulate Matter concentration and Secchi Disk depth at each station of the water quality transects.

Site	Transect	Station #	Date	Time	Total Particulate Matter (mg/l)	Particulate Organic Matter (mg/l)	Particulate Inorganic Matter (mg/l)	% Organic Particulate Matter	Secchi Depth (m)	Chlorophyll a (ug/l)
Hunter	A	1	280797	11.33	36.12	7.91	28.20	21.91	1.5	6.0
Hunter	A	2	280797	11.58	119.19	28.38	90.81	23.81		47.9
Hunter	A	3	280797	12.08	13.45	3.15	10.30	23.42		8.2
Hunter	A	4	280797	12.42	9.24	3.31	5.93	35.82		9.5
Hunter	A	5	280797	12.58	6.52	3.03	3.48	46.51	2.3	4.1
Hunter	A	6	280797	12.83	3.82	1.76	2.06	46.15	2.1	4.3
Hunter	A	7	280797	13.66	9.14	2.52	6.62	27.54	1.5	8.4
Hunter	A	8	280797	13.90	5.17	2.65	2.52	51.28	1.4	5.5
Hunter	A	9	280797	15.08	5.10	2.04	3.06	40.00	1.5	4.7
Hunter	A	10	280797	14.25	5.62	2.47	3.15	43.90	1.8	3.6
Hunter	A	11	280797	14.58	17.86	4.15	13.71	23.24	1.6	4.5
Wheatley	A	1	170797	13.50	4.84	1.83	3.01	37.78		2.0
Wheatley	A	2	170797	13.72	62.00	34.67	27.33	55.91	1.2	132.0
Wheatley	A	3	170797	14.12	5.34	2.51	2.83	47.06		4.2
Wheatley	A	4	170797	14.33	4.89	2.23	2.66	45.65		9.3
Wheatley	A	5	180797	15.23	5.91	3.23	2.69	54.55		8.9
Wheatley	A	6	180797	15.57	6.40	2.17	4.23	33.93	1.7	4.7
Wheatley	A	7	180797	15.75	5.19	1.95	3.24	37.50	2.2	2.0
Wheatley	A	8	180797	16.00	4.55	1.72	2.83	37.78	2.1	1.5
Wheatley	A	9	180797	16.20	8.49	2.47	6.02	29.11	2.4	2.0
Wheatley	A	10	180797	16.47	5.19	2.22	2.96	42.86	2.5	2.4
Wheatley	B	1	190797	13.75	48.93	7.86	41.07	16.06	0.2	5.9
Wheatley	B	2	190797	14.00	113.50	17.75	95.75	15.64	0.2	2.2
Wheatley	B	3	190797	14.50	19.71	4.71	15.00	23.91	0.4	3.7
Wheatley	B	4	190797	14.93	9.80	4.12	5.69	42.00		3.3
Wheatley	B	5	190797	15.25	28.36	13.28	15.08	46.82	0.8	6.4
Wheatley	B	6	190797	15.48	7.41	3.97	3.45	53.49	1	11.9
Wheatley	B	7	190797	15.67	13.60	5.40	8.20	39.71	1	18.6
Wheatley	B	8	190797	15.70	7.65	3.92	3.73	51.28	1.3	17.5
Wheatley	C	0	290997	16.30	8.20	3.20	5.00	39.02		3.3
Wheatley	C	1	290997	11.50	9.20	3.60	5.60	39.13		20.6
Wheatley	C	2	290997	11.92	11.00	6.40	4.60	58.18		33.5

Table 2.6 Suspended Particulate Matter concentration and Secchi Disk depth at each station of the water quality transects.

Site	Transect	Station #	Date	Time	Total Particulate Matter (mg/l)	Particulate Organic Matter (mg/l)	Particulate Inorganic Matter (mg/l)	% Organic Particulate Matter	Secchi Depth (m)	Chlorophyll a (ug/l)
Wheatley	C	3	290997	12.25	9.00	4.00	5.00	44.44		44.0
Wheatley	C	4	290997	12.50	10.60	6.60	4.00	62.26	0.8	1.3
Wheatley	C	5	290997	12.80	11.20	8.00	3.20	71.43	0.7	70.6
Wheatley	C	6	290997	12.07	11.60	6.80	4.80	58.62	0.8	65.2
Wheatley	C	7	290997	14.75	5.60	2.80	2.80	50.00	1	14.9
Wheatley	C	8	290997	15.05	8.40	3.20	5.20	38.10	1.2	12.7
Wheatley	C	9	290997	15.20	8.80	3.00	5.80	34.09	1.7	1.9
Wheatley	C	10	290997	15.42	8.60	2.80	5.80	32.56	1.3	3.9
Wheatley	C	11	290997	15.55	9.20	2.80	6.40	30.43	1.9	3.4
Wheatley	C	12	290997	15.73	6.00	2.00	4.00	33.33	1.8	

3.0. Salinity/Temperature Time Series and Depth Profiles

3.1. Time Series

In order to provide some indication of the amounts of river and sea water in Rustico Bay and its variation over the tidal cycle, and to provide data for calibration of a dispersion model, time series of salinity and temperature at three sites within the Bay were collected. Two sites were located within the Hunter River system, one during 15-17 July at 46° 26.23' N, 63° 18.07' W and one during 22 July -1 August at 46° 25.91' N, 63° 19.03' W. The third site was located within the Wheatley River system during 17-21 July at 46° 24.96' N, 63° 14.18' W. The location of each deployment is shown in Figure 3.1 and the results are presented as time series in Figures 3.2 and 3.3.

3.2 Depth Profiles

To provide some indication of the degree of water column stratification, vertical salinity/temperature profiles were collected at each Sea Carousel station. The results are presented graphically in Figure 3.4 and as data tables in Appendix B.

4.0 Sediment Characteristics

A number of sediment characteristics (Table 4.1) were determined from sediment samples collected at each of the Sea Carousel stations. These results are listed in Table 4.2 and presented graphically in Appendix C.

Table 4.1. Sediment characteristics measured at each Sea carousel station.

Percent Water Content
Percent Organic Content
Dissolved Carbohydrate Content
Chlorophyll *a* Content

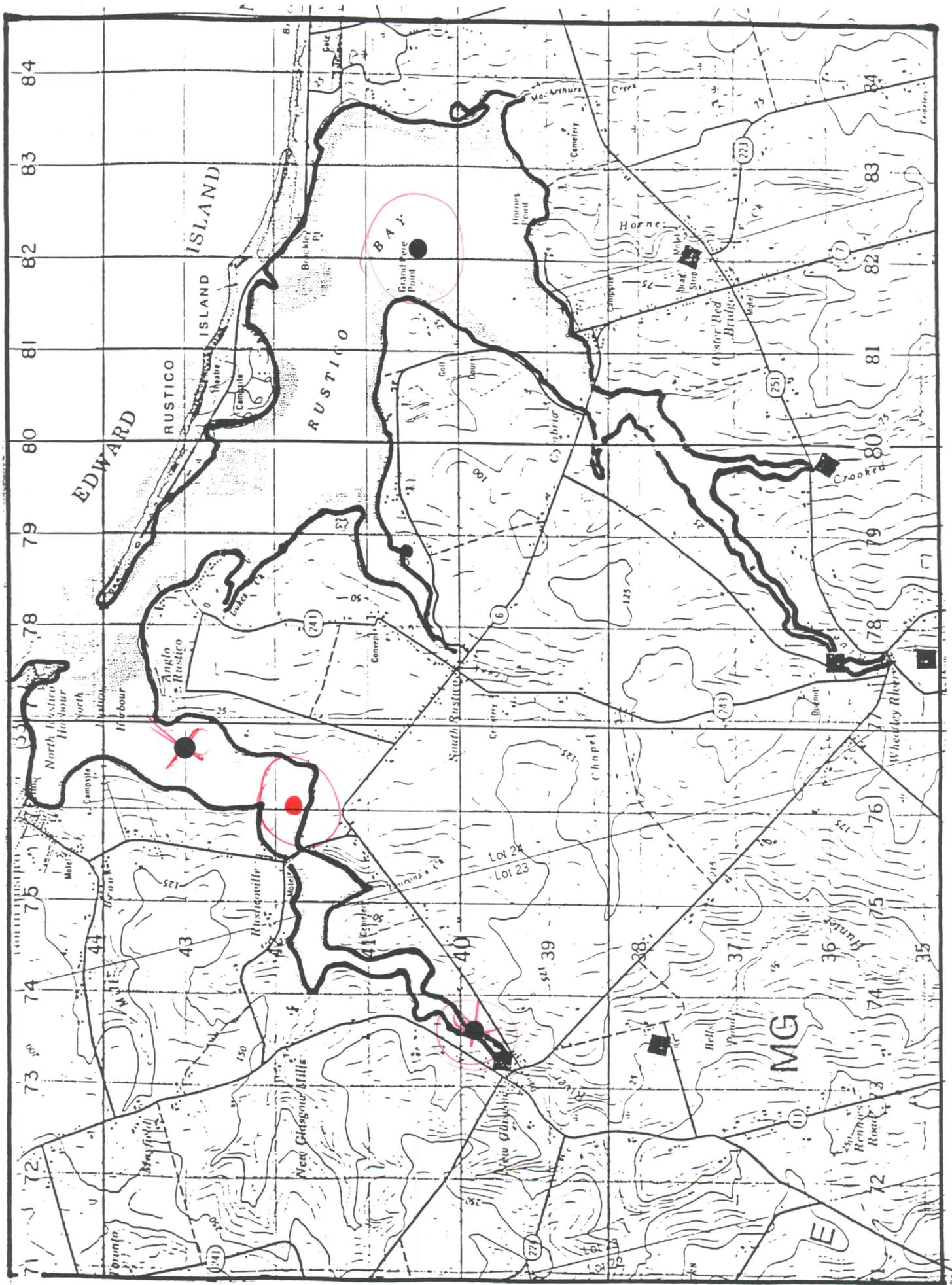


Figure 3.1. Location of stations for collection of salinity/temperature time series data.

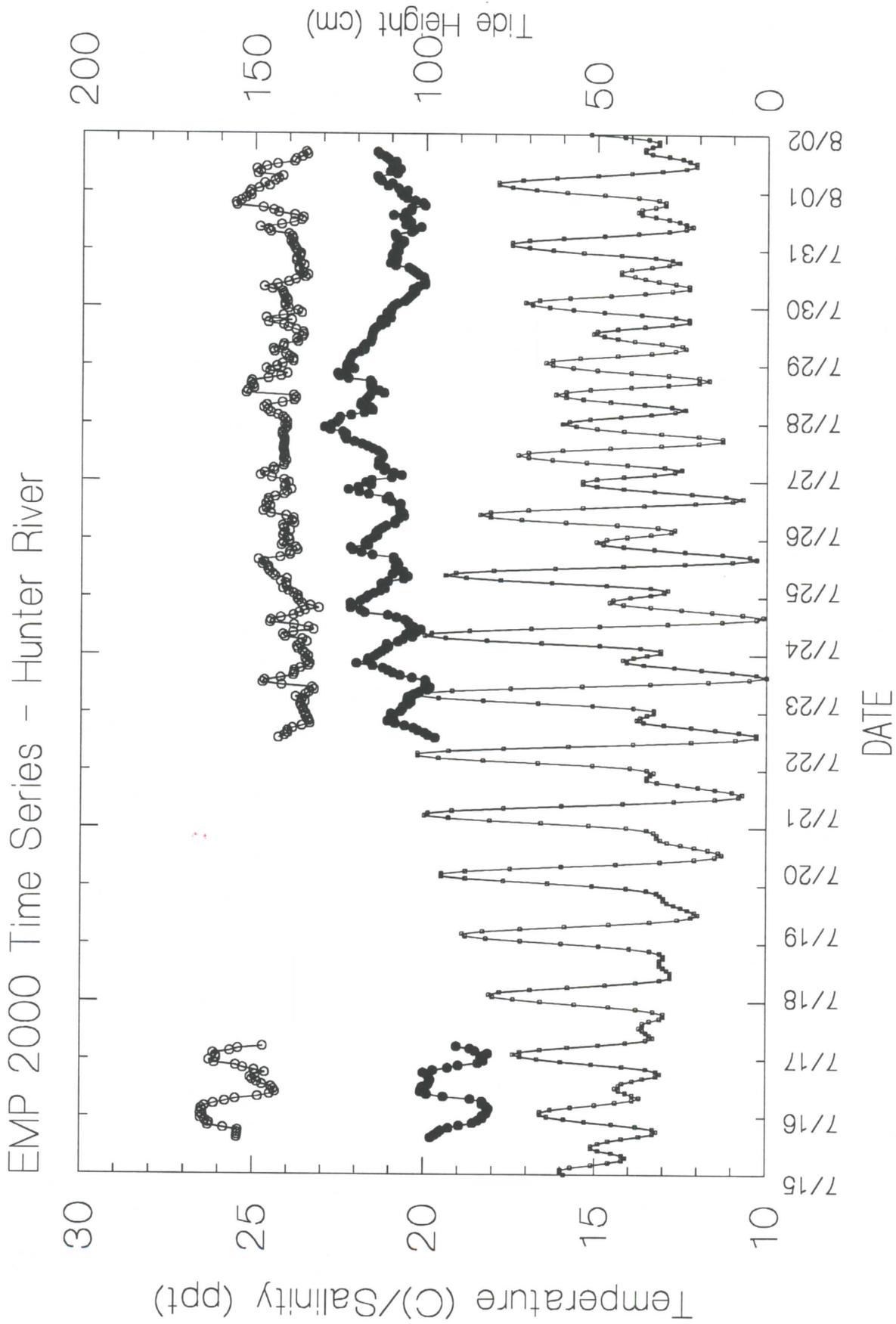


Figure 3.2. Time series data of salinity (O), temperature (●) and tide height at the two Hunter River stations.

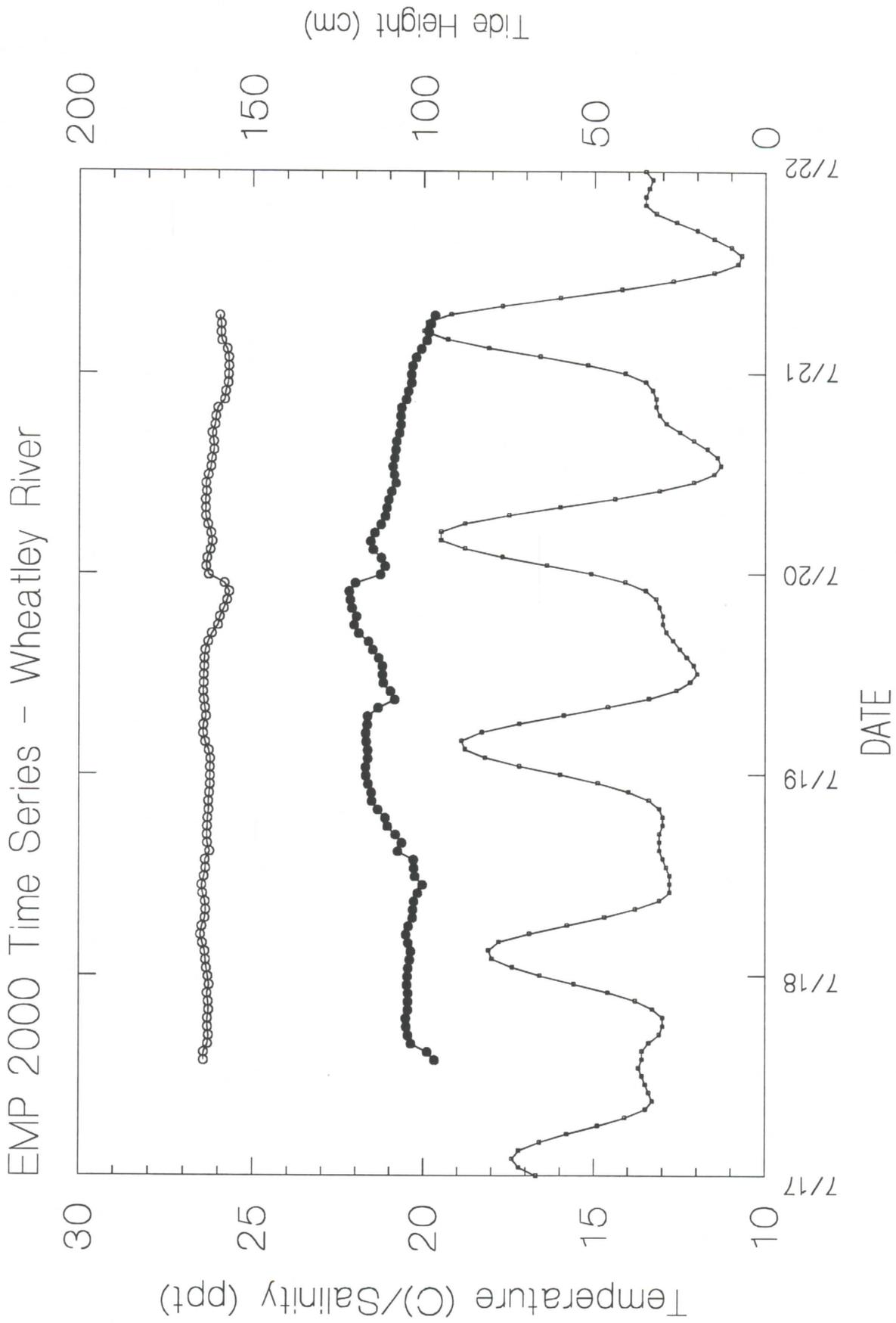
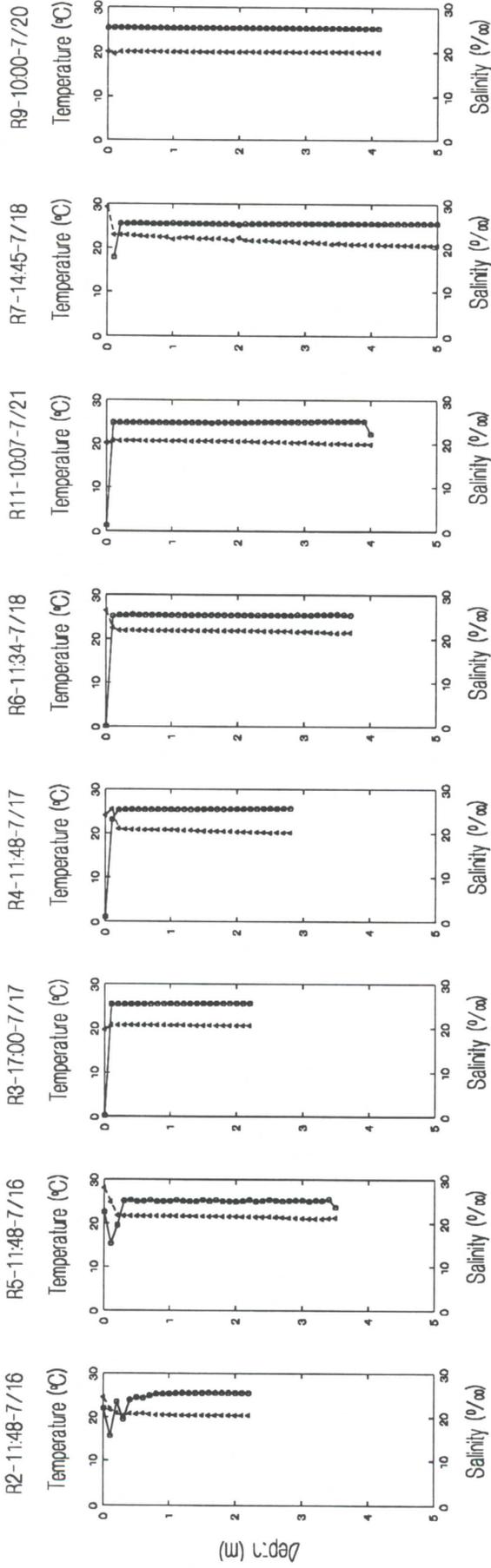


Figure 3.3. Time series data of salinity (o), temperature (●) and tide height at the Wheatley River station.

WHEATLEY



HUNTER

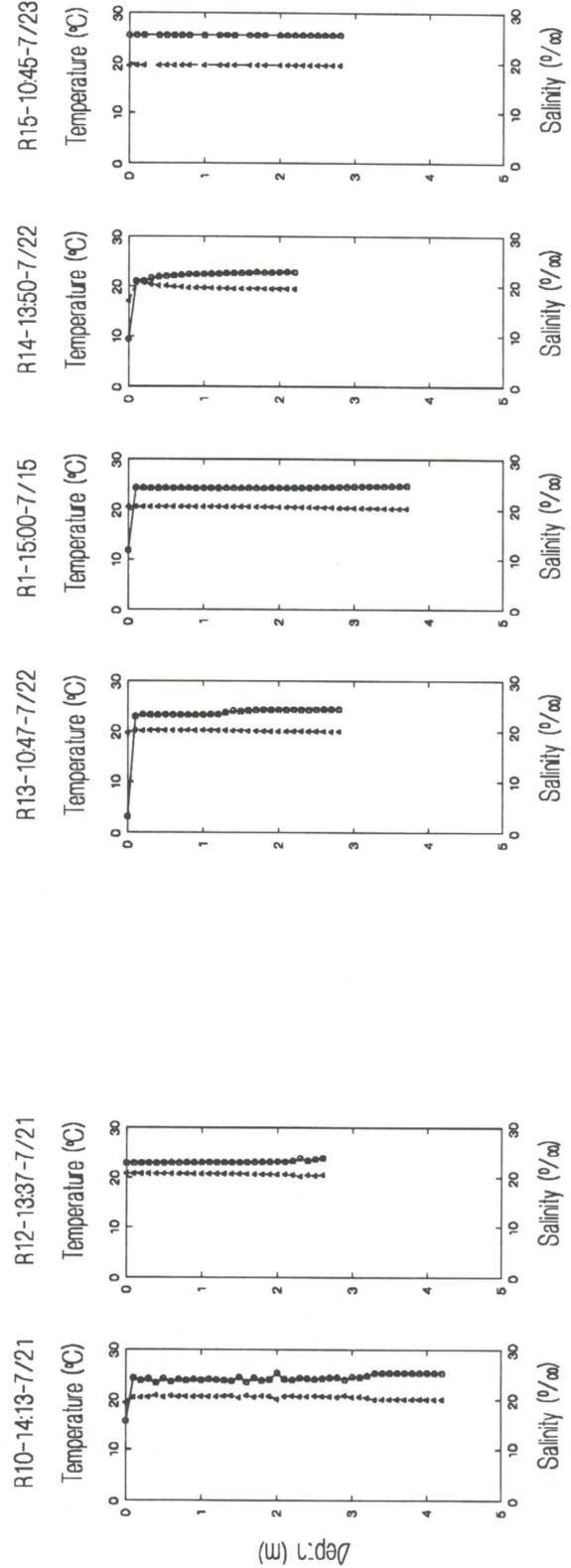


Figure 3.4 Salinity/temperature depth profiles at each Sea carousel station.

Table 4.2 Secchi Disk depths and sediment characteristics at Sea Carousel stations.

Site	Station #	Water Depth (m)	Secchi Depth (m)	Sediment Water Content (%)	Sediment Organic Content (%)	Sediment Chlorophyll (mg/gm dry sediment)	Sediment Dissolved Carbohydrate (mg/gm dry sediment)
Hunter	1	3.8	1.5	64.7	11.5	23.0	0.07
Hunter	8	5.7	3.5	25.1	0.9	0.9	0.00
Hunter	10	3.2	2.5	54.3	6.4	25.0	0.51
Hunter	12	2.6	2.0	66.3	13.3	19.6	0.26
Hunter	13	2.7	2.5	48.0	4.8	16.3	0.13
Hunter	14	1.4	2.0	64.1	13.0	56.1	0.31
Hunter	15	2.7	3.5	25.3	1.7	1.4	0.00
Wheatley	2	1.9	1.7	48.6	4.6	12.5	0.06
Wheatley	3	2.2	1.6	70.2	9.0	31.0	0.60
Wheatley	4	2.4	2.0	57.2	7.6	22.4	0.32
Wheatley	5	3.0	1.8	71.8	12.9	31.4	0.56
Wheatley	6	3.4	2.3	64.3	9.3	41.2	1.33
Wheatley	7	4.7	2.2	39.7	9.9	13.8	0.12
Wheatley	9	4.5	3.0	20.5	0.8	0.3	0.04
Wheatley	11	4.0	3.0	69.8	13.9	13.4	0.37

5.0. Potential Benthic Nutrient Fluxes

In order to provide some indication of the potential input of nutrients to the water column as a result of resuspension of sediments, water samples were collected from the Sea Carousel during each deployment. The samples were collected at the stage of the deployment at which sediments were observed to just begin to be suspended. These samples were analyzed for nutrient content (Total Phosphorus, Total Nitrogen, Nitrate and Ammonium). The results are presented in Table 5.1 and graphically in Appendix D.

6.0 Acknowledgements

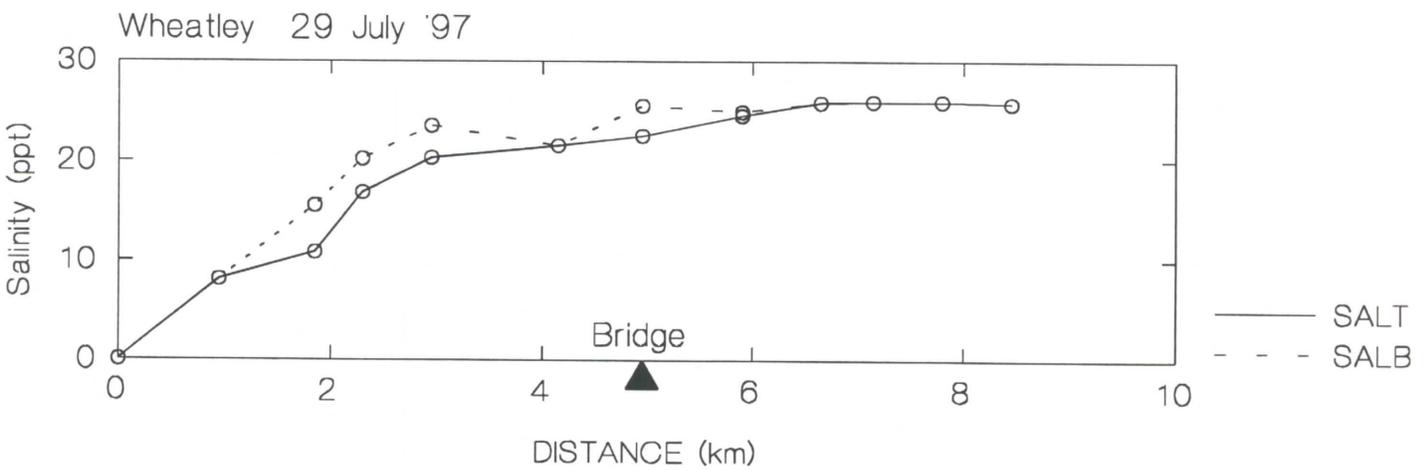
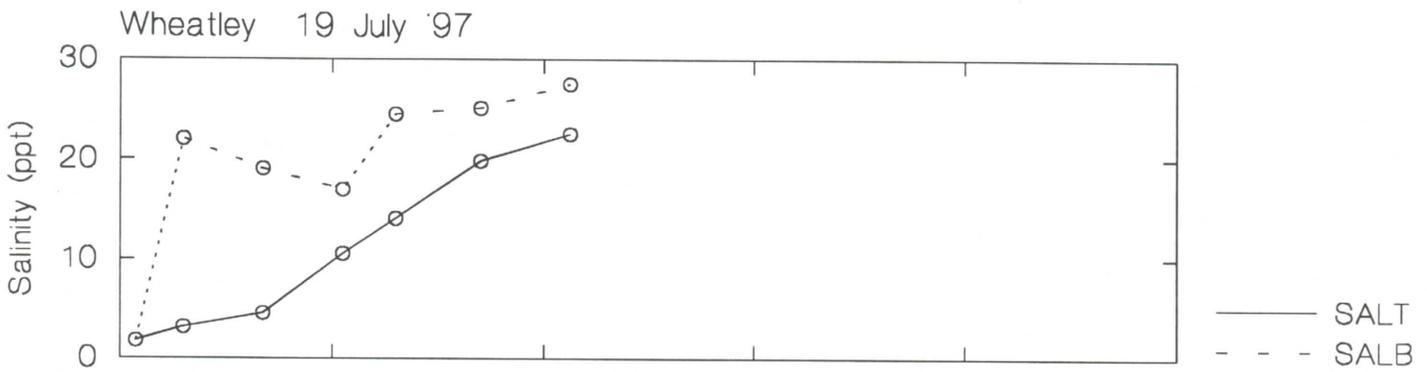
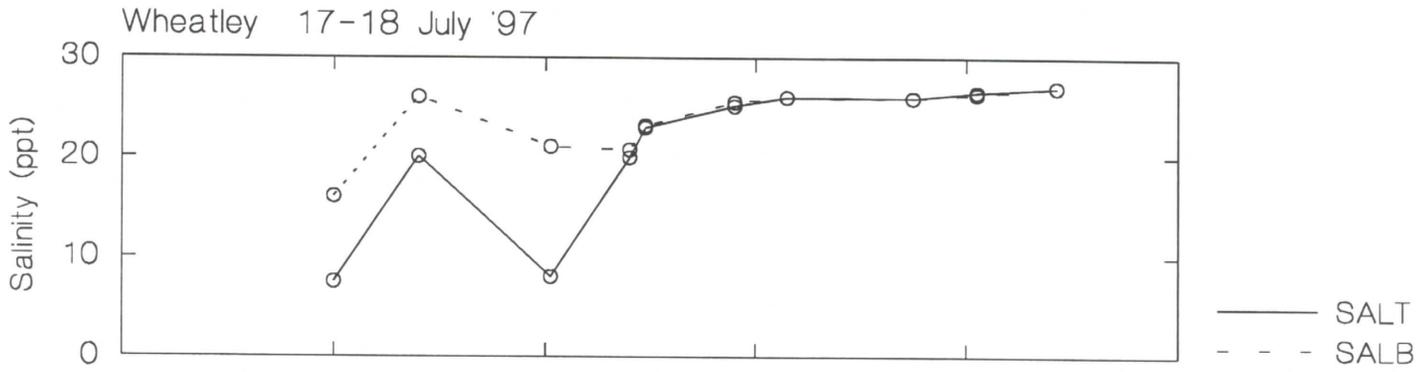
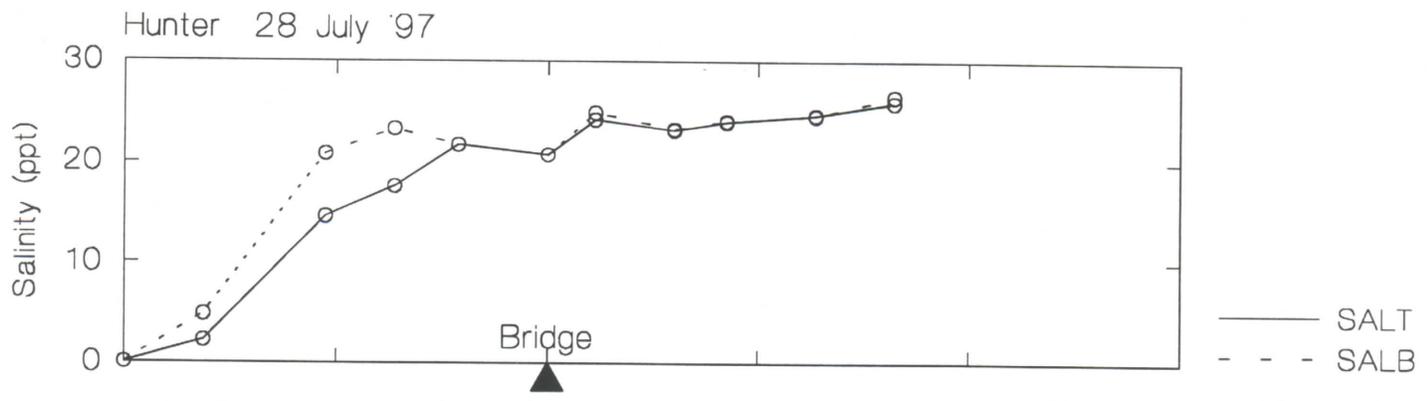
The competent help of the crew of the Mosey Boy, Neil Gallant, Brent Jarvis and Robert Gallant, is gratefully acknowledged as is the help provided to us by numerous local community members, particularly James Gallant. The nutrient analyses were carried out by the Water Resources Division of the PEI Department of Fisheries and Environment as an in-kind contribution and we are grateful to Clair Murphy and Bruce Raymond of that Department for their support in arranging this.

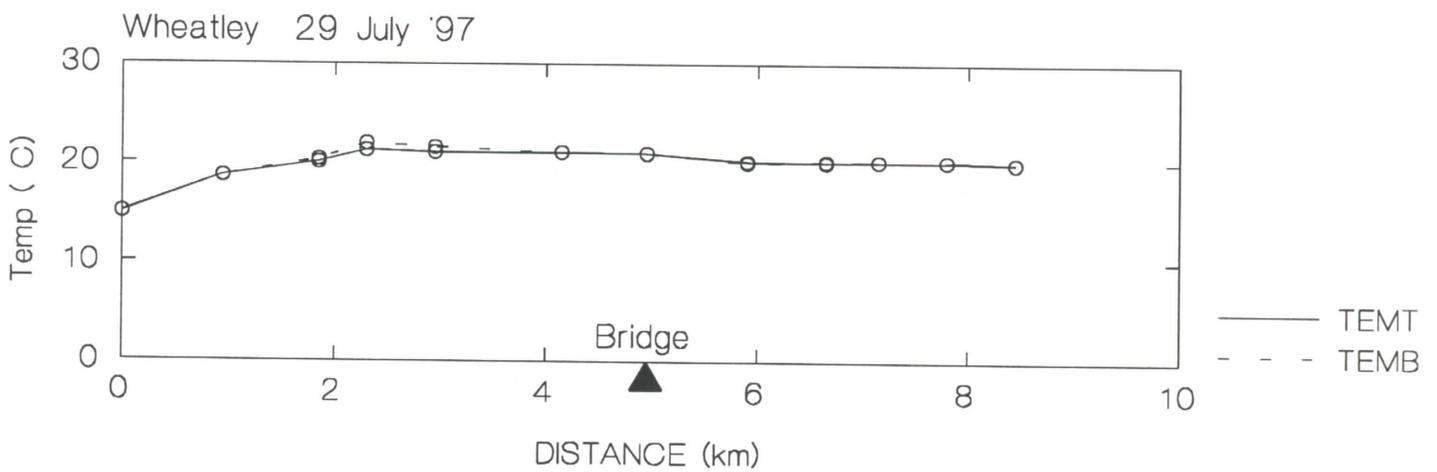
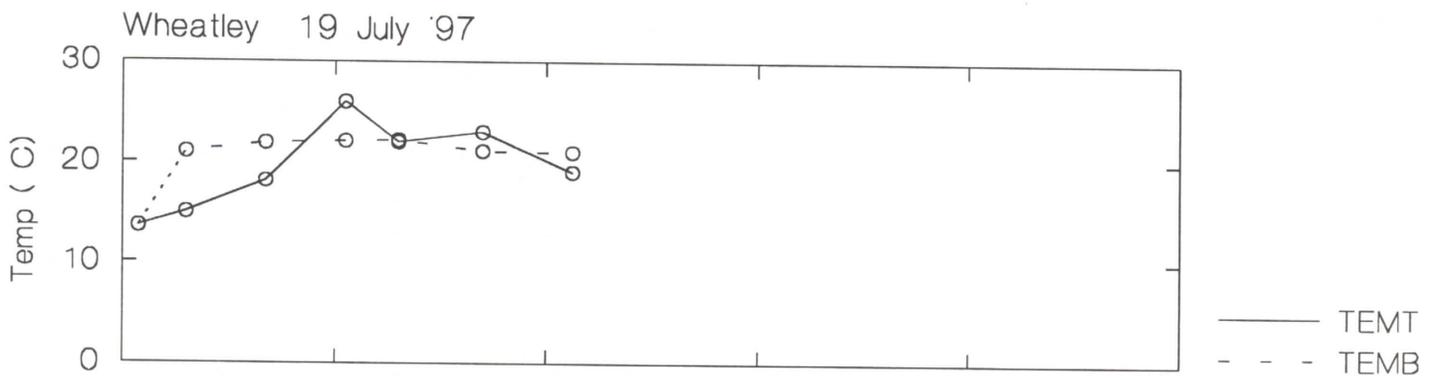
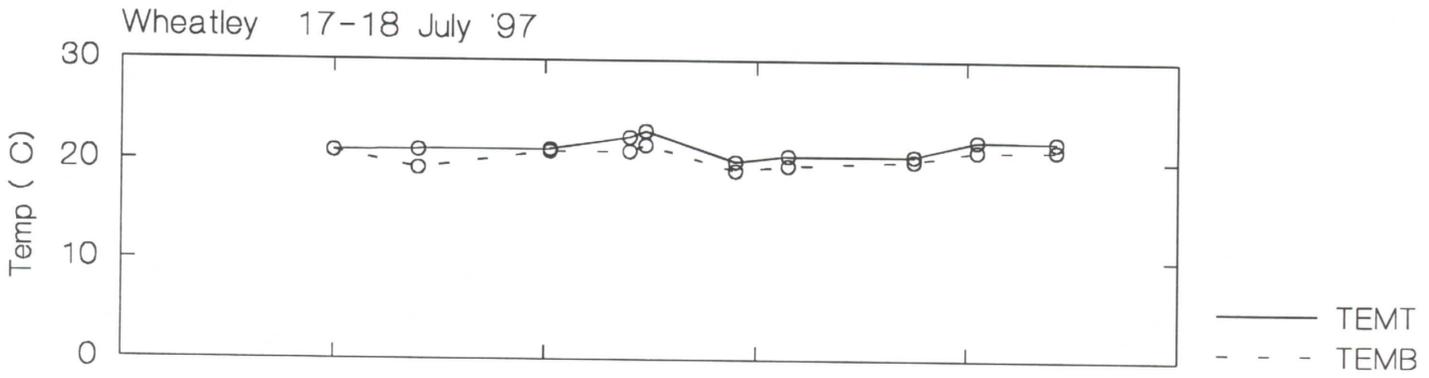
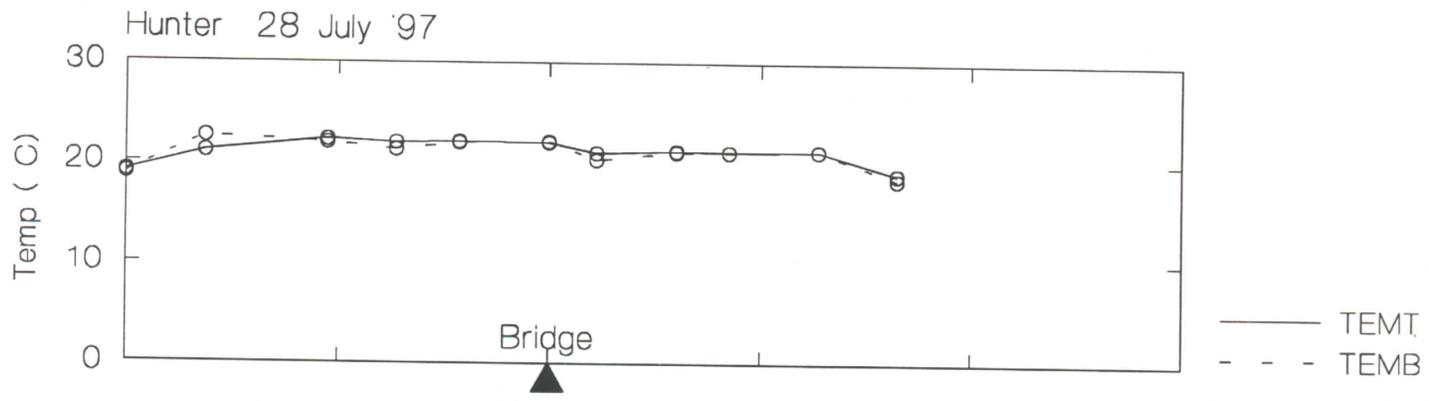
Table 5.1 Nutrient concentrations of sea water within the Sea Carousel (Sea Carousel step refers to the stage of the deployment at which samples were collected).

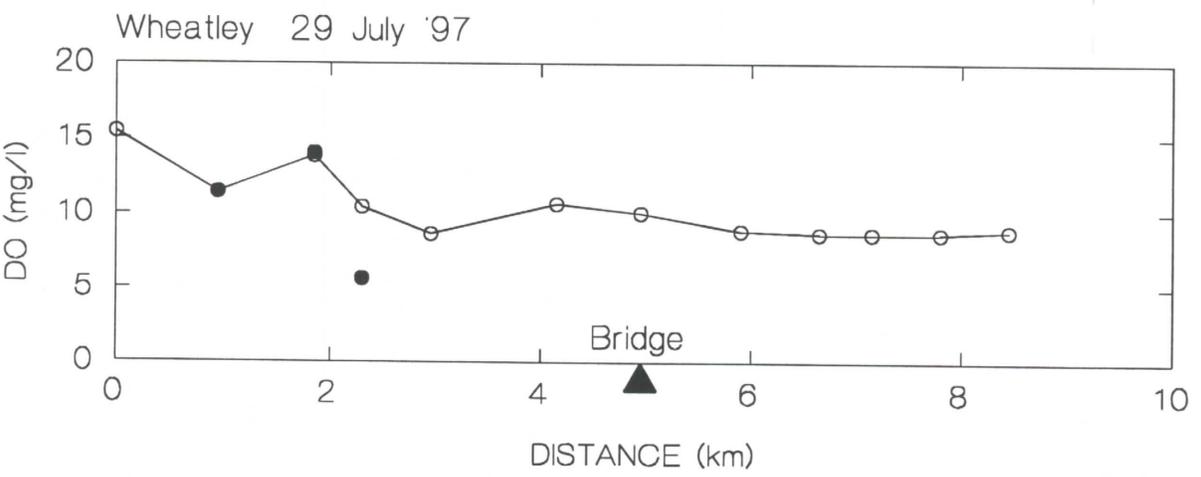
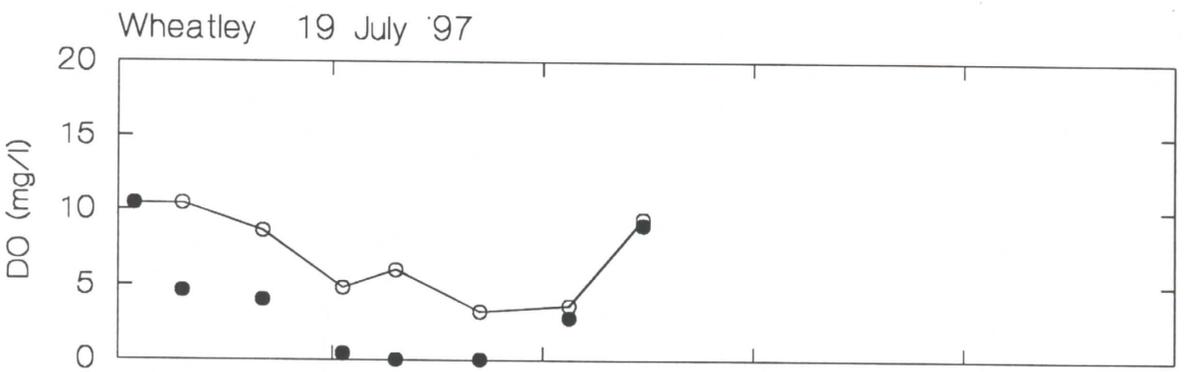
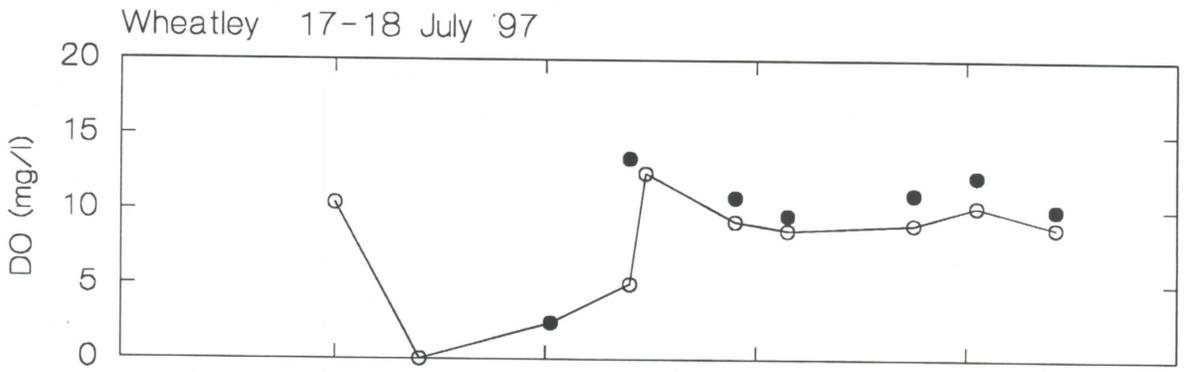
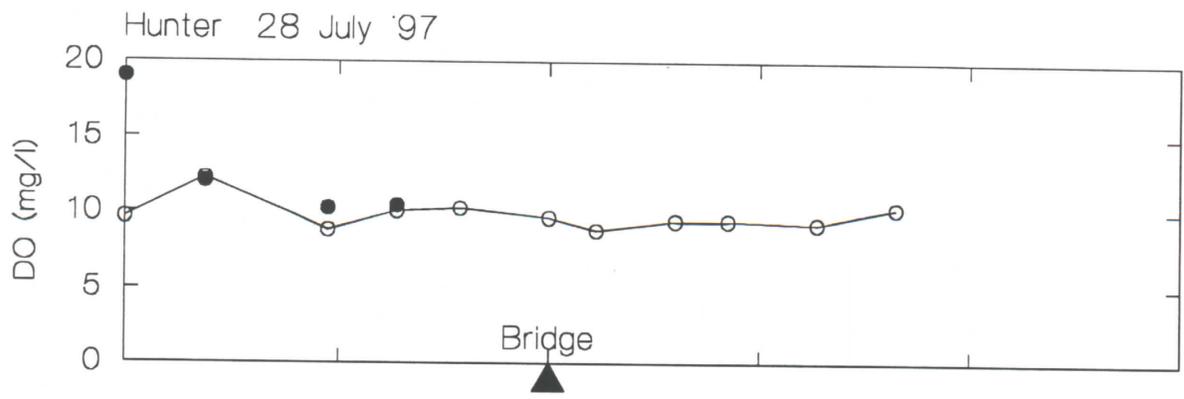
Site	Station #	Sea Carousel Step	Total Nitrogen (mg/l)	Ammonium (mg/l)	Nitrate (mg/l)	Total Phosphorous (ug/l)
Hunter	1	5,6	2.70	0.10	0.25	703
Hunter	8	10,11	0.65	0.10	0.08	61
Hunter	10	5,6	1.45	0.15	0.10	319
Hunter	12	6	2.40	0.15	0.25	649
Hunter	13	6,7	1.00	0.10	0.05	244
Hunter	14	7,8	1.45	0.10	0.10	407
Hunter	15	11,12	0.50	0.10	0.04	180
Wheatley	2	4,5	4.85	0.10	0.65	628
Wheatley	3	5,6	2.00	0.10	0.15	890
Wheatley	4	6,7	2.25	0.10	0.20	546
Wheatley	5	4,5	2.00	0.10	0.30	623
Wheatley	6	.	2.20	0.10	0.10	586
Wheatley	7	7,8	1.50	0.10	0.15	403
Wheatley	9	9,10	0.18	0.15	0.01	38
Wheatley	11	5,6	3.20	0.10	0.20	619

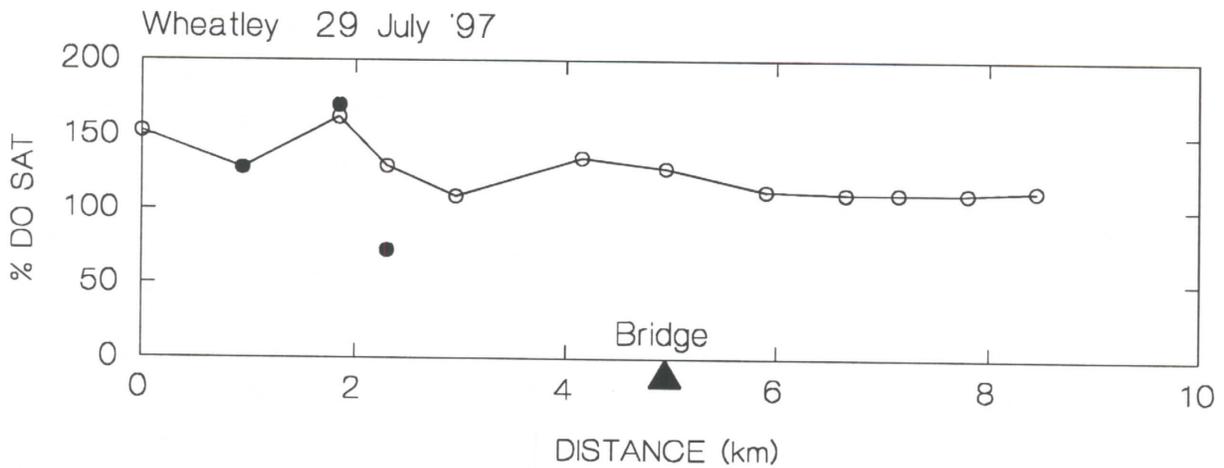
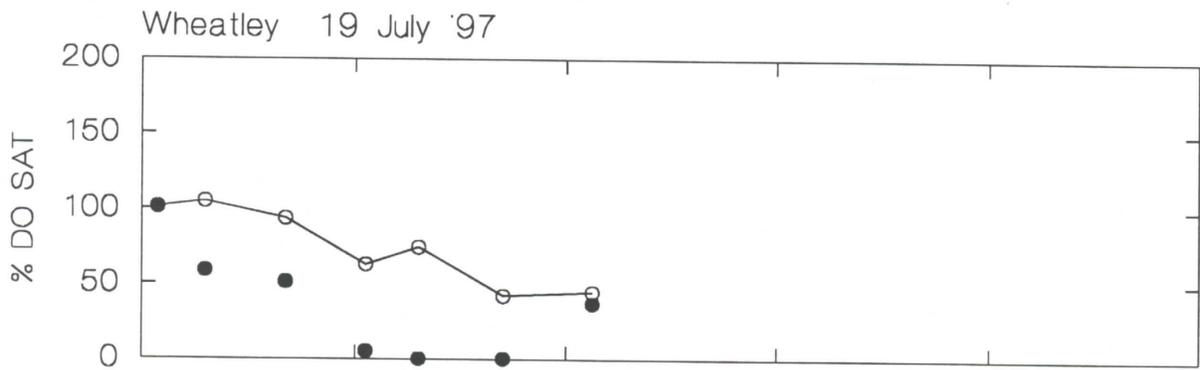
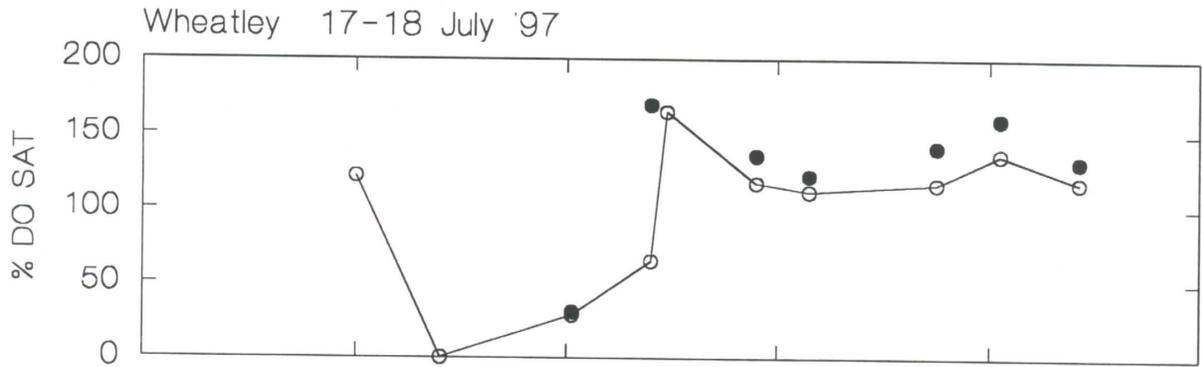
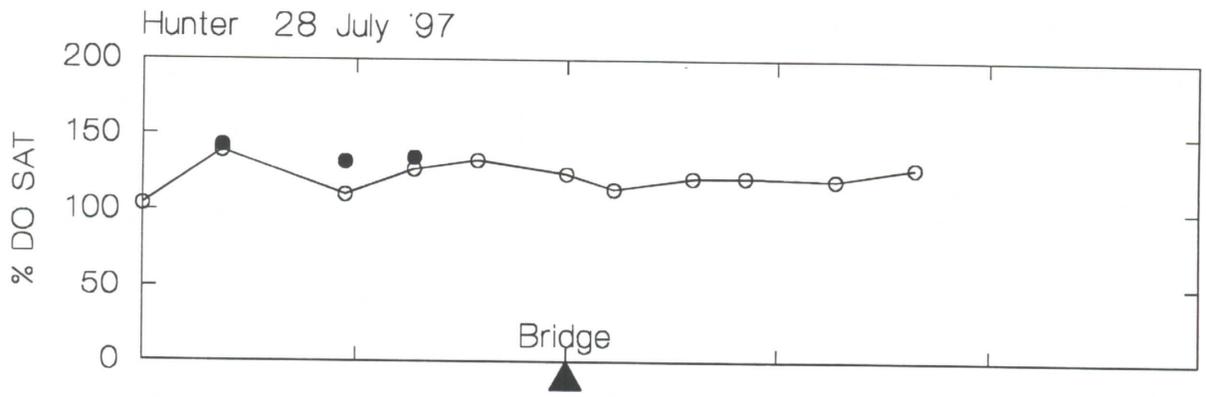
Appendix A

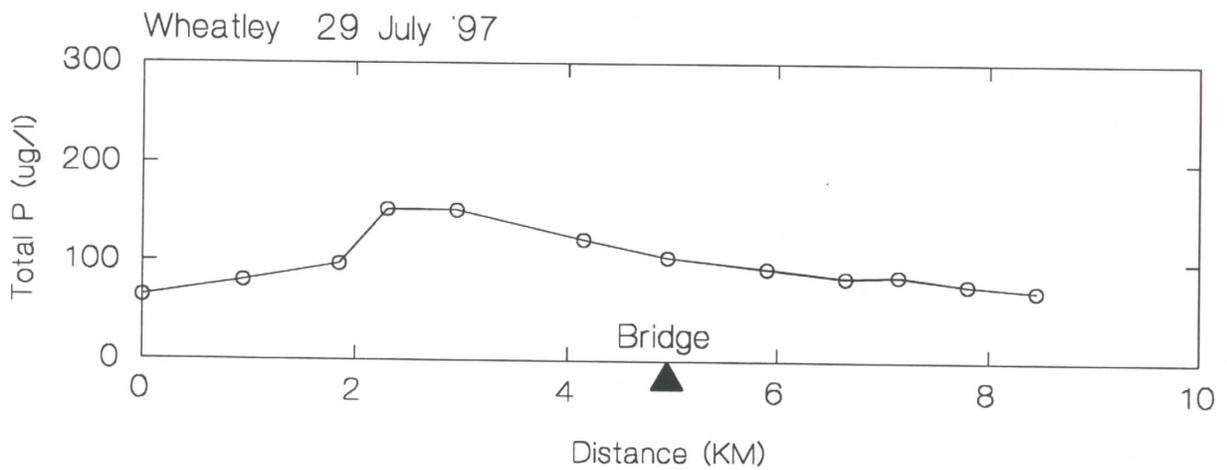
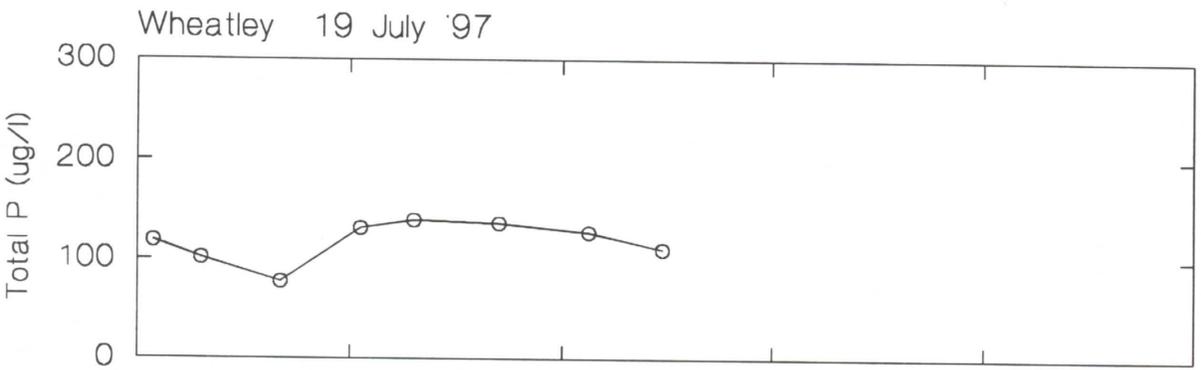
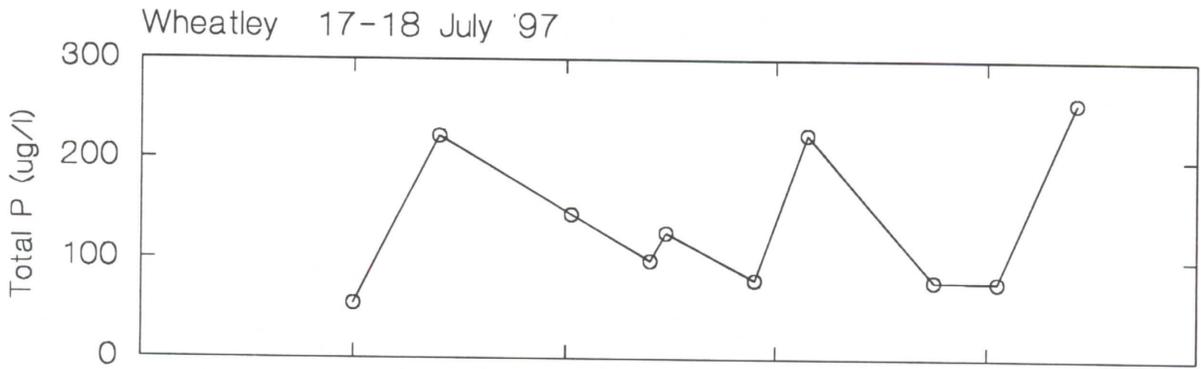
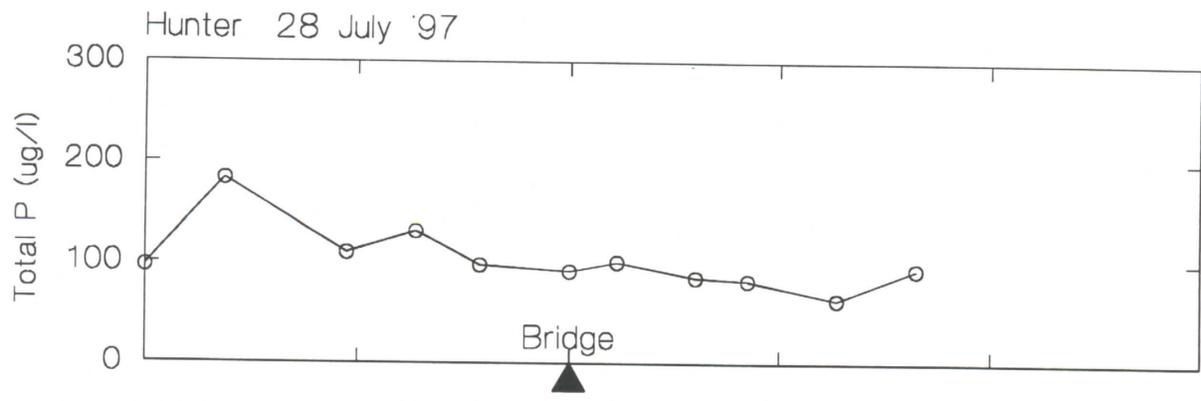
Variations in water quality with distance at each transect

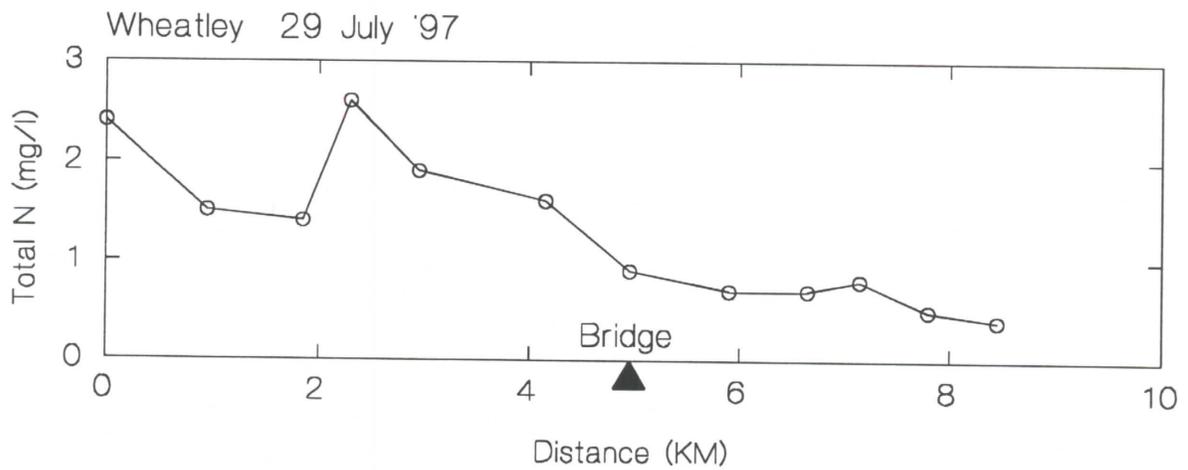
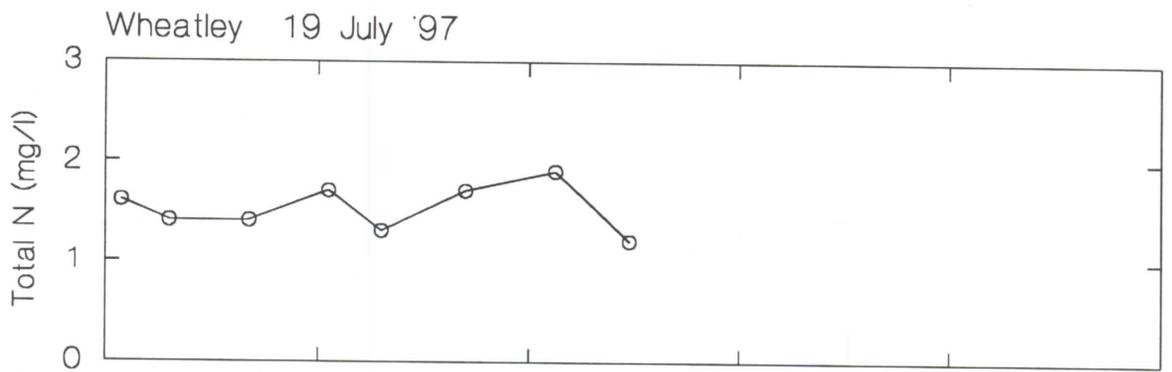
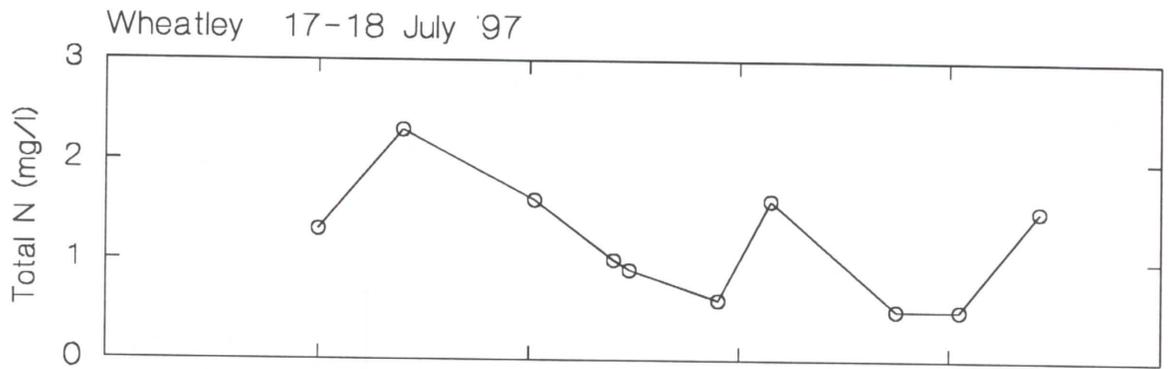
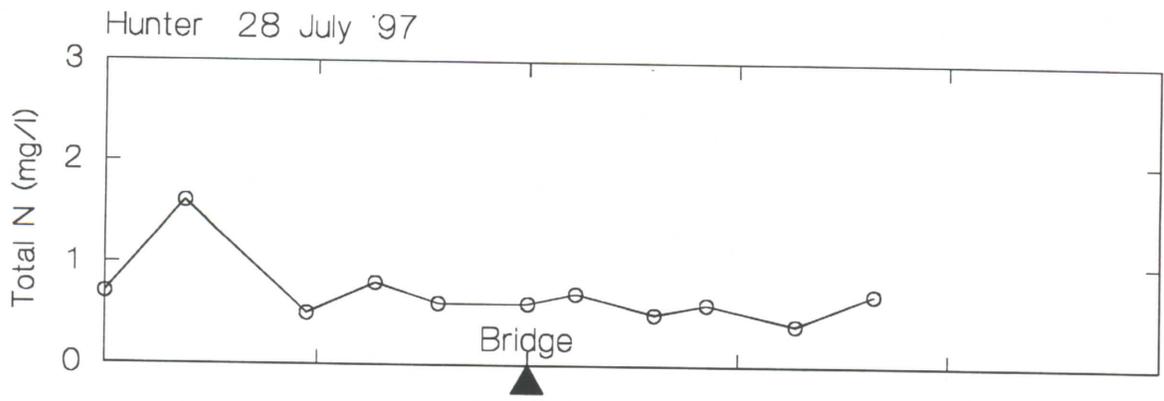


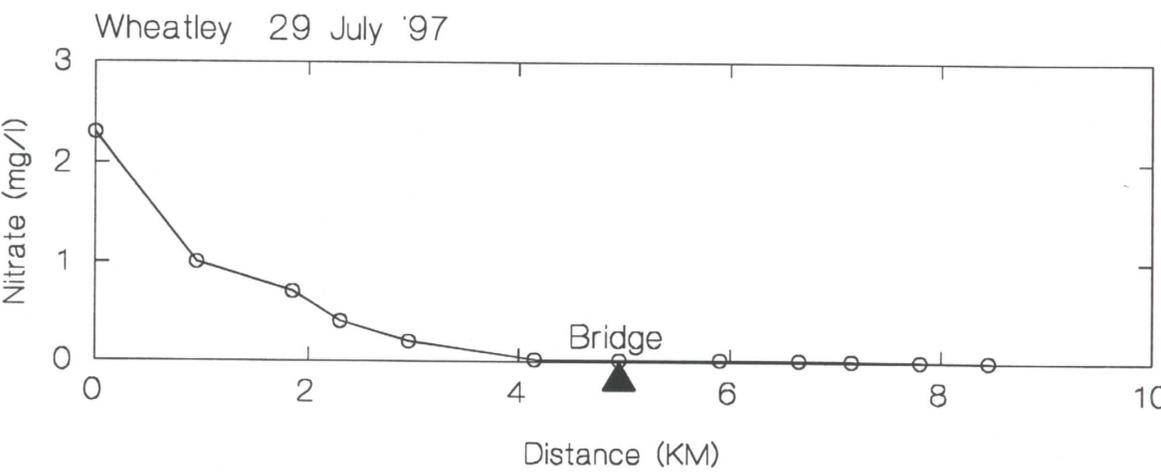
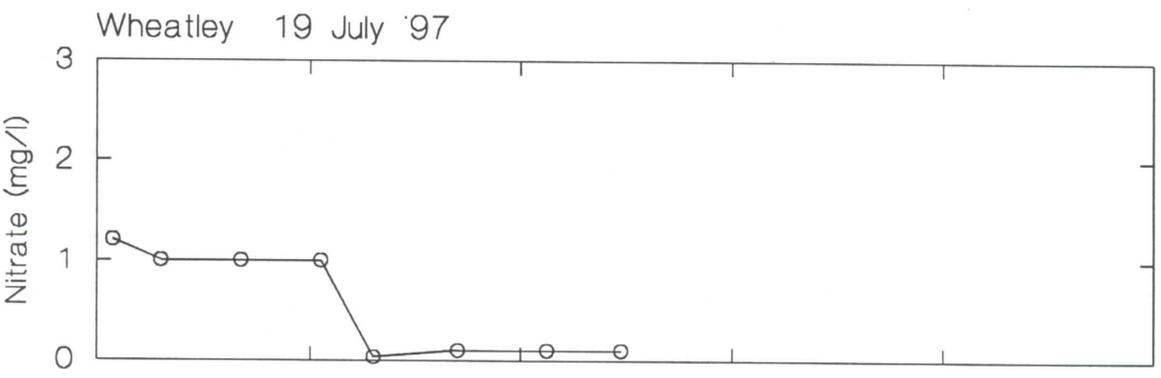
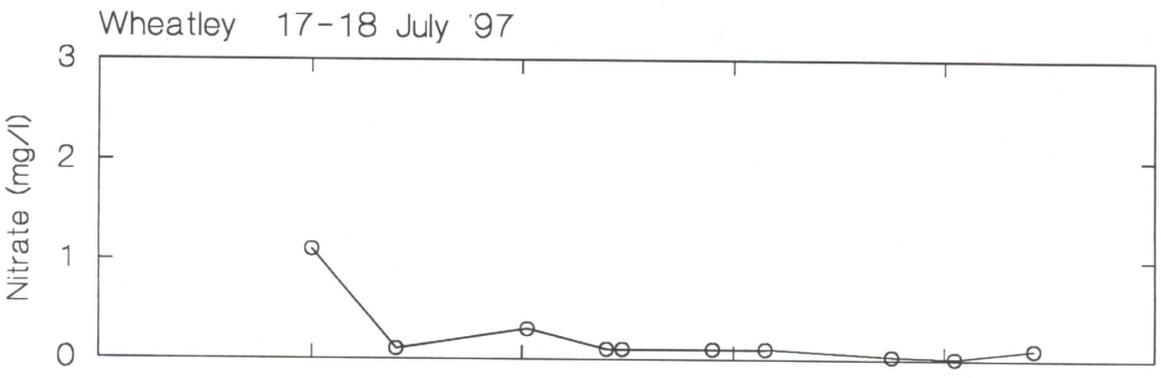
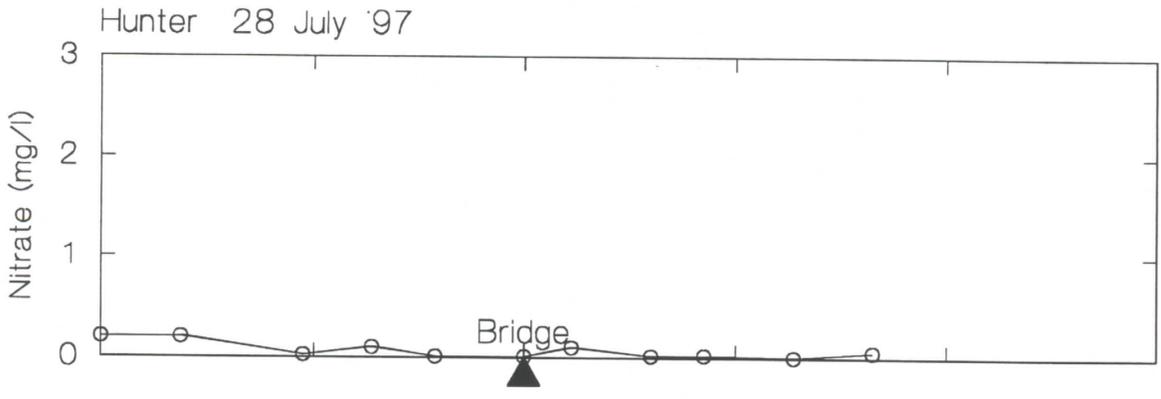


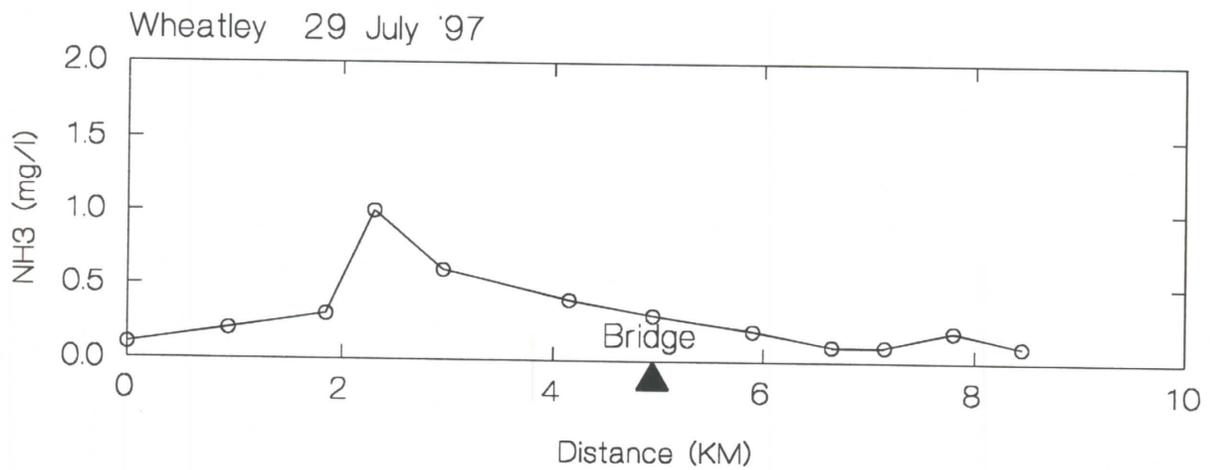
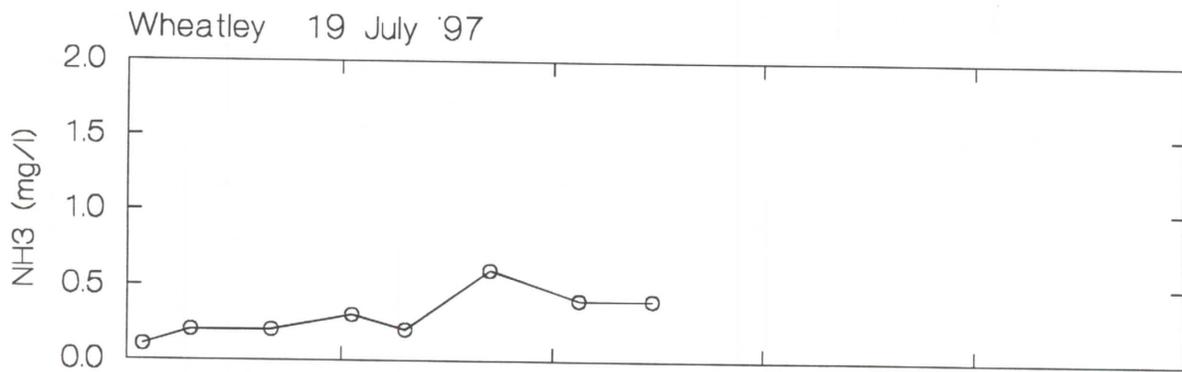
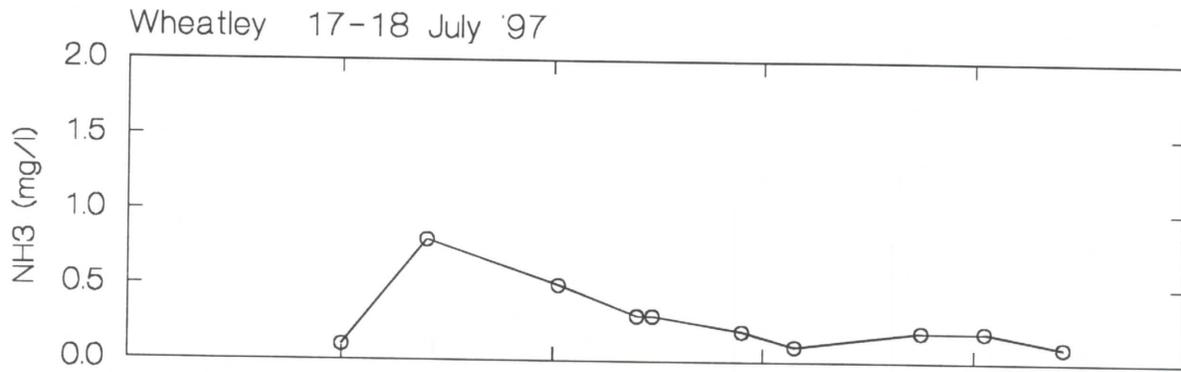
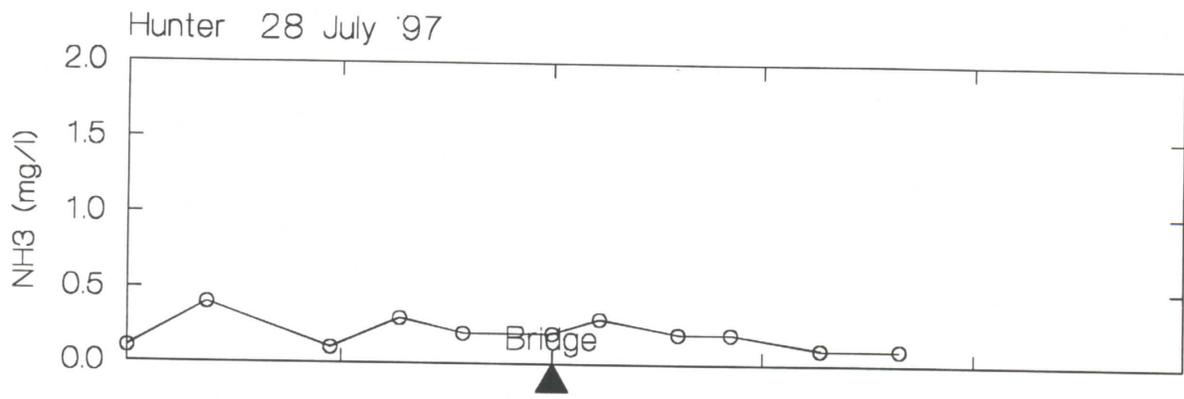


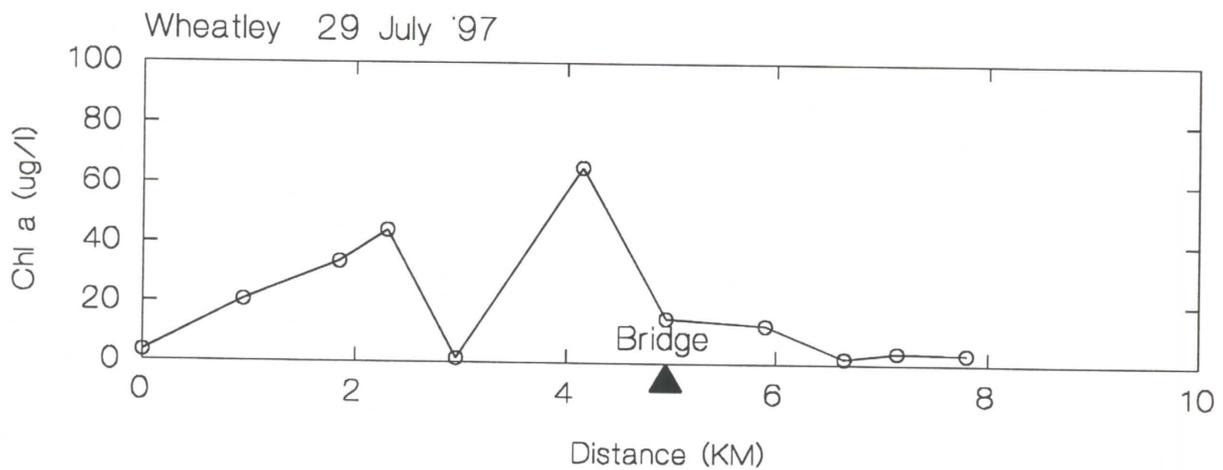
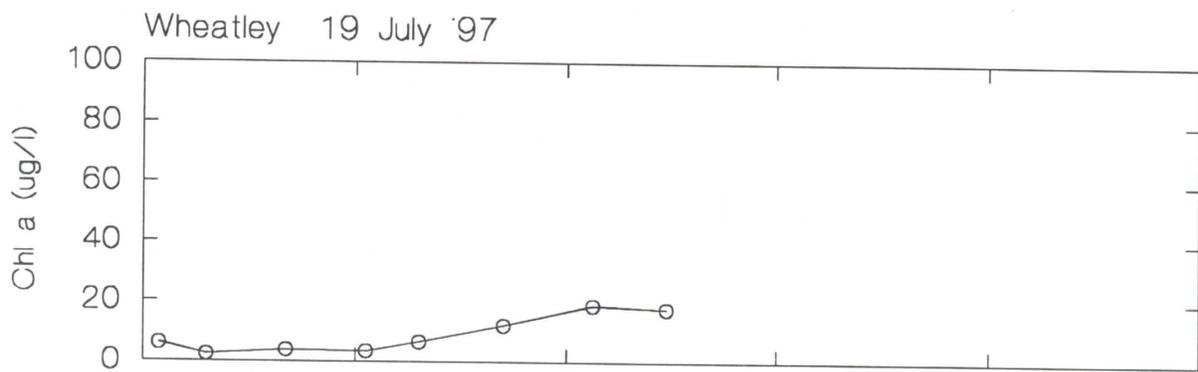
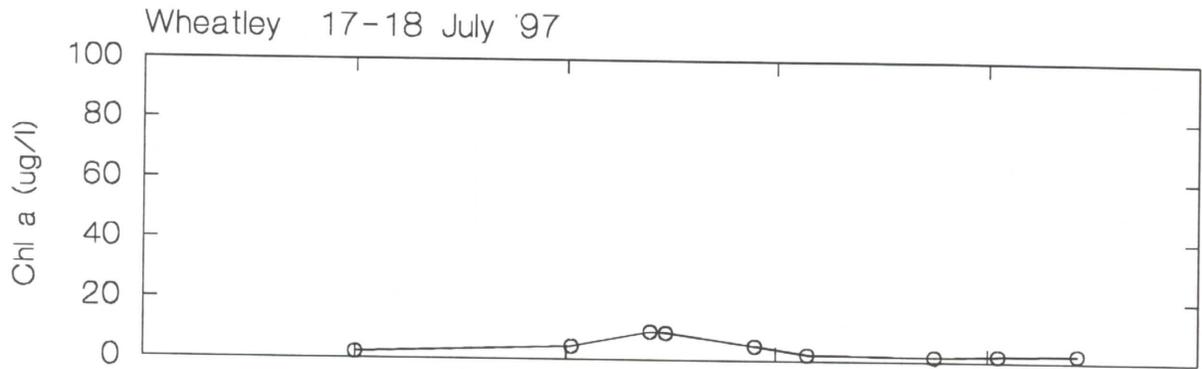
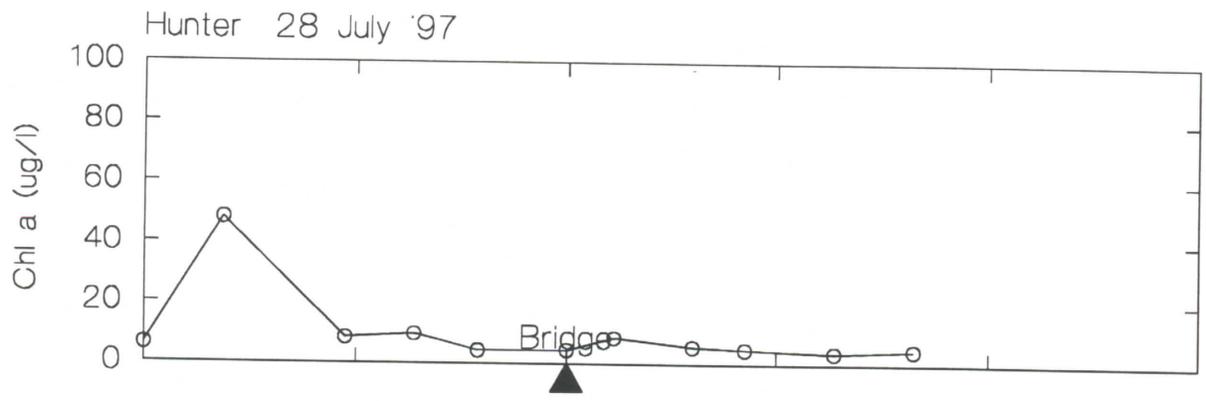


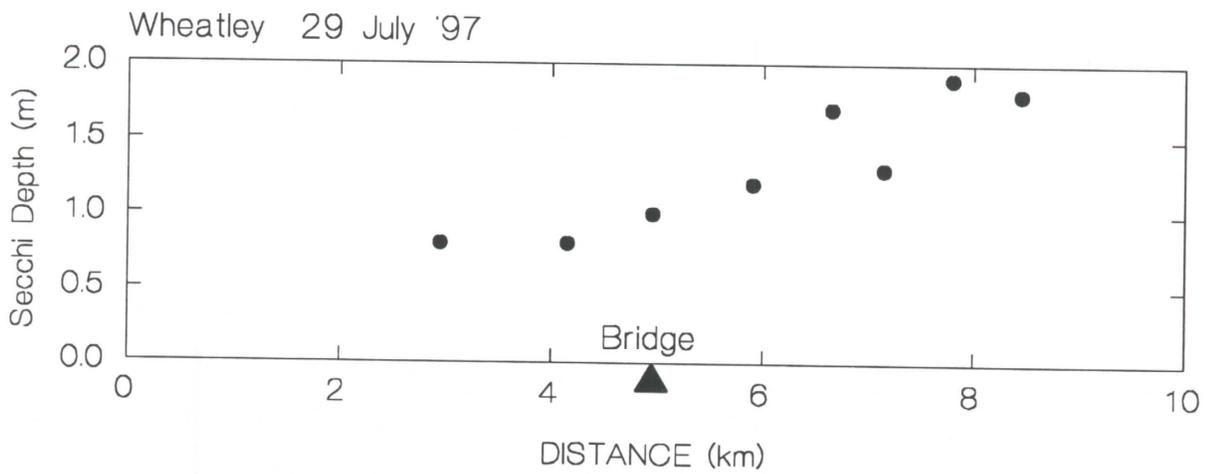
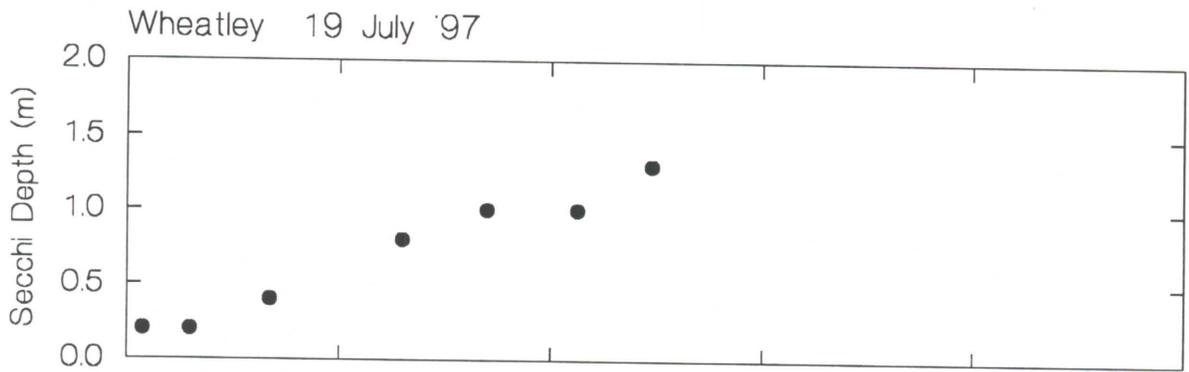
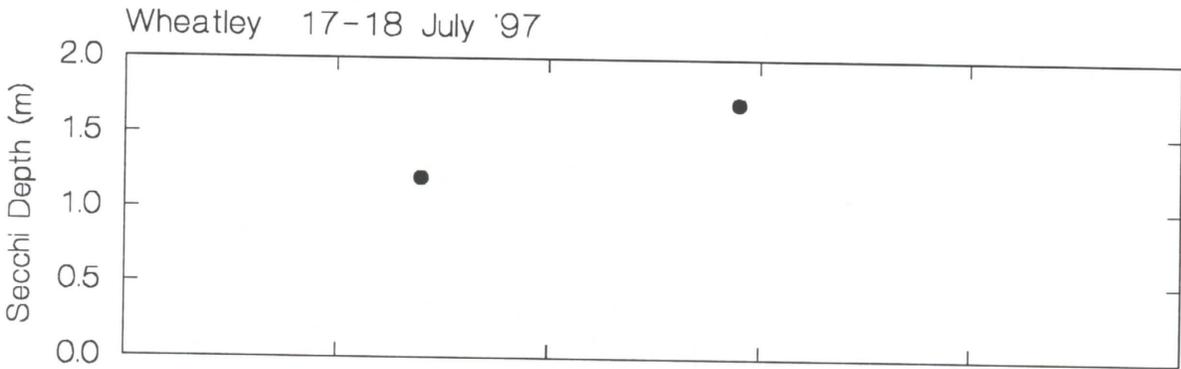
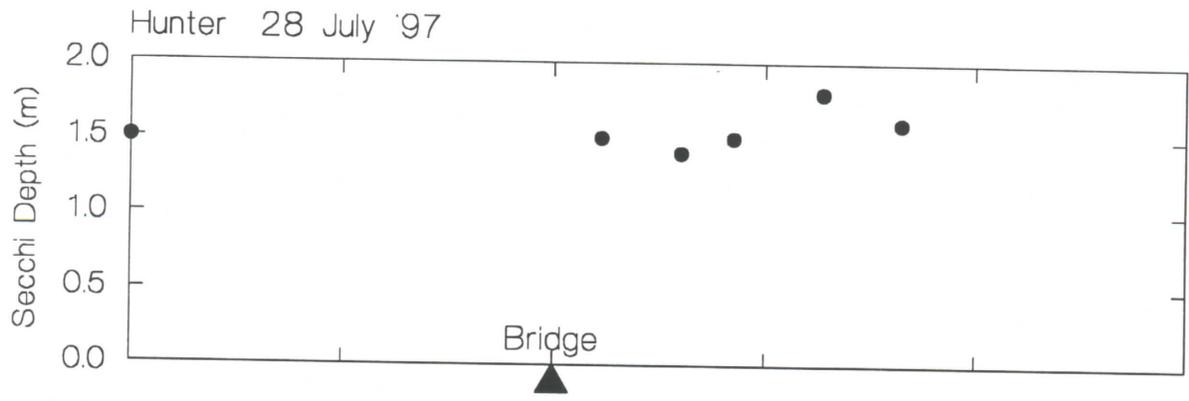


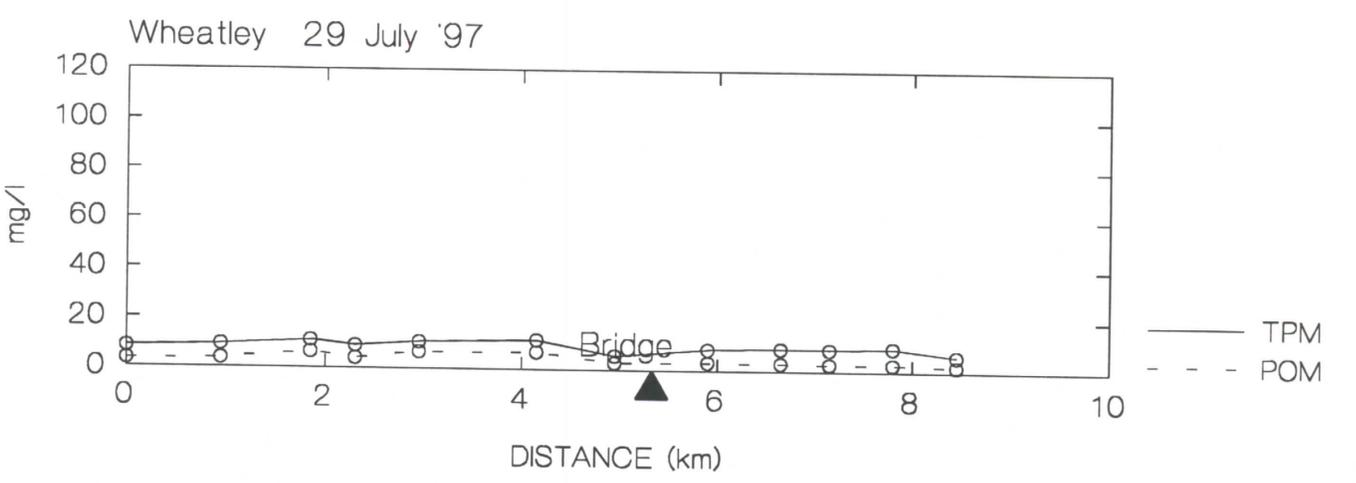
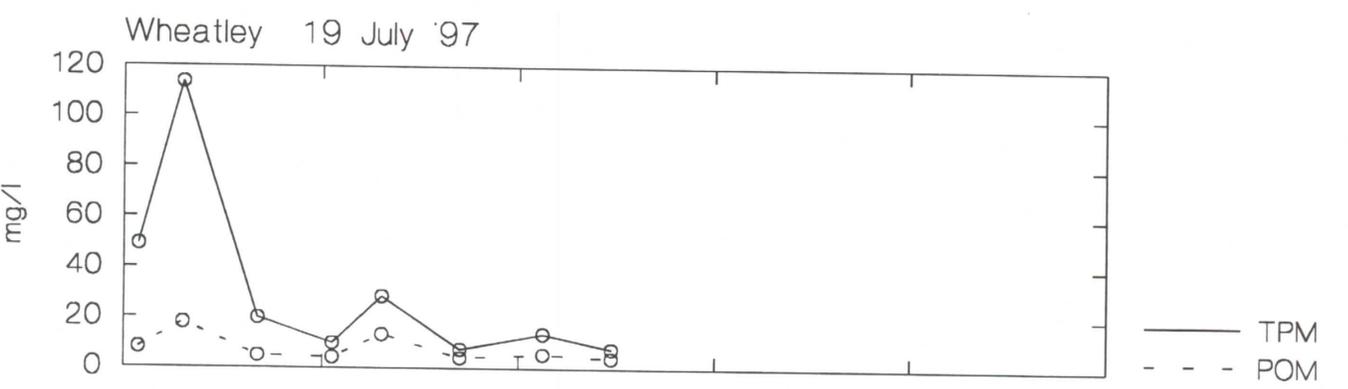
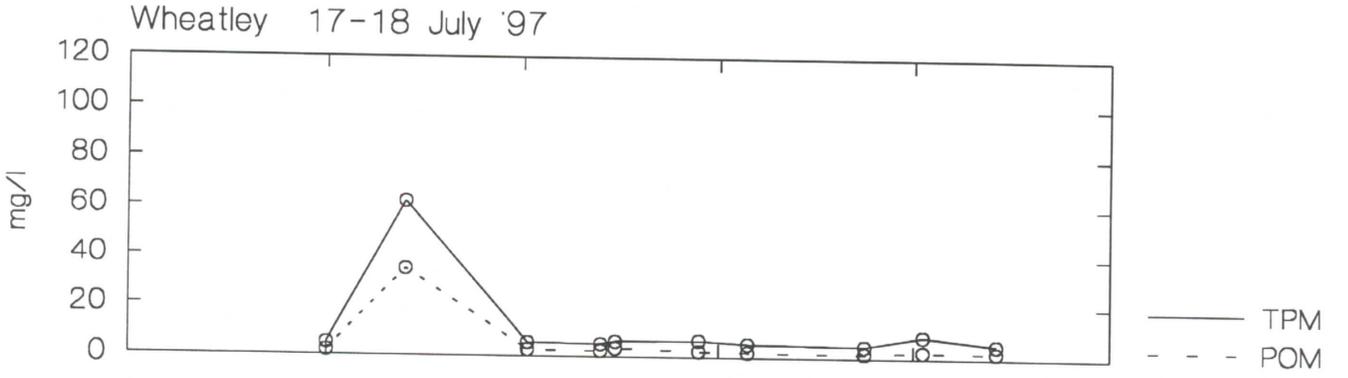
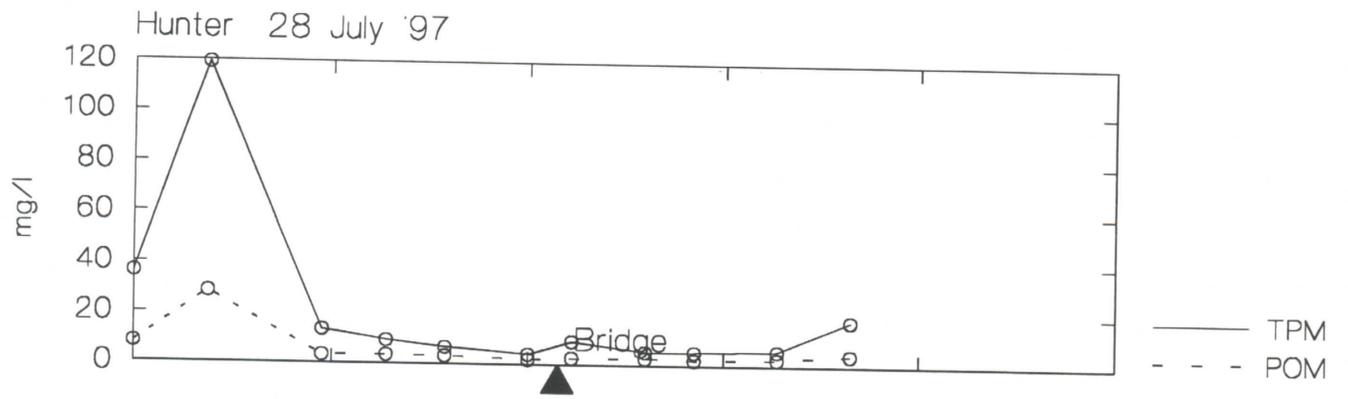


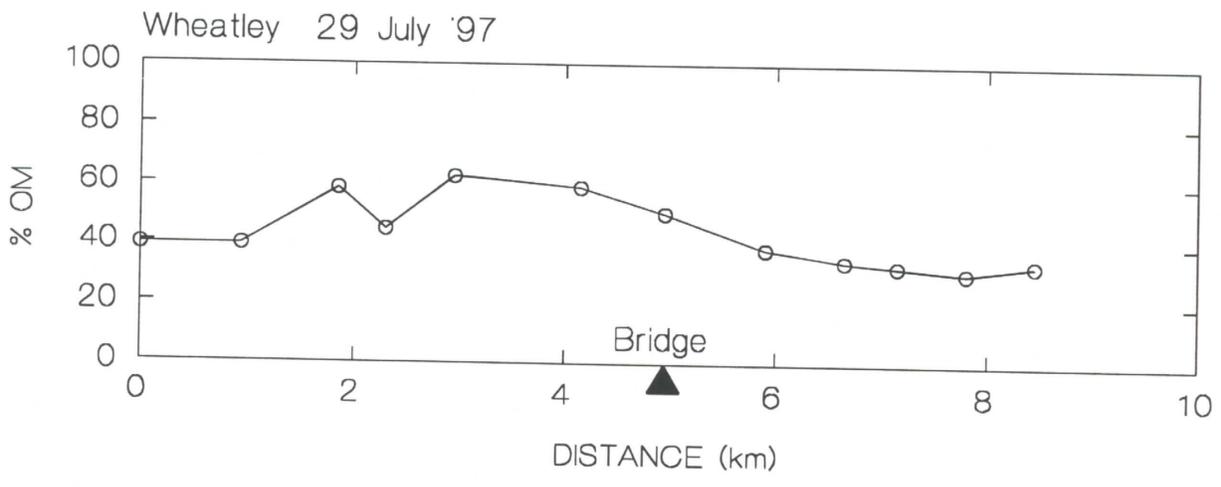
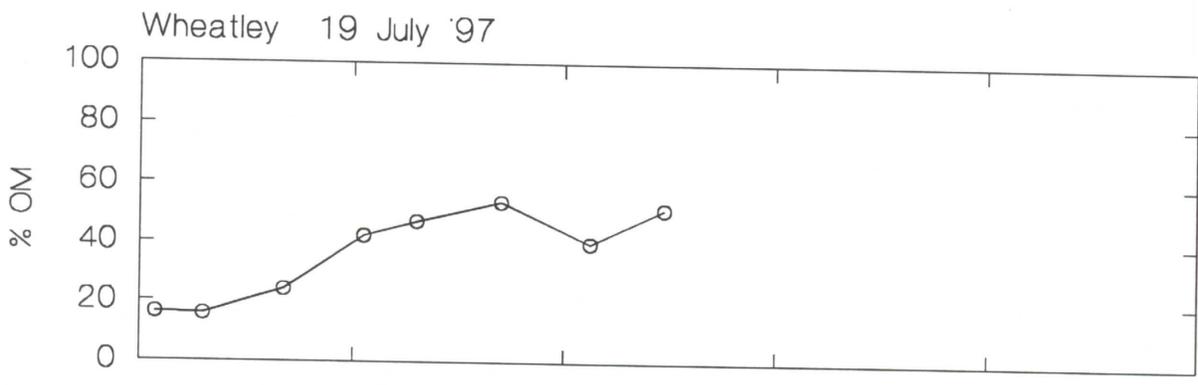
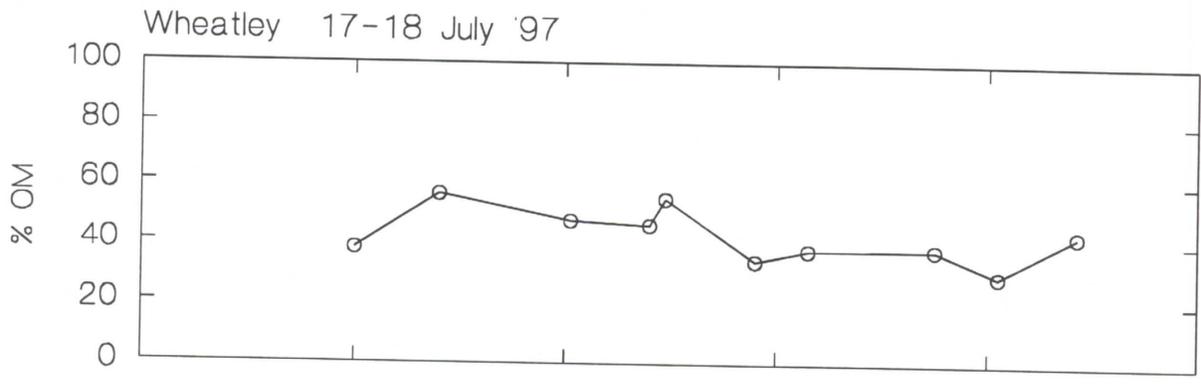
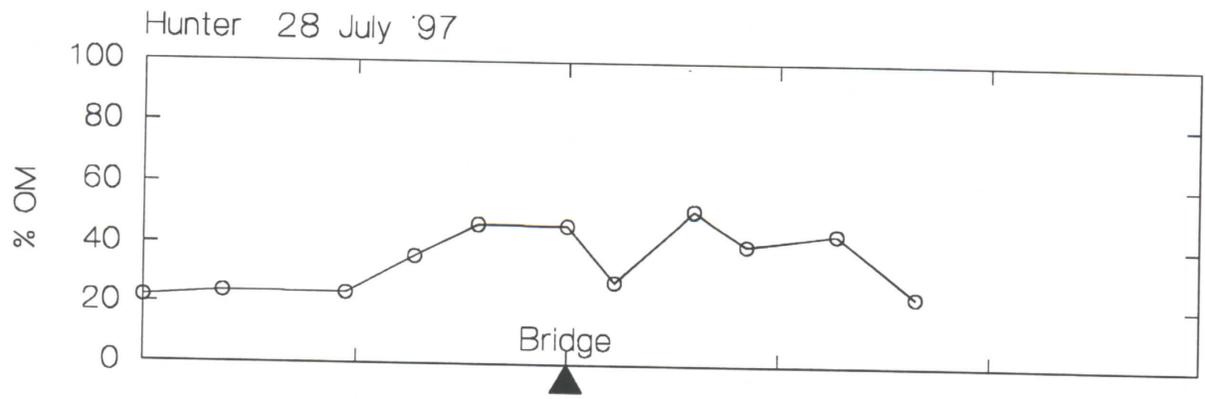












Appendix B

Salinity/Temperature profiles at Sea Carousel stations

	DEPTH	TEMP	SALIN	DENSITY	
CASE	1	0.000	20.679	11.890	9.472
CASE	2	0.100	20.646	24.366	19.531
CASE	3	0.200	20.674	24.347	19.516
CASE	4	0.300	20.686	24.304	19.481
CASE	5	0.400	20.691	24.326	19.499
CASE	6	0.500	20.682	24.336	19.509
CASE	7	0.600	20.692	24.308	19.486
CASE	8	0.700	20.680	24.339	19.511
CASE	9	0.800	20.687	24.333	19.507
CASE	10	0.900	20.680	24.318	19.496
CASE	11	1.000	20.688	24.309	19.489
CASE	12	1.100	20.675	24.313	19.493
CASE	13	1.200	20.671	24.324	19.502
CASE	14	1.300	20.681	24.335	19.511
CASE	15	1.400	20.668	24.334	19.511
CASE	16	1.500	20.664	24.335	19.512
CASE	17	1.600	20.664	24.343	19.520
CASE	18	1.700	20.651	24.332	19.511
CASE	19	1.800	20.651	24.328	19.508
CASE	20	1.900	20.643	24.364	19.538
CASE	21	2.000	20.601	24.376	19.548
CASE	22	2.100	20.609	24.374	19.547
CASE	23	2.200	20.598	24.407	19.574
CASE	24	2.300	20.575	24.399	19.568
CASE	25	2.400	20.569	24.416	19.582
CASE	26	2.500	20.536	24.490	19.642
CASE	27	2.600	20.531	24.504	19.654
CASE	28	2.700	20.518	24.495	19.647
CASE	29	2.800	20.432	24.574	19.711
CASE	30	2.900	20.438	24.588	19.722
CASE	31	3.000	20.446	24.602	19.734
CASE	32	3.100	20.430	24.678	19.796
CASE	33	3.200	20.375	24.687	19.804
CASE	34	3.300	20.388	24.708	19.822
CASE	35	3.400	20.362	24.707	19.821
CASE	36	3.500	20.336	24.754	19.860
CASE	37	3.600	20.305	24.780	19.881
CASE	38	3.700	20.300	24.821	19.915

Station R1
Date 15 July 1997
Time 15:00 ADST

	DEPTH	TEMP	SALIN	DENSITY
CASE 1	0.000	24.648	22.107	17.710
CASE 2	0.100	21.843	15.722	12.563
CASE 3	0.200	21.017	23.591	18.906
CASE 4	0.300	20.411	19.598	15.681
CASE 5	0.400	20.913	24.005	19.241
CASE 6	0.500	20.820	24.575	19.701
CASE 7	0.600	20.965	24.472	19.618
CASE 8	0.700	20.757	25.006	20.048
CASE 9	0.800	20.604	25.377	20.348
CASE 10	0.900	20.634	25.404	20.370
CASE 11	1.000	20.577	25.452	20.410
CASE 12	1.100	20.538	25.538	20.479
CASE 13	1.200	20.535	25.602	20.531
CASE 14	1.300	20.524	25.534	20.477
CASE 15	1.400	20.536	25.577	20.512
CASE 16	1.500	20.531	25.586	20.520
CASE 17	1.600	20.524	25.629	20.555
CASE 18	1.700	20.535	25.608	20.538
CASE 19	1.800	20.553	25.613	20.543
CASE 20	1.900	20.535	25.616	20.546
CASE 21	2.000	20.511	25.583	20.519
CASE 22	2.100	20.531	25.584	20.521
CASE 23	2.200	20.532	25.560	20.502

Station R2
 Date 16 July 1997
 Time 11:48 ADST

	DEPTH	TEMP	SALIN	DENSITY	
CASE	1	0.000	19.752	0.288	0.078
CASE	2	0.100	20.729	25.450	20.404
CASE	3	0.100	20.742	25.498	20.443
CASE	4	0.200	20.745	25.463	20.415
CASE	5	0.300	20.750	25.476	20.427
CASE	6	0.400	20.739	25.492	20.440
CASE	7	0.500	20.737	25.489	20.438
CASE	8	0.600	20.735	25.532	20.473
CASE	9	0.700	20.743	25.502	20.449
CASE	10	0.800	20.729	25.539	20.480
CASE	11	0.900	20.737	25.537	20.479
CASE	12	1.000	20.689	25.625	20.550
CASE	13	1.100	20.733	25.547	20.487
CASE	14	1.200	20.727	25.567	20.504
CASE	15	1.300	20.720	25.590	20.522
CASE	16	1.400	20.683	25.635	20.560
CASE	17	1.500	20.681	25.650	20.572
CASE	18	1.600	20.689	25.641	20.566
CASE	19	1.700	20.678	25.658	20.579
CASE	20	1.800	20.682	25.653	20.576
CASE	21	1.900	20.679	25.665	20.586
CASE	22	2.000	20.670	25.672	20.592
CASE	23	2.100	20.672	25.669	20.591
CASE	24	2.200	20.662	25.670	20.591

Station R3

Date 16 July 1997

Time 17:00 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	24.139	1.094	0.907
CASE	2	0.100	25.576	23.131	18.534
CASE	3	0.200	21.058	25.329	20.306
CASE	4	0.300	20.925	25.398	20.361
CASE	5	0.400	20.856	25.437	20.393
CASE	6	0.500	20.859	25.404	20.368
CASE	7	0.600	20.831	25.399	20.364
CASE	8	0.700	20.834	25.426	20.386
CASE	9	0.800	20.828	25.443	20.400
CASE	10	0.900	20.843	25.452	20.408
CASE	11	1.000	20.813	25.445	20.403
CASE	12	1.100	20.802	25.432	20.393
CASE	13	1.200	20.704	25.468	20.422
CASE	14	1.300	20.744	25.430	20.392
CASE	15	1.400	20.632	25.459	20.416
CASE	16	1.500	20.540	25.495	20.446
CASE	17	1.600	20.468	25.524	20.469
CASE	18	1.700	20.517	25.509	20.458
CASE	19	1.800	20.467	25.505	20.455
CASE	20	1.900	20.473	25.531	20.476
CASE	21	2.000	20.394	25.530	20.476
CASE	22	2.100	20.362	25.555	20.497
CASE	23	2.200	20.311	25.582	20.519
CASE	24	2.300	20.317	25.588	20.525
CASE	25	2.400	20.271	25.597	20.532
CASE	26	2.500	20.161	25.655	20.579
CASE	27	2.600	20.251	25.597	20.533
CASE	28	2.700	20.189	25.637	20.566
CASE	29	2.800	20.191	25.636	20.565

Station R4
 Date 17 July 1997
 Time 11:48 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	28.132	22.618	18.120
CASE	2	0.100	24.907	15.390	12.298
CASE	3	0.200	21.810	19.563	15.653
CASE	4	0.300	21.715	25.153	20.164
CASE	5	0.400	21.685	25.311	20.292
CASE	6	0.500	21.668	25.029	20.065
CASE	7	0.600	21.669	25.069	20.097
CASE	8	0.700	21.662	25.322	20.302
CASE	9	0.800	21.681	25.006	20.048
CASE	10	0.900	21.668	25.049	20.083
CASE	11	1.000	21.649	25.071	20.101
CASE	12	1.100	21.646	25.341	20.319
CASE	13	1.200	21.641	25.099	20.125
CASE	14	1.300	21.629	25.060	20.094
CASE	15	1.400	21.633	25.016	20.059
CASE	16	1.500	21.613	25.338	20.319
CASE	17	1.600	21.583	25.098	20.127
CASE	18	1.700	21.612	25.332	20.315
CASE	19	1.800	21.572	25.064	20.100
CASE	20	1.900	21.554	25.039	20.080
CASE	21	2.000	21.552	24.991	20.042
CASE	22	2.100	21.524	25.112	20.140
CASE	23	2.200	21.520	25.380	20.356
CASE	24	2.300	21.469	25.023	20.069
CASE	25	2.400	21.465	25.166	20.185
CASE	26	2.500	21.519	25.388	20.364
CASE	27	2.600	21.407	25.182	20.198
CASE	28	2.700	21.354	25.059	20.100
CASE	29	2.800	21.270	25.188	20.204
CASE	30	2.900	21.209	25.224	20.234
CASE	31	3.000	21.138	25.280	20.280
CASE	32	3.100	21.056	25.014	20.066
CASE	33	3.200	21.066	25.235	20.244
CASE	34	3.300	21.078	25.156	20.181
CASE	35	3.400	21.181	25.492	20.452
CASE	36	3.500	21.341	23.680	18.993

Station R5
Date 17 July 1997
Time 15:50 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	26.484	0.142	-0.039
CASE	2	0.100	22.525	25.214	20.215
CASE	3	0.200	21.988	25.399	20.365
CASE	4	0.300	21.931	25.384	20.353
CASE	5	0.400	22.020	25.506	20.452
CASE	6	0.500	21.945	25.410	20.375
CASE	7	0.600	21.946	25.405	20.372
CASE	8	0.700	21.942	25.419	20.383
CASE	9	0.800	21.948	25.443	20.403
CASE	10	0.900	21.939	25.411	20.377
CASE	11	1.000	21.942	25.411	20.379
CASE	12	1.100	21.923	25.413	20.381
CASE	13	1.200	21.952	25.409	20.378
CASE	14	1.300	21.928	25.395	20.367
CASE	15	1.400	21.942	25.421	20.388
CASE	16	1.500	21.941	25.414	20.383
CASE	17	1.600	21.941	25.418	20.387
CASE	18	1.700	21.945	25.428	20.395
CASE	19	1.800	21.927	25.417	20.387
CASE	20	1.900	21.895	25.403	20.377
CASE	21	2.000	21.944	25.420	20.390
CASE	22	2.100	21.915	25.403	20.378
CASE	23	2.200	21.906	25.425	20.395
CASE	24	2.300	21.899	25.401	20.377
CASE	25	2.400	21.855	25.425	20.396
CASE	26	2.500	21.876	25.409	20.384
CASE	27	2.600	21.838	25.388	20.368
CASE	28	2.700	21.826	25.400	20.377
CASE	29	2.800	21.811	25.385	20.366
CASE	30	2.900	21.677	25.481	20.444
CASE	31	3.000	21.752	25.422	20.397
CASE	32	3.100	21.760	25.391	20.373
CASE	33	3.200	21.638	25.509	20.468
CASE	34	3.300	21.627	25.505	20.465
CASE	35	3.400	21.495	25.572	20.520
CASE	36	3.500	21.416	25.589	20.534
CASE	37	3.600	21.538	25.510	20.471
CASE	38	3.700	21.601	25.451	20.423

Station R6
Date 18 July 1997
Time 11:34 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	29.422	.	0.067
CASE	2	0.100	23.070	17.896	14.311
CASE	3	0.200	23.009	25.634	20.554
CASE	4	0.300	23.015	25.619	20.543
CASE	5	0.400	22.909	25.648	20.567
CASE	6	0.500	22.802	25.651	20.569
CASE	7	0.600	22.661	25.634	20.556
CASE	8	0.700	22.690	25.593	20.523
CASE	9	0.800	22.541	25.571	20.507
CASE	10	0.900	22.514	25.594	20.525
CASE	11	1.000	22.039	25.698	20.609
CASE	12	1.100	22.334	25.627	20.553
CASE	13	1.200	22.442	25.631	20.557
CASE	14	1.300	22.427	25.592	20.526
CASE	15	1.400	22.098	25.588	20.523
CASE	16	1.500	22.262	25.599	20.532
CASE	17	1.600	22.081	25.595	20.530
CASE	18	1.700	22.220	25.545	20.489
CASE	19	1.800	22.009	25.538	20.484
CASE	20	1.900	21.774	25.575	20.515
CASE	21	2.000	22.445	25.369	20.349
CASE	22	2.100	21.842	25.546	20.492
CASE	23	2.200	21.741	25.574	20.515
CASE	24	2.300	21.630	25.601	20.537
CASE	25	2.400	21.709	25.583	20.523
CASE	26	2.500	21.613	25.600	20.537
CASE	27	2.600	21.458	25.600	20.538
CASE	28	2.700	21.503	25.618	20.554
CASE	29	2.800	21.556	25.606	20.544
CASE	30	2.900	21.363	25.625	20.560
CASE	31	3.000	21.279	25.621	20.557
CASE	32	3.100	21.385	25.625	20.561
CASE	33	3.200	21.231	25.635	20.570
CASE	34	3.300	21.197	25.594	20.537
CASE	35	3.400	20.952	25.665	20.595
CASE	36	3.500	21.183	25.568	20.517
CASE	37	3.600	21.033	25.626	20.564
CASE	38	3.700	20.908	25.648	20.583
CASE	39	3.800	20.946	25.623	20.563
CASE	40	3.900	20.923	25.643	20.579
CASE	41	4.000	20.866	25.652	20.587
CASE	42	4.100	20.907	25.628	20.569
CASE	43	4.200	20.769	25.659	20.594
CASE	44	4.300	20.824	25.634	20.574
CASE	45	4.400	20.802	25.648	20.586
CASE	46	4.500	20.769	25.643	20.582
CASE	47	4.600	20.737	25.647	20.586
CASE	48	4.700	20.710	25.662	20.598
CASE	49	4.800	20.699	25.661	20.598
CASE	50	4.900	20.690	25.660	20.598
CASE	51	5.000	20.692	25.660	20.598
CASE	52	5.200	20.685	25.660	20.600

Station R7
Date 18 July 1997
Time 14:45 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	20.087	25.408	20.371
CASE	2	0.100	19.588	25.444	20.400
CASE	3	0.200	20.093	25.397	20.363
CASE	4	0.300	20.088	25.399	20.365
CASE	5	0.400	20.071	25.412	20.376
CASE	6	0.500	20.076	25.403	20.369
CASE	7	0.600	20.112	25.392	20.360
CASE	8	0.700	20.116	25.380	20.351
CASE	9	0.800	20.091	25.395	20.364
CASE	10	0.900	20.107	25.391	20.361
CASE	11	1.000	20.080	25.395	20.365
CASE	12	1.100	20.070	25.400	20.370
CASE	13	1.200	20.076	25.395	20.366
CASE	14	1.300	20.077	25.417	20.384
CASE	15	1.400	20.053	25.405	20.375
CASE	16	1.500	20.041	25.400	20.372
CASE	17	1.600	20.055	25.406	20.376
CASE	18	1.700	20.054	25.403	20.375
CASE	19	1.800	20.056	25.407	20.379
CASE	20	1.900	20.025	25.381	20.358
CASE	21	2.000	20.075	25.407	20.379
CASE	22	2.100	20.062	25.405	20.379
CASE	23	2.200	20.086	25.399	20.374
CASE	24	2.300	20.056	25.419	20.390
CASE	25	2.400	20.070	25.402	20.377
CASE	26	2.500	20.069	25.408	20.382
CASE	27	2.600	20.074	25.392	20.370
CASE	28	2.700	20.062	25.409	20.384
CASE	29	2.800	20.090	25.405	20.382
CASE	30	2.900	20.042	25.417	20.392
CASE	31	3.000	20.102	25.401	20.379
CASE	32	3.100	20.108	25.395	20.375
CASE	33	3.200	20.057	25.397	20.377
CASE	34	3.300	20.139	25.397	20.378
CASE	35	3.400	20.134	25.400	20.381
CASE	36	3.500	20.121	25.409	20.389
CASE	37	3.600	20.157	25.386	20.371
CASE	38	3.700	20.132	25.390	20.374
CASE	39	3.800	20.132	25.384	20.370
CASE	40	3.900	20.116	25.377	20.365
CASE	41	4.000	20.125	25.382	20.368
CASE	42	4.100	20.152	25.358	20.350

Station R9
Date 20 July 1997
Time 10:00 ADST

	DEPTH	TEMP	SALIN	DENSITY
CASE 1	0.000	19.502	15.699	12.547
CASE 2	0.100	20.533	24.415	19.570
CASE 3	0.200	20.536	23.927	19.178
CASE 4	0.300	20.637	24.223	19.417
CASE 5	0.400	20.988	23.413	18.765
CASE 6	0.500	20.631	24.246	19.436
CASE 7	0.600	20.871	23.687	18.987
CASE 8	0.700	20.698	24.129	19.343
CASE 9	0.800	20.762	23.934	19.186
CASE 10	0.900	20.699	24.122	19.338
CASE 11	1.000	20.777	23.944	19.195
CASE 12	1.100	20.698	24.152	19.364
CASE 13	1.200	20.690	24.063	19.292
CASE 14	1.300	20.800	23.937	19.191
CASE 15	1.400	20.888	23.799	19.081
CASE 16	1.500	20.492	24.579	19.710
CASE 17	1.600	20.963	23.594	18.917
CASE 18	1.700	20.609	24.393	19.561
CASE 19	1.800	20.848	23.876	19.145
CASE 20	1.900	20.759	24.100	19.326
CASE 21	2.000	20.152	25.407	20.379
CASE 22	2.100	20.766	24.149	19.366
CASE 23	2.200	20.842	24.023	19.265
CASE 24	2.300	20.678	24.400	19.569
CASE 25	2.400	20.733	24.270	19.465
CASE 26	2.500	20.856	24.126	19.349
CASE 27	2.600	20.747	24.295	19.486
CASE 28	2.700	20.670	24.493	19.646
CASE 29	2.800	20.640	24.510	19.661
CASE 30	2.900	20.946	24.082	19.315
CASE 31	3.000	20.571	24.624	19.753
CASE 32	3.100	20.673	24.596	19.731
CASE 33	3.200	20.499	24.864	19.948
CASE 34	3.300	20.109	25.408	20.387
CASE 35	3.400	20.170	25.401	20.381
CASE 36	3.500	20.172	25.407	20.386
CASE 37	3.600	20.184	25.416	20.394
CASE 38	3.700	20.169	25.398	20.380
CASE 39	3.800	20.178	25.403	20.384
CASE 40	3.900	20.163	25.390	20.375
CASE 41	4.000	20.148	25.396	20.380
CASE 42	4.100	20.146	25.391	20.376
CASE 43	4.200	20.152	25.358	20.350

Station R10
Date 21 July 1997
Time 14:13 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	20.190	1.373	0.966
CASE	2	0.100	20.737	24.883	19.947
CASE	3	0.200	20.693	24.868	19.936
CASE	4	0.300	20.711	24.843	19.916
CASE	5	0.400	20.712	24.836	19.911
CASE	6	0.500	20.727	24.848	19.921
CASE	7	0.600	20.702	24.829	19.906
CASE	8	0.700	20.702	24.857	19.929
CASE	9	0.800	20.700	24.846	19.921
CASE	10	0.900	20.707	24.841	19.917
CASE	11	1.000	20.691	24.863	19.936
CASE	12	1.100	20.722	24.828	19.908
CASE	13	1.200	20.643	24.886	19.955
CASE	14	1.300	20.614	24.885	19.955
CASE	15	1.400	20.640	24.893	19.962
CASE	16	1.500	20.636	24.879	19.951
CASE	17	1.600	20.685	24.810	19.896
CASE	18	1.700	20.615	24.902	19.970
CASE	19	1.800	20.611	24.877	19.951
CASE	20	1.900	20.602	24.893	19.964
CASE	21	2.000	20.582	24.917	19.985
CASE	22	2.100	20.640	24.870	19.947
CASE	23	2.200	20.549	24.925	19.992
CASE	24	2.300	20.487	24.975	20.033
CASE	25	2.400	20.421	24.974	20.032
CASE	26	2.500	20.424	24.991	20.046
CASE	27	2.600	20.415	24.997	20.052
CASE	28	2.700	20.437	24.985	20.042
CASE	29	2.800	20.326	25.055	20.099
CASE	30	2.900	20.295	25.056	20.101
CASE	31	3.000	20.360	25.037	20.085
CASE	32	3.100	20.331	25.035	20.084
CASE	33	3.200	20.115	25.153	20.180
CASE	34	3.300	20.178	25.122	20.156
CASE	35	3.400	20.050	25.202	20.221
CASE	36	3.500	20.140	25.124	20.159
CASE	37	3.600	20.089	25.175	20.200
CASE	38	3.700	19.969	25.220	20.237
CASE	39	3.800	20.009	25.220	20.237
CASE	40	3.900	19.979	25.161	20.189
CASE	41	4.000	19.963	22.294	17.881
CASE	42	.	19.567	.	.

Station R11
Date 21 July 1997
Time 10:07 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	20.863	22.902	18.351
CASE	2	0.100	20.837	22.908	18.357
CASE	3	0.200	20.830	22.911	18.360
CASE	4	0.300	20.830	22.889	18.343
CASE	5	0.400	20.824	22.891	18.345
CASE	6	0.500	20.813	22.935	18.380
CASE	7	0.600	20.801	22.942	18.387
CASE	8	0.700	20.790	22.937	18.384
CASE	9	0.800	20.803	22.979	18.418
CASE	10	0.900	20.772	22.959	18.402
CASE	11	1.000	20.771	23.018	18.450
CASE	12	1.100	20.760	23.033	18.462
CASE	13	1.200	20.768	23.036	18.466
CASE	14	1.300	20.770	23.013	18.447
CASE	15	1.400	20.759	23.027	18.459
CASE	16	1.500	20.758	23.013	18.449
CASE	17	1.600	20.738	23.074	18.498
CASE	18	1.700	20.711	23.087	18.509
CASE	19	1.800	20.718	23.092	18.514
CASE	20	1.900	20.686	23.153	18.563
CASE	21	2.000	20.668	23.183	18.588
CASE	22	2.100	20.698	23.145	18.558
CASE	23	2.200	20.593	23.330	18.707
CASE	24	2.300	20.243	23.847	19.124
CASE	25	2.400	20.598	23.391	18.757
CASE	26	2.500	20.428	23.653	18.969
CASE	27	2.600	20.574	23.883	19.155

Station R12
 Date 21 July 1997
 Time 13:37 ADST

		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	19.779	3.232	2.482
CASE	2	0.100	20.255	23.009	18.441
CASE	3	0.200	20.200	23.365	18.728
CASE	4	0.300	20.260	23.335	18.704
CASE	5	0.400	20.280	23.325	18.697
CASE	6	0.500	20.280	23.346	18.714
CASE	7	0.600	20.279	23.330	18.702
CASE	8	0.700	20.281	23.331	18.703
CASE	9	0.800	20.285	23.321	18.696
CASE	10	0.900	20.274	23.337	18.708
CASE	11	1.000	20.284	23.345	18.716
CASE	12	1.100	20.277	23.404	18.764
CASE	13	1.200	20.271	23.425	18.782
CASE	14	1.300	20.250	23.824	19.102
CASE	15	1.400	20.197	24.146	19.363
CASE	16	1.500	20.194	24.003	19.248
CASE	17	1.600	20.158	24.235	19.436
CASE	18	1.700	20.140	24.278	19.471
CASE	19	1.800	20.118	24.342	19.522
CASE	20	1.900	20.079	24.355	19.534
CASE	21	2.000	20.056	24.367	19.544
CASE	22	2.100	20.062	24.362	19.540
CASE	23	2.200	20.077	24.365	19.544
CASE	24	2.300	20.070	24.360	19.540
CASE	25	2.400	20.069	24.361	19.540
CASE	26	2.500	20.058	24.380	19.556
CASE	27	2.600	20.035	24.400	19.573
CASE	28	2.700	20.001	24.436	19.603
CASE	29	2.800	20.038	24.440	19.607
CASE	30	.	22.791	.	1.983

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		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	17.100	9.465	7.526
CASE	2	0.100	20.714	21.098	16.902
CASE	3	0.200	20.815	21.145	16.940
CASE	4	0.300	20.464	21.699	17.387
CASE	5	0.400	20.187	22.036	17.658
CASE	6	0.500	20.159	22.069	17.685
CASE	7	0.600	19.977	22.218	17.806
CASE	8	0.700	19.903	22.343	17.907
CASE	9	0.800	19.759	22.549	18.074
CASE	10	0.900	19.754	22.493	18.029
CASE	11	1.000	19.750	22.535	18.064
CASE	12	1.100	19.714	22.553	18.078
CASE	13	1.200	19.658	22.616	18.129
CASE	14	1.300	19.637	22.717	18.211
CASE	15	1.400	19.611	22.728	18.221
CASE	16	1.500	19.618	22.705	18.203
CASE	17	1.600	19.611	22.792	18.274
CASE	18	1.700	19.606	22.933	18.387
CASE	19	1.800	19.590	22.829	18.304
CASE	20	1.900	19.583	22.851	18.323
CASE	21	2.000	19.571	22.871	18.339
CASE	22	2.100	19.570	22.952	18.405
CASE	23	2.200	19.569	22.917	18.377

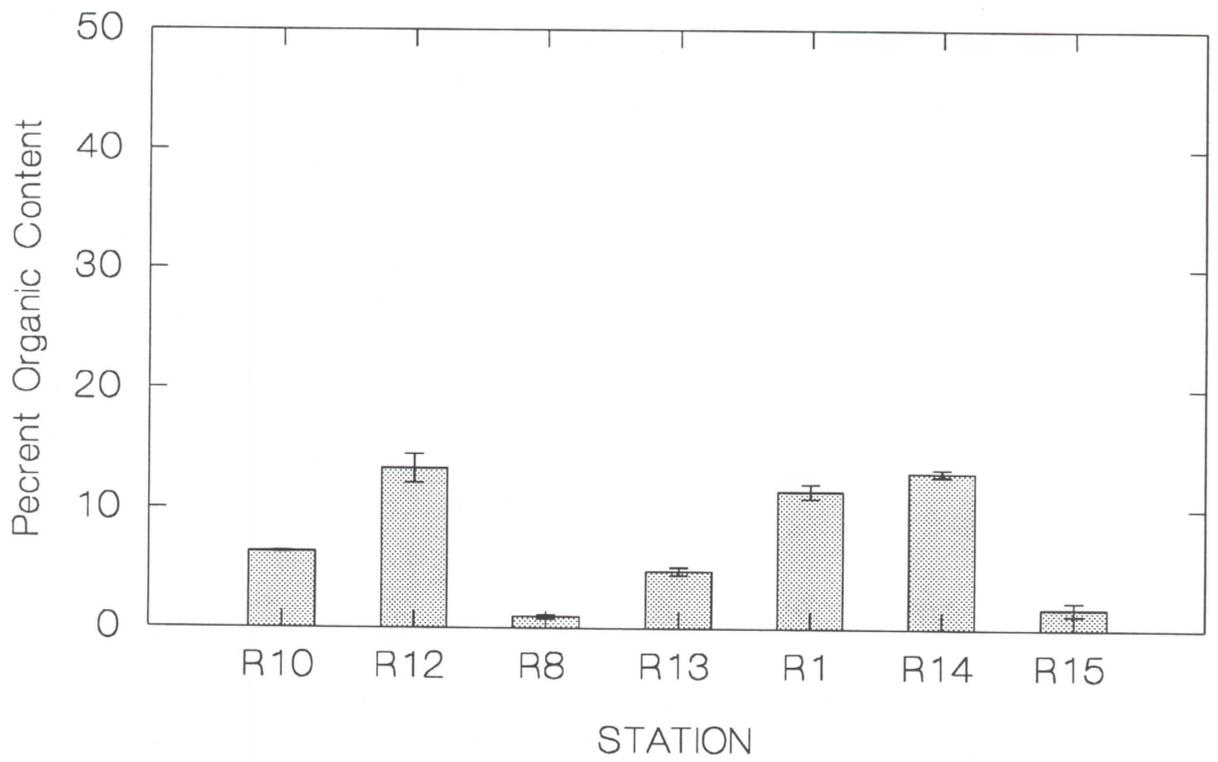
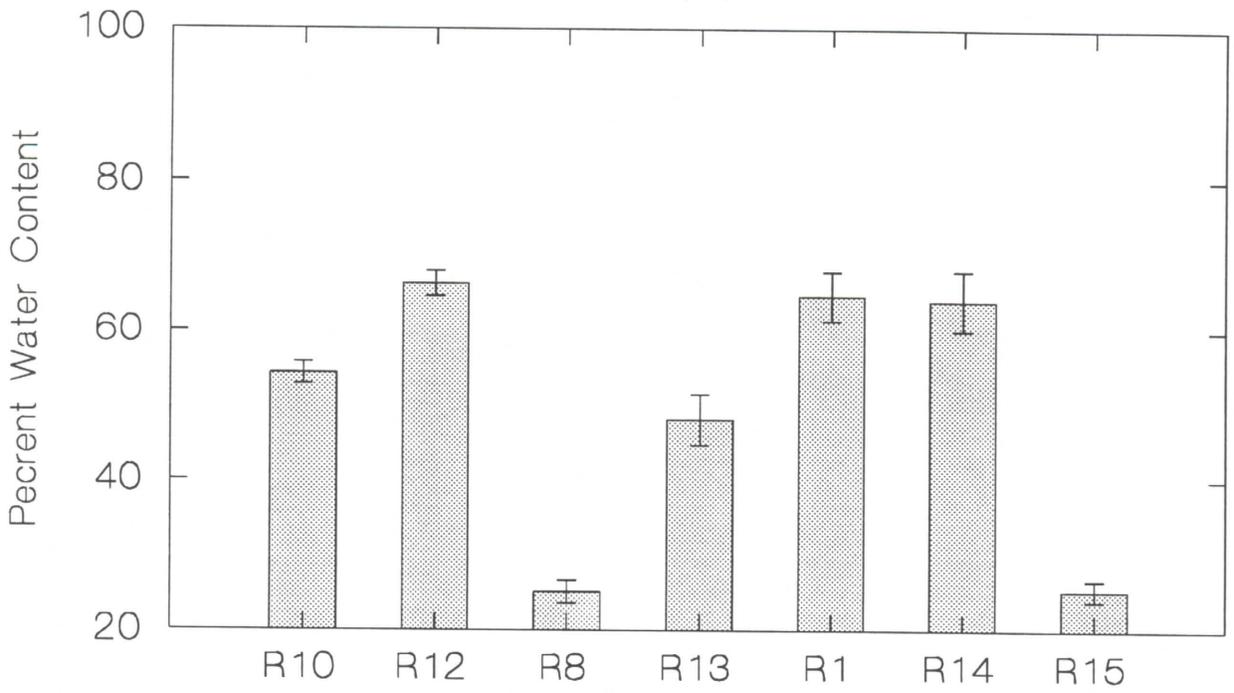
Station R14
Date 22 July 1997
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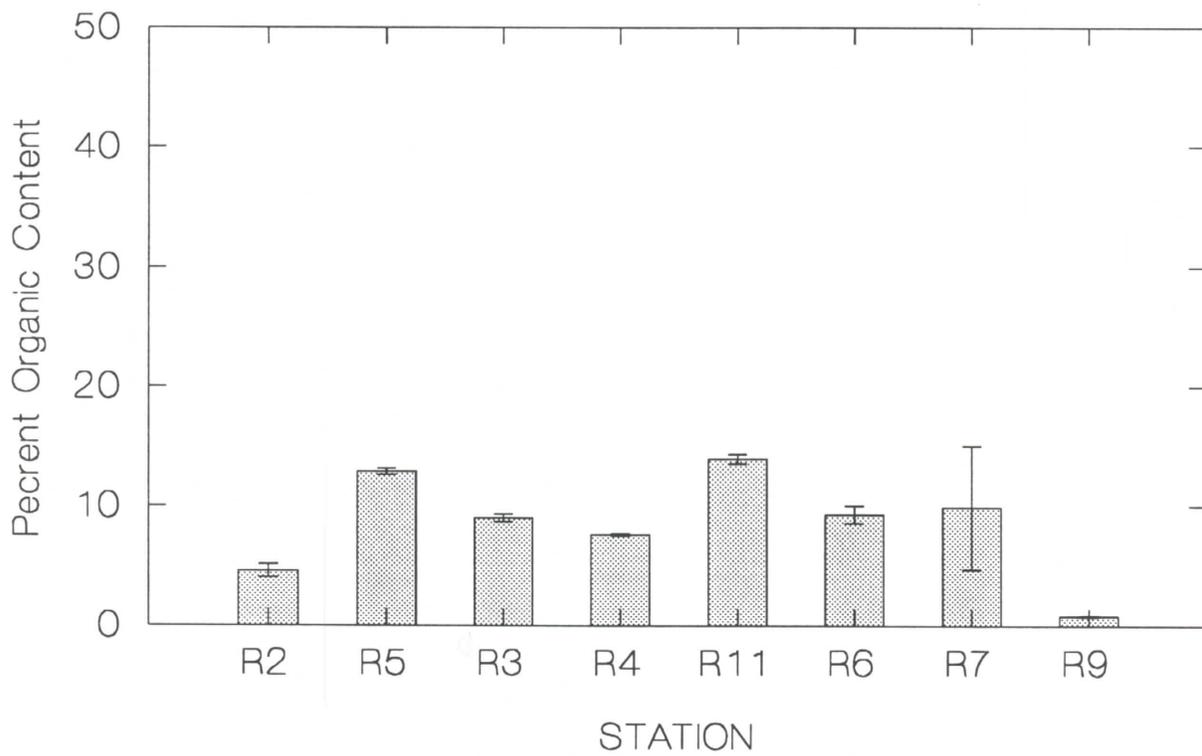
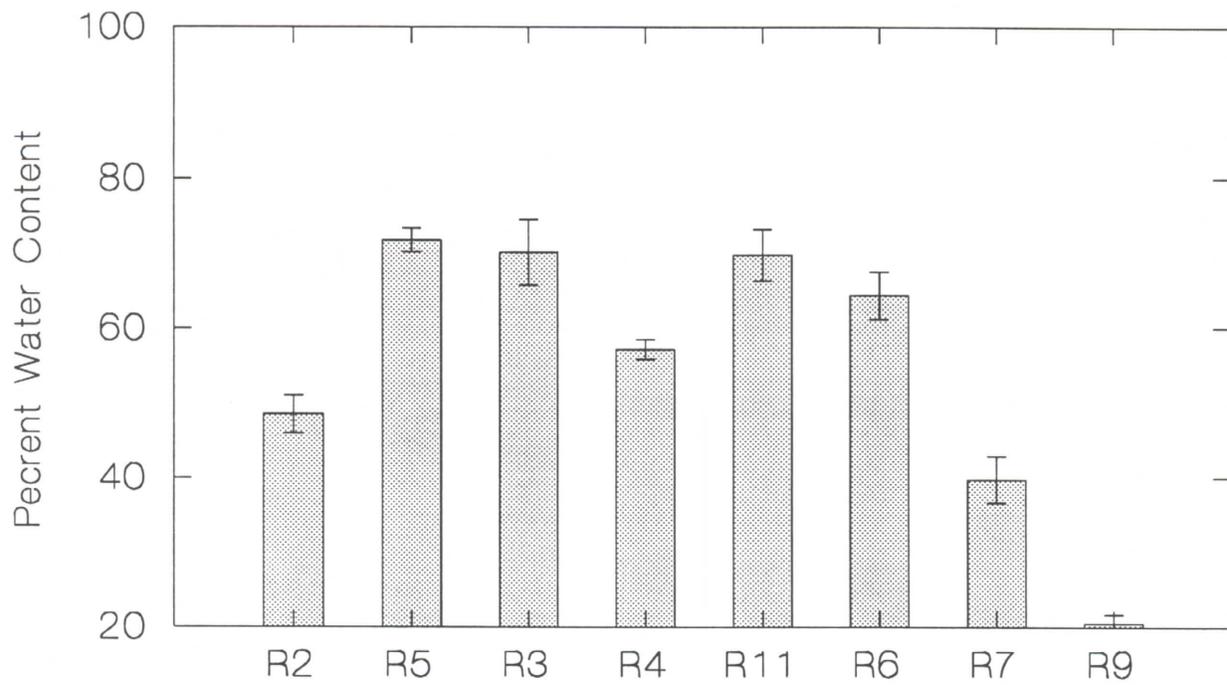
		DEPTH	TEMP	SALIN	DENSITY
CASE	1	0.000	19.586	25.622	20.543
CASE	2	0.100	19.593	25.618	20.540
CASE	3	0.200	19.599	25.620	20.542
CASE	4	0.400	19.596	25.622	20.544
CASE	5	0.500	19.595	25.622	20.545
CASE	6	0.600	19.594	25.625	20.548
CASE	7	0.700	19.595	25.628	20.550
CASE	8	0.800	19.595	25.627	20.551
CASE	9	1.000	19.595	25.627	20.552
CASE	10	1.200	19.595	25.627	20.553
CASE	11	1.300	19.598	25.634	20.558
CASE	12	1.400	19.603	25.631	20.557
CASE	13	1.600	19.603	25.634	20.559
CASE	14	1.700	19.604	25.633	20.560
CASE	15	1.800	19.603	25.636	20.563
CASE	16	2.000	19.605	25.638	20.565
CASE	17	2.100	19.605	25.638	20.566
CASE	18	2.200	19.605	25.641	20.569
CASE	19	2.300	19.608	25.641	20.569
CASE	20	2.400	19.610	25.643	20.571
CASE	21	2.500	19.609	25.641	20.570
CASE	22	2.600	19.610	25.640	20.570
CASE	23	2.700	19.614	25.642	20.572
CASE	24	2.800	19.614	25.643	20.573

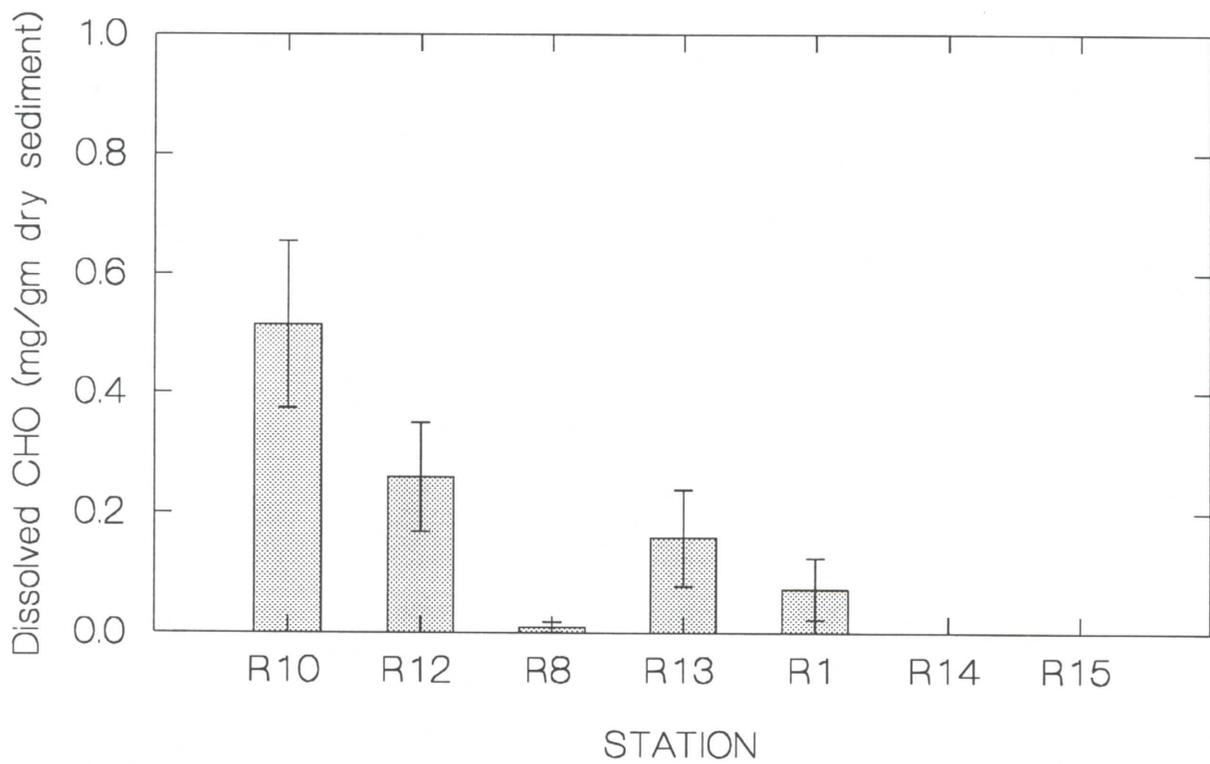
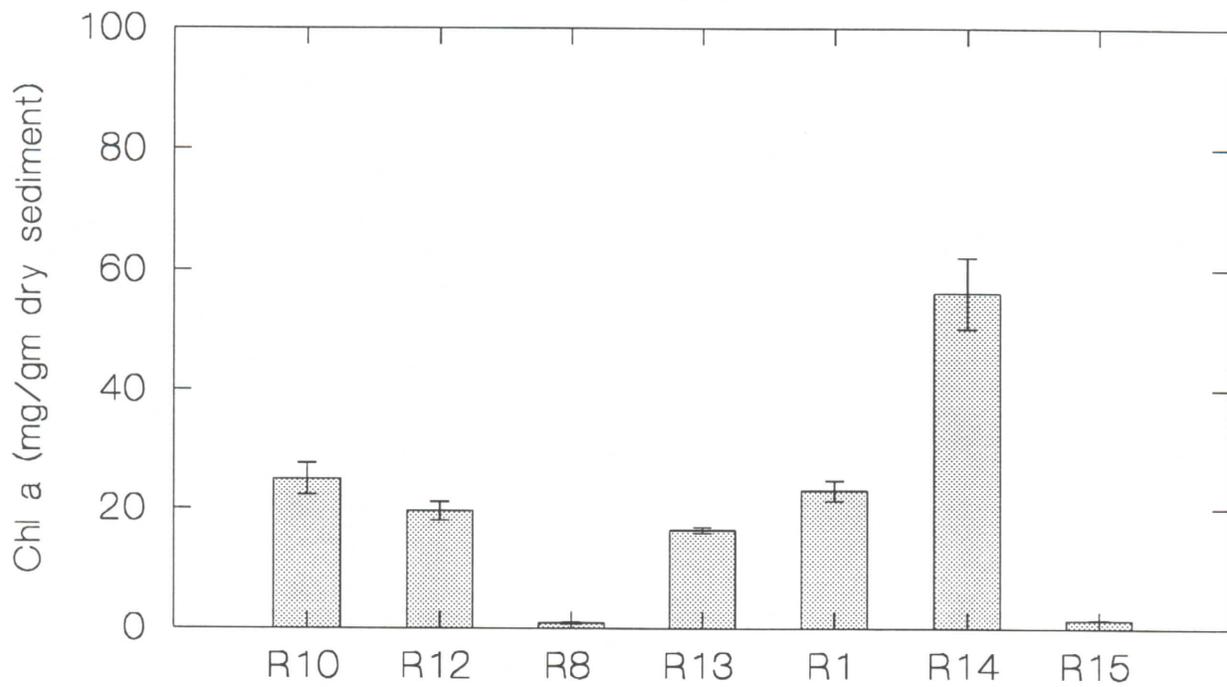
Station R15
Date 22 July 1997
Time 10:45 ADST

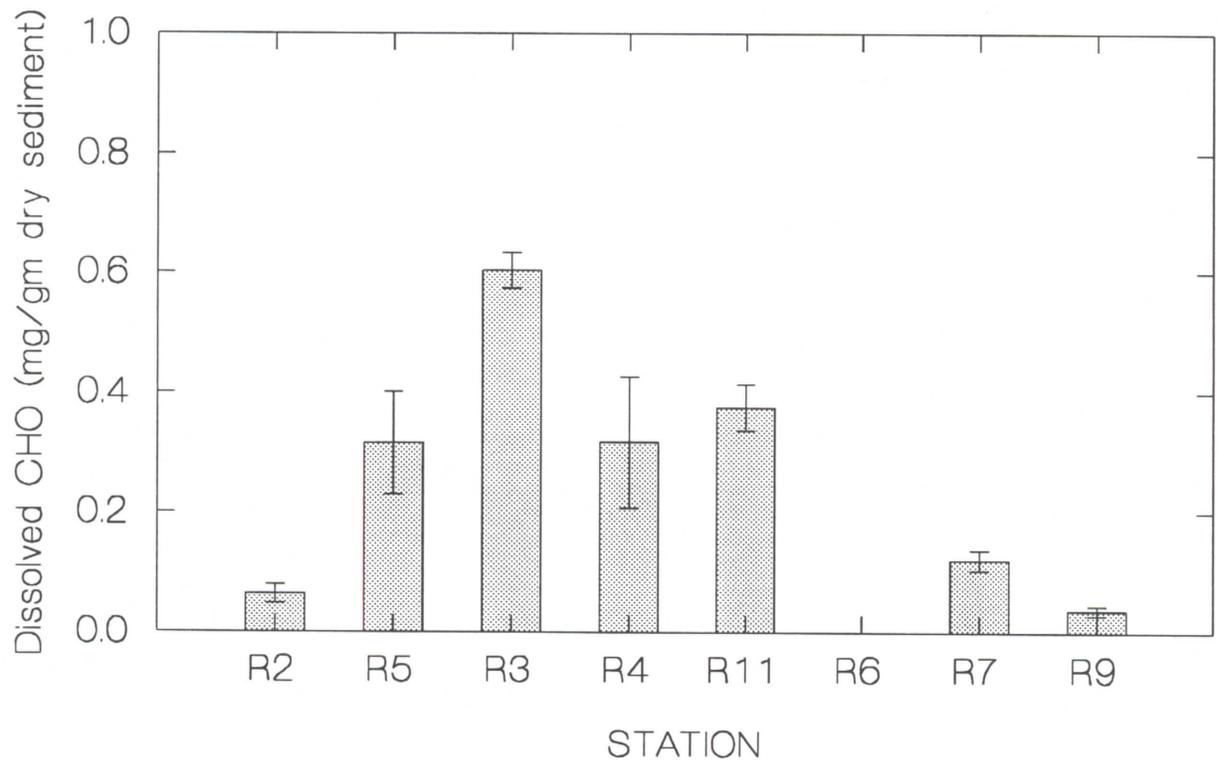
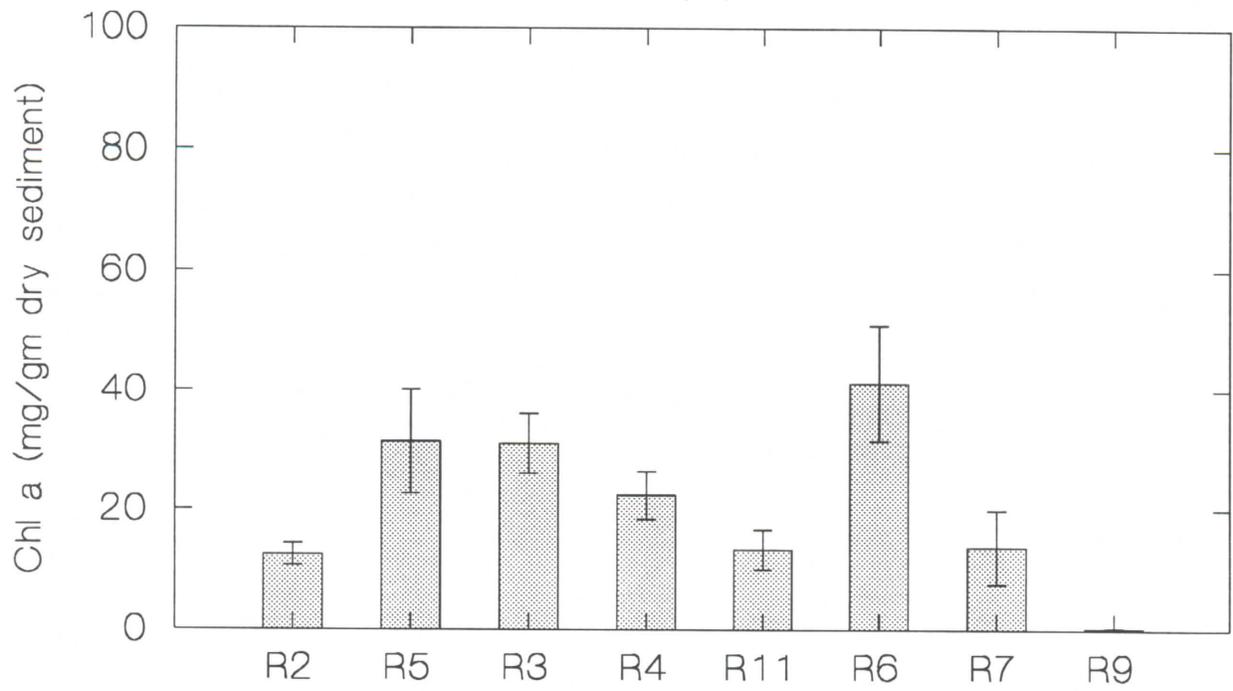
Appendix C

Sediment characteristics at each Sea Carousel station (stations are ordered in increasing distance from the river bridges)









Appendix D

Nutrient concentrations of sea water within the Sea Carousel

