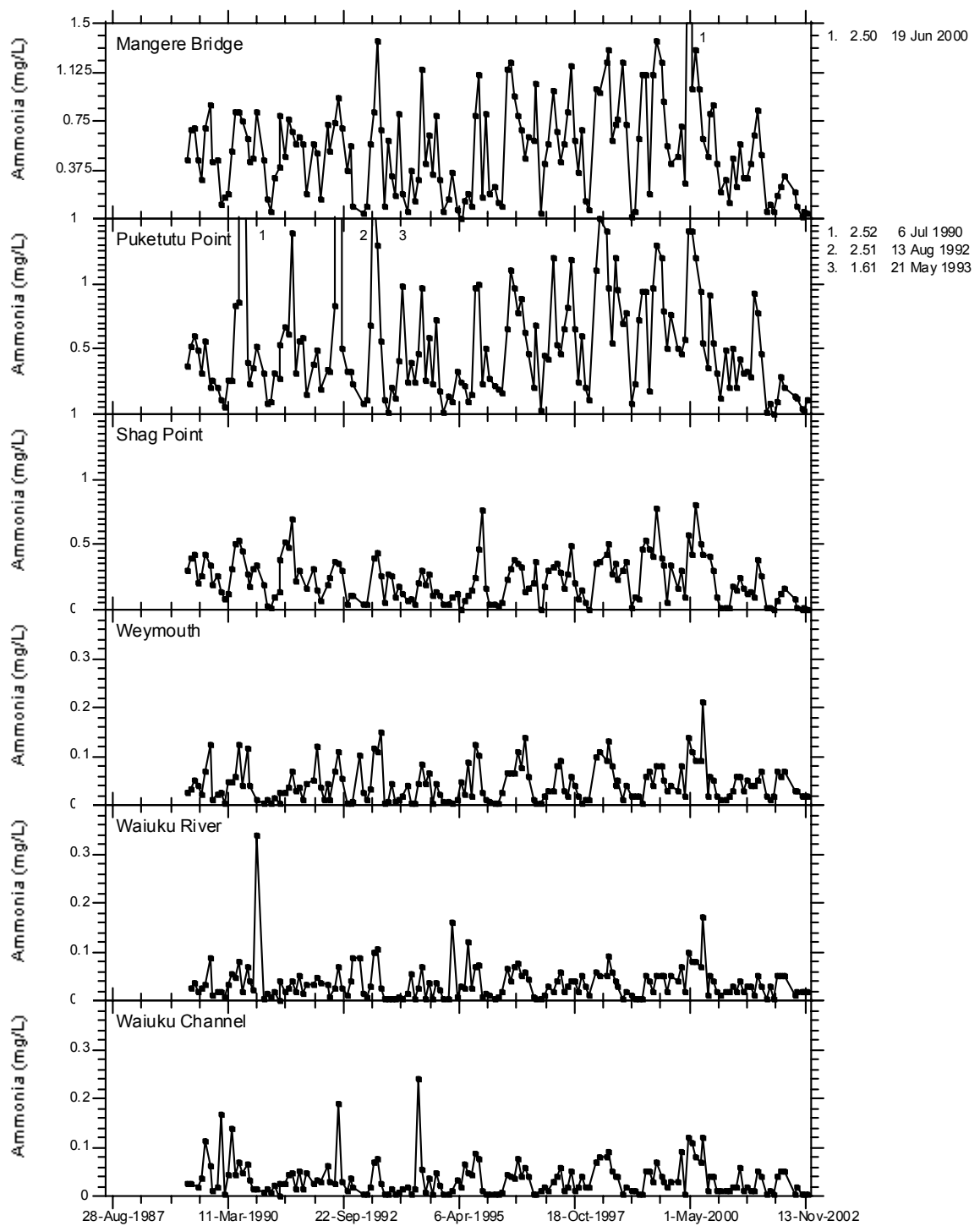
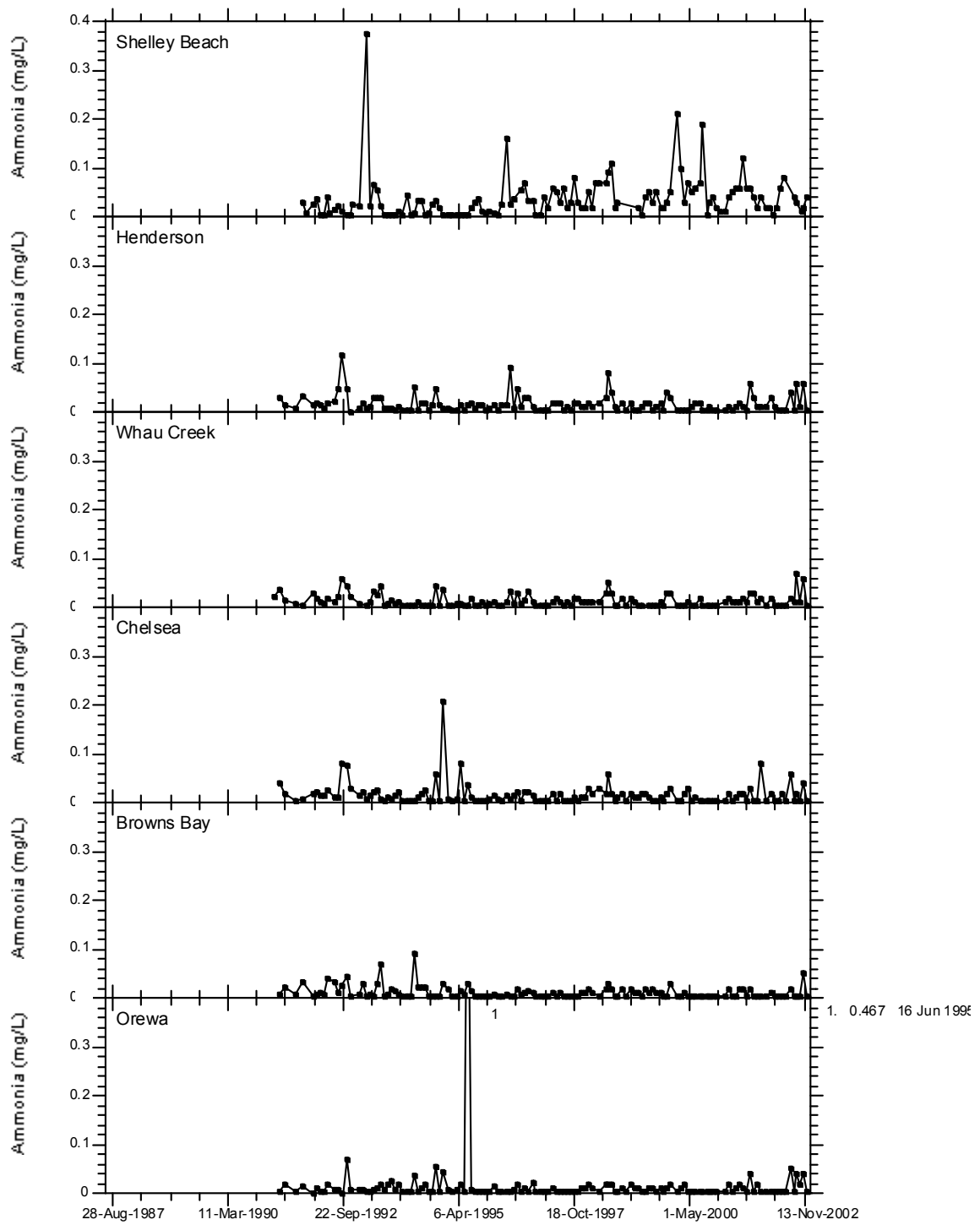
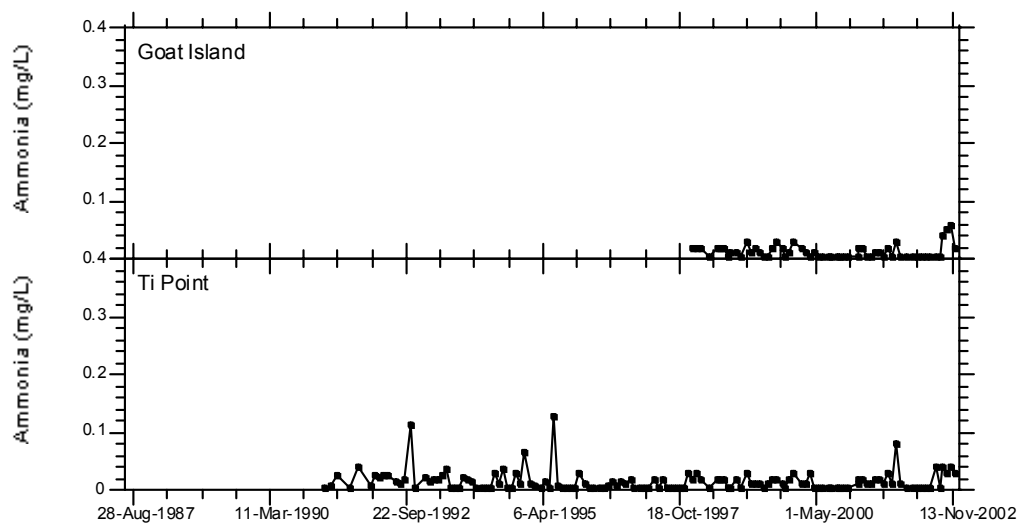








APPENDIX 33: SALINE – NITRITE NITROGEN

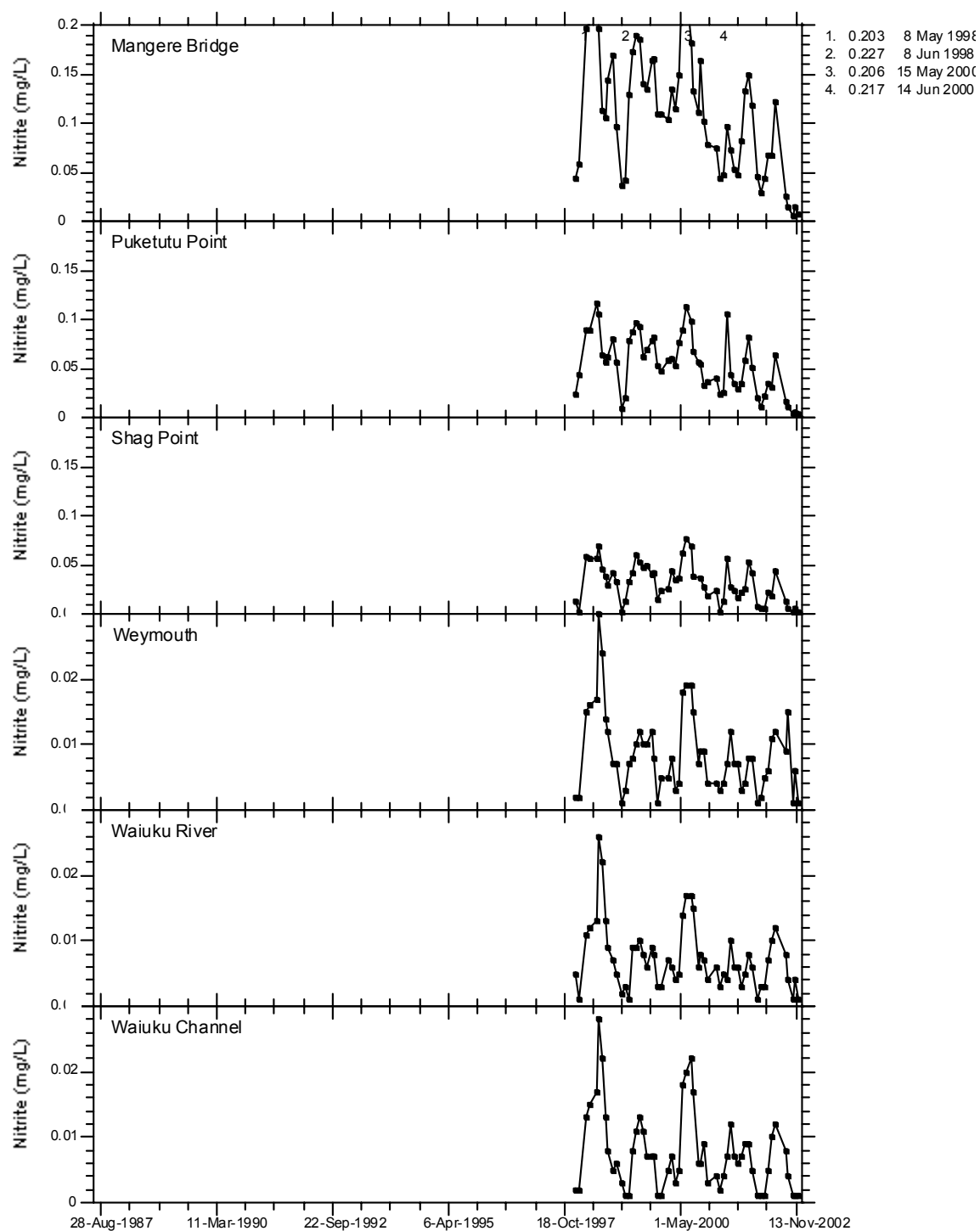
(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

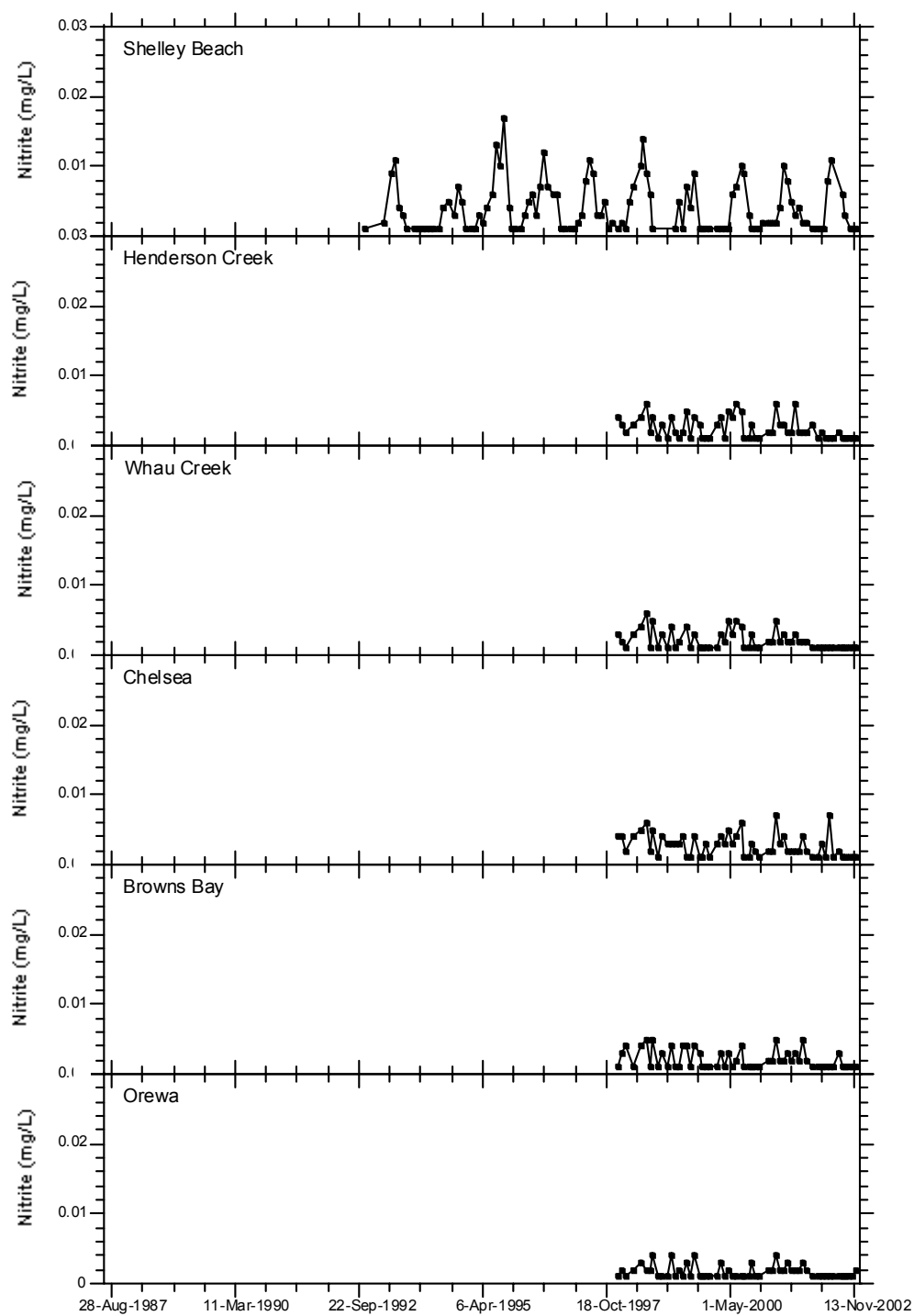
a) Nitrite nitrogen (mg/L) during January 2002 - December 2002

Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	0.001	0.001	0.001	0.003	0.045	0.001	0.020	0.007	0.001	0.001	0.001	0.001	0.001	0.001
14-Feb-02	0.001	0.001	0.001	0.001	0.029	0.001	0.011	0.005	0.001	0.001	0.001	0.003	0.002	0.001
18-Mar-02	0.001	0.003	0.001	0.002	0.043	0.001	0.021	0.005	0.001	0.001	0.001	0.003	0.005	0.001
15-Apr-02	0.001	0.001	0.001	0.001	0.067	0.001	0.035	0.022	0.001	0.001	0.005	0.007	0.006	0.001
14-May-02	0.001	0.007	0.003	0.001	0.067	0.001	0.031	0.019	0.008	0.001	0.010	0.010	0.011	0.001
14-Jun-02	0.001	0.001	0.005	0.001	0.121	0.001	0.064	0.043	0.011	0.003	0.012	0.012	0.012	0.001
25-Jul-02	0.003	0.002	0.006	0.002		0.001				0.006				0.001
27-Aug-21	0.001	0.001	0.003	0.001	0.026	0.001	0.016	0.012	0.006	0.007	0.008	0.008	0.009	0.001
9-Sep-02	0.001	0.001	0.004	0.001	0.015	0.001	0.011	0.006	0.003	0.001	0.004	0.004	0.015	0.001
7-Oct-02	0.001	0.001	0.002	0.001	0.005	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5-Nov-02	0.001	0.001	0.001	0.001	0.015	0.001	0.006	0.005	0.001	0.001	0.001	0.004	0.006	0.001
4-Dec-02	0.001	0.001	0.001	0.001	0.007	0.002	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Median	0.001	0.001	0.002	0.001	0.029	0.001	0.016	0.006	0.001	0.001	0.001	0.004	0.006	0.001
IQR/Median %	0	25	150	25	141	0	109	175	350	50	550	138	142	0

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show nitrite nitrogen measurements from January 1992 to December 2002 (where data available).





APPENDIX 34: SALINE – NITRATE NITROGEN

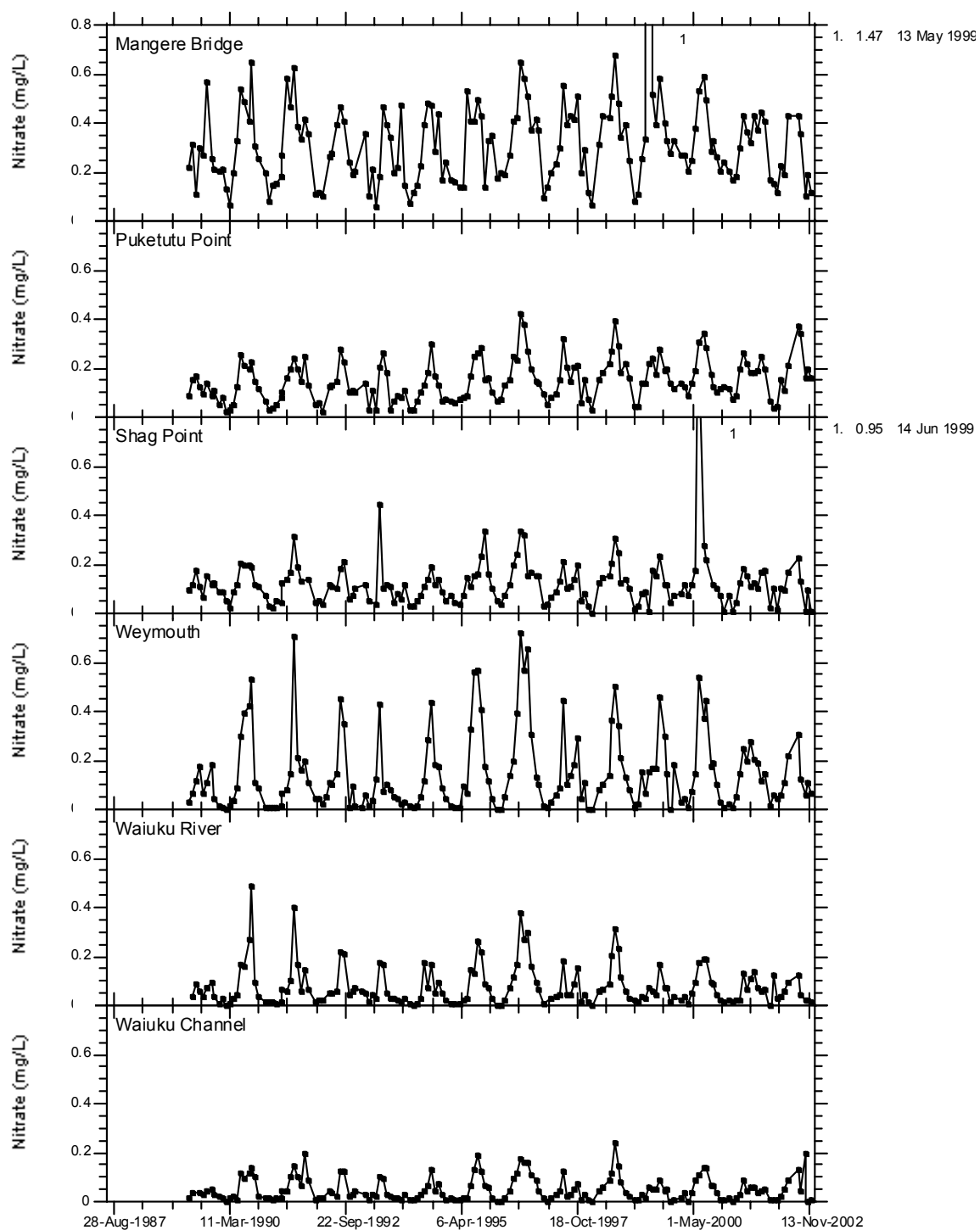
(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

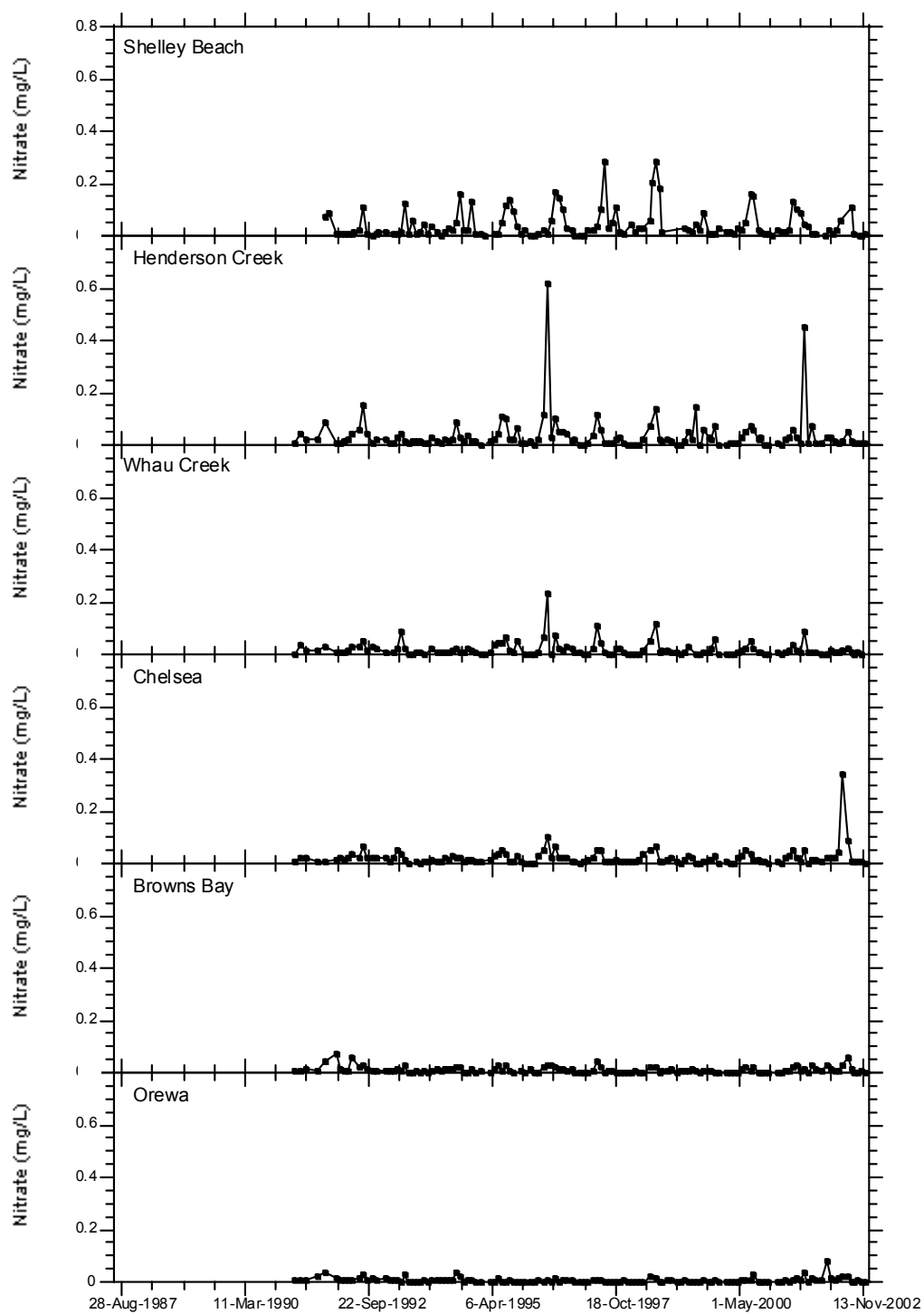
a) Nitrate nitrogen (mg/L) during January 2002 - December 2002

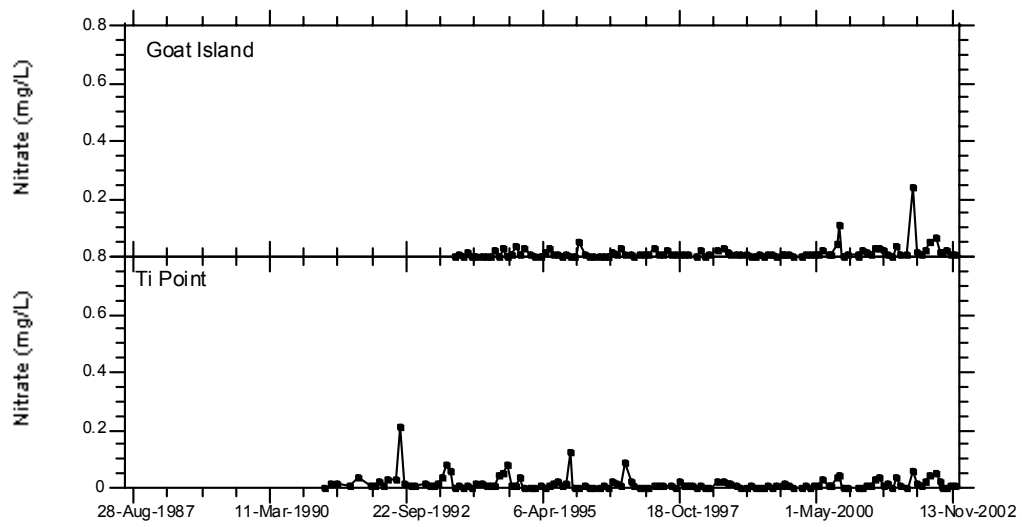
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	0.010	0.004	0.006	0.009	0.171	0.005	0.065	0.025		0.003	0.004	0.003	0.014	0.001
14-Feb-02	0.029	0.023	0.237	0.026	0.153	0.082	0.035	0.099	0.003	0.057	0.004	0.124	0.06	0.000
18-Mar-02	0.015	0.020	0.013	0.027	0.114	0.016	0.043	0.013	0.024	0.017	0.011	0.028	0.044	0.012
15-Apr-02	0.004	0.019	0.011	0.012	0.228	0.006	0.152	0.099	0.008	0.004	0.025	0.034	0.062	0.008
14-May-02	0.008	0.046	0.021	0.010	0.190	0.015	0.112	0.098	0.020	0.023	0.049	0.058	0.108	0.010
14-Jun-02	0.029	0.340	0.051	0.018	0.426	0.019	0.211	0.167	0.056	0.046	0.085	0.093	0.215	0.014
25-Jul-02	0.056	0.085	0.064	0.053		0.025				0.053				0.020
27-Aug-21	0.014	0.008	0.012	0.018	0.426	0.003	0.371	0.225	0.106	0.019	0.13	0.126	0.305	0.007
9-Sep-02	0.001	0.009	0.016	0.006	0.355	0.000	0.342	0.128	0.008	0.002	0.046	0.047	0.126	0.002
7-Oct-02	0.001	0.009	0.019	0.006	0.105	0.007	0.163	0.007	0.001	0.002	0.198	0.025	0.055	0.006
5-Nov-02	0.004	0.005	0.011	0.005	0.186	0.003	0.199	0.095	0.001	0.004	0.003	0.023	0.111	0.002
4-Dec-02	0.002	0.000	0.009	0.004	0.115	0.002	0.157	0.010	0.006	0.004	0.005	0.016	0.065	
Median	0.009	0.014	0.015	0.011	0.186	0.007	0.157	0.098	0.008	0.011	0.025	0.034	0.065	0.007
IQR/Median %	167	154	121	127	85	212	74	96	241	238	250	151	94	129

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show nitrate nitrogen measurements from January 1992 to December 2002 (where data available).







APPENDIX 35: SALINE – DISSOLVED REACTIVE PHOSPHORUS

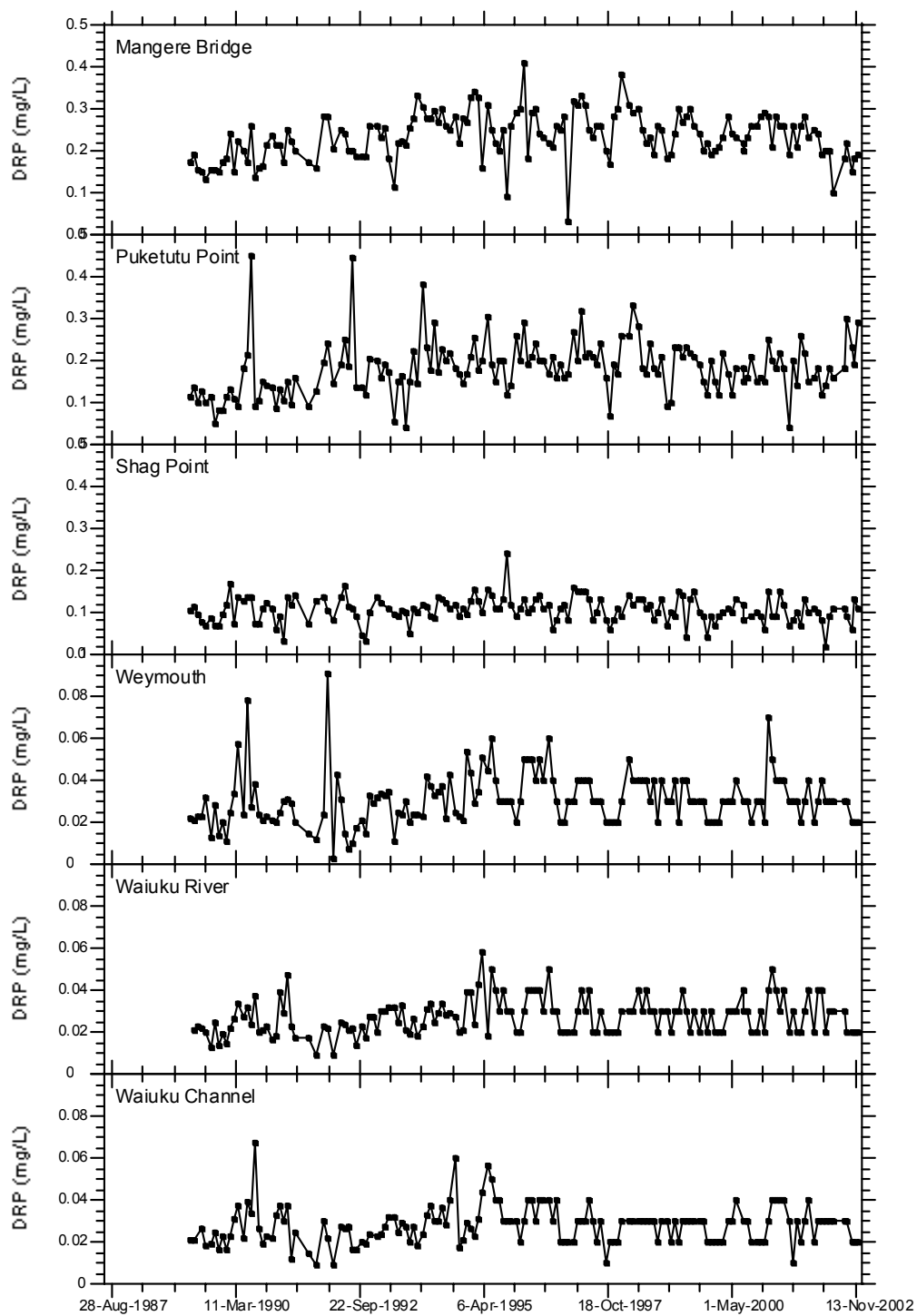
(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

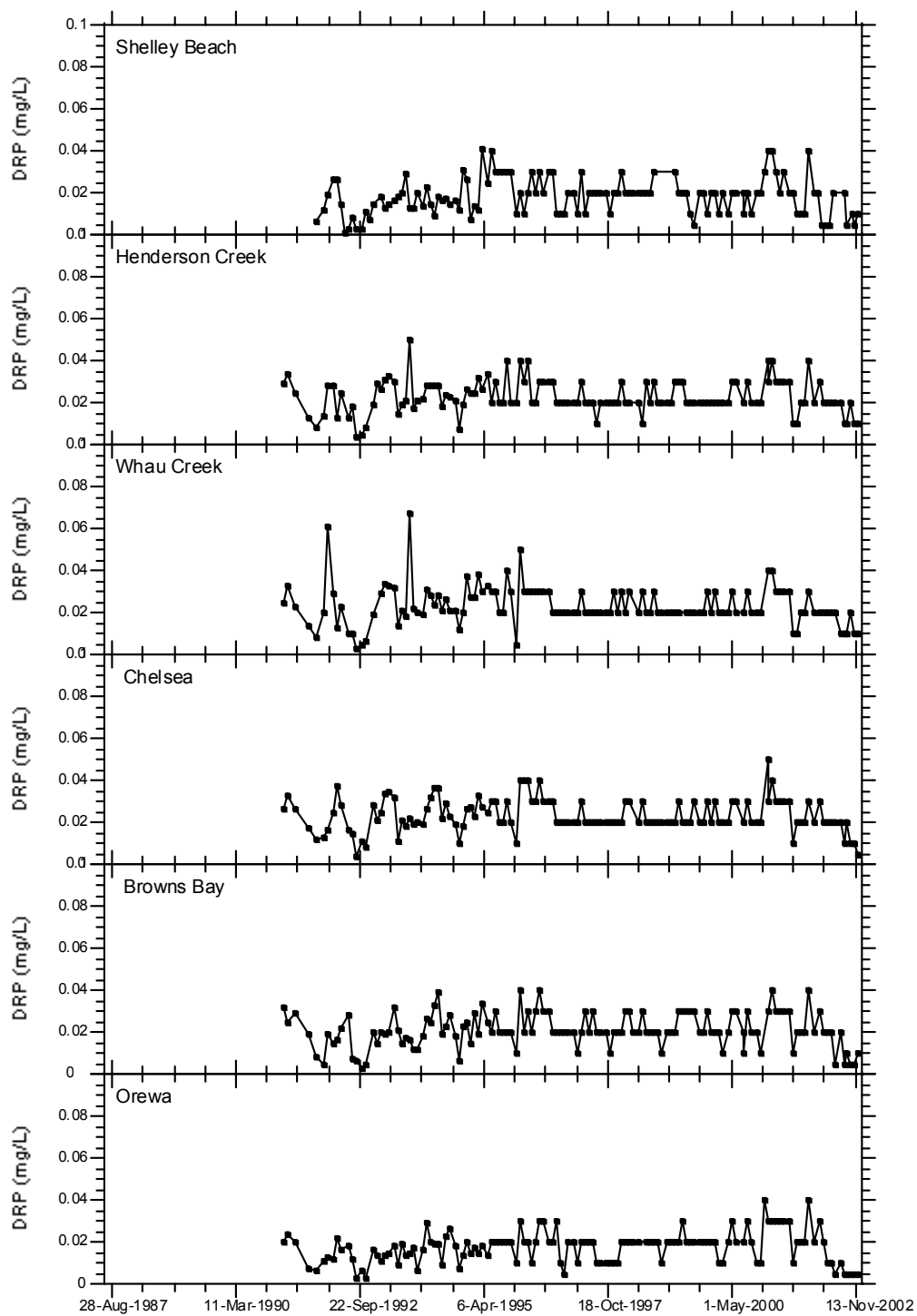
a) Dissolved reactive phosphorus (mg/L) during January 2002 - December 2002

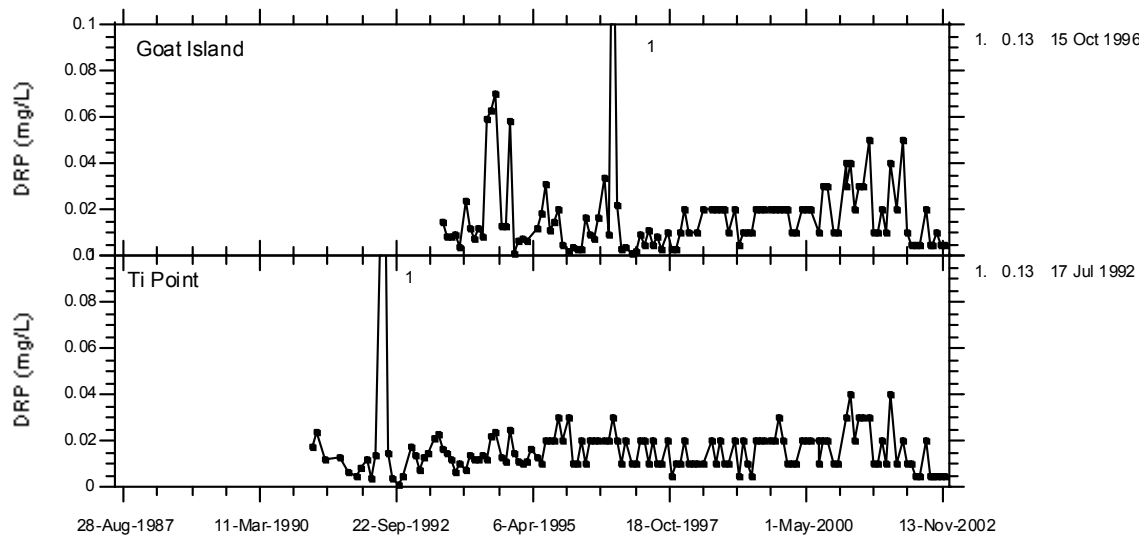
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	0.020	0.020	0.020	0.020	0.250	0.020	0.160	0.110	0.020	0.010	0.020	0.020	0.020	0.020
14-Feb-02	0.030	0.030	0.050	0.030	0.240	0.030	0.180	0.100	0.020	0.020	0.030	0.040	0.030	0.020
18-Mar-02	0.020	0.020	0.010	0.020	0.190	0.020	0.120	0.080	0.005	0.010	0.030	0.040	0.040	0.020
15-Apr-02	0.020	0.020	0.005	0.020	0.200	0.010	0.140	0.020	0.005	0.010	0.030	0.020	0.030	0.020
14-May-02	0.020	0.020	0.005	0.020	0.200	0.010	0.180	0.090	0.005	0.005	0.030	0.030	0.030	0.020
14-Jun-02	0.005	0.020	0.005	0.020	0.100	0.005	0.160	0.110	0.020	0.005	0.030	0.030	0.030	0.020
25-Jul-02	0.020	0.020	0.020	0.020		0.010				0.020				0.010
27-Aug-21	0.005	0.010	0.005	0.010	0.180	0.005	0.180	0.110	0.020	0.005	0.030	0.030	0.030	0.010
9-Sep-02	0.010	0.020	0.005	0.010	0.220	0.005	0.300	0.090	0.005	0.005	0.030	0.020	0.030	0.010
7-Oct-02	0.005	0.010	0.010	0.020	0.150	0.005	0.230	0.060	0.010	0.005	0.020	0.020	0.020	0.020
5-Nov-02	0.005	0.010	0.005	0.010	0.180	0.005	0.190	0.130	0.005	0.005	0.020	0.020	0.020	0.010
4-Dec-02	0.010	0.005	0.005	0.010	0.190	0.005	0.290	0.110	0.010	0.005	0.020	0.020	0.020	0.010
Median	0.015	0.020	0.005	0.020	0.190	0.008	0.180	0.100	0.010	0.005	0.030	0.020	0.030	0.020
IQR/Median %	100	50	150	50	16	100	28	25	150	100	33	50	33	50

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show dissolved reactive phosphorus measurements from January 1992 to December 2002 (where data available).







APPENDIX 36: SALINE – TOTAL PHOSPHORUS

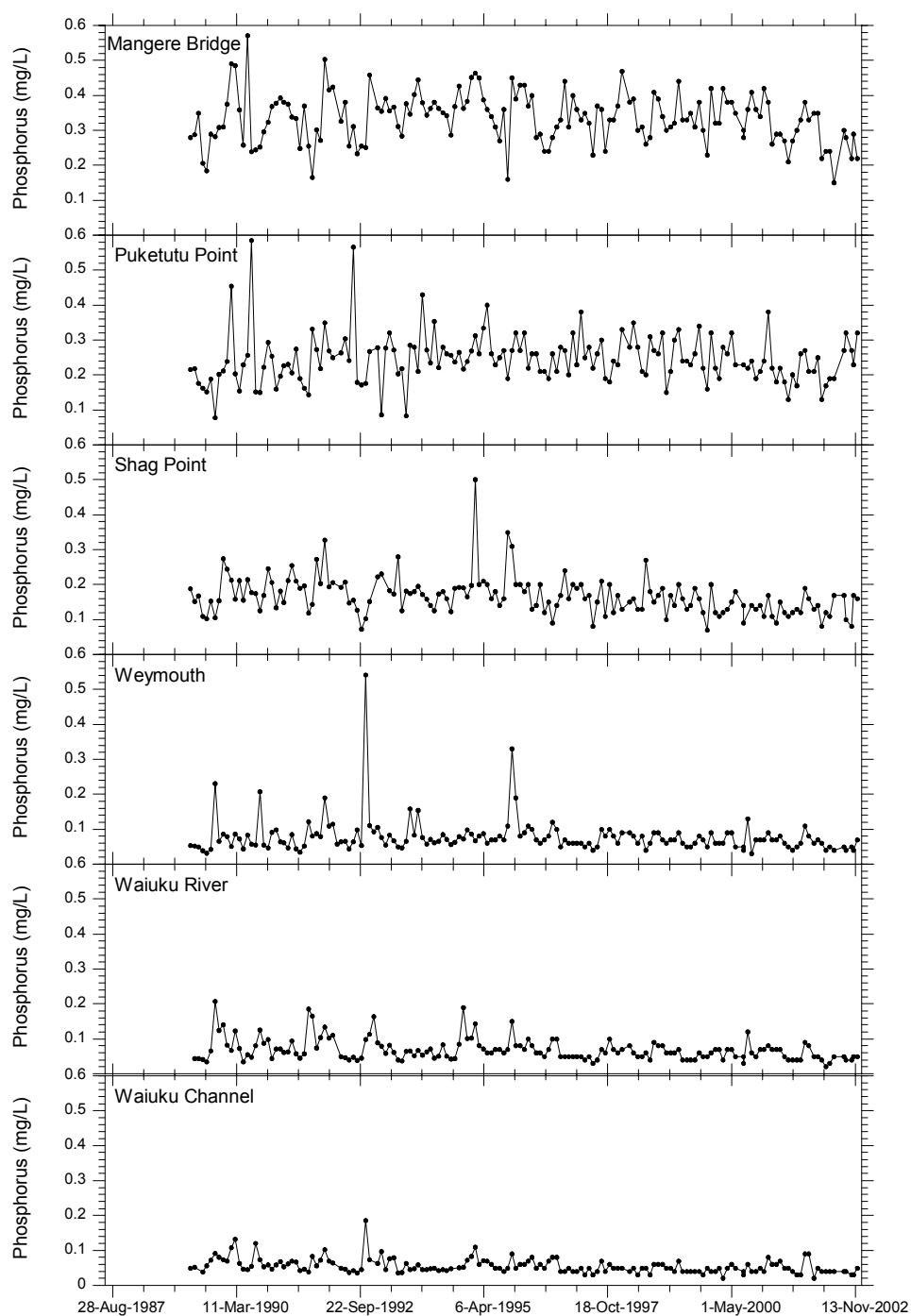
(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

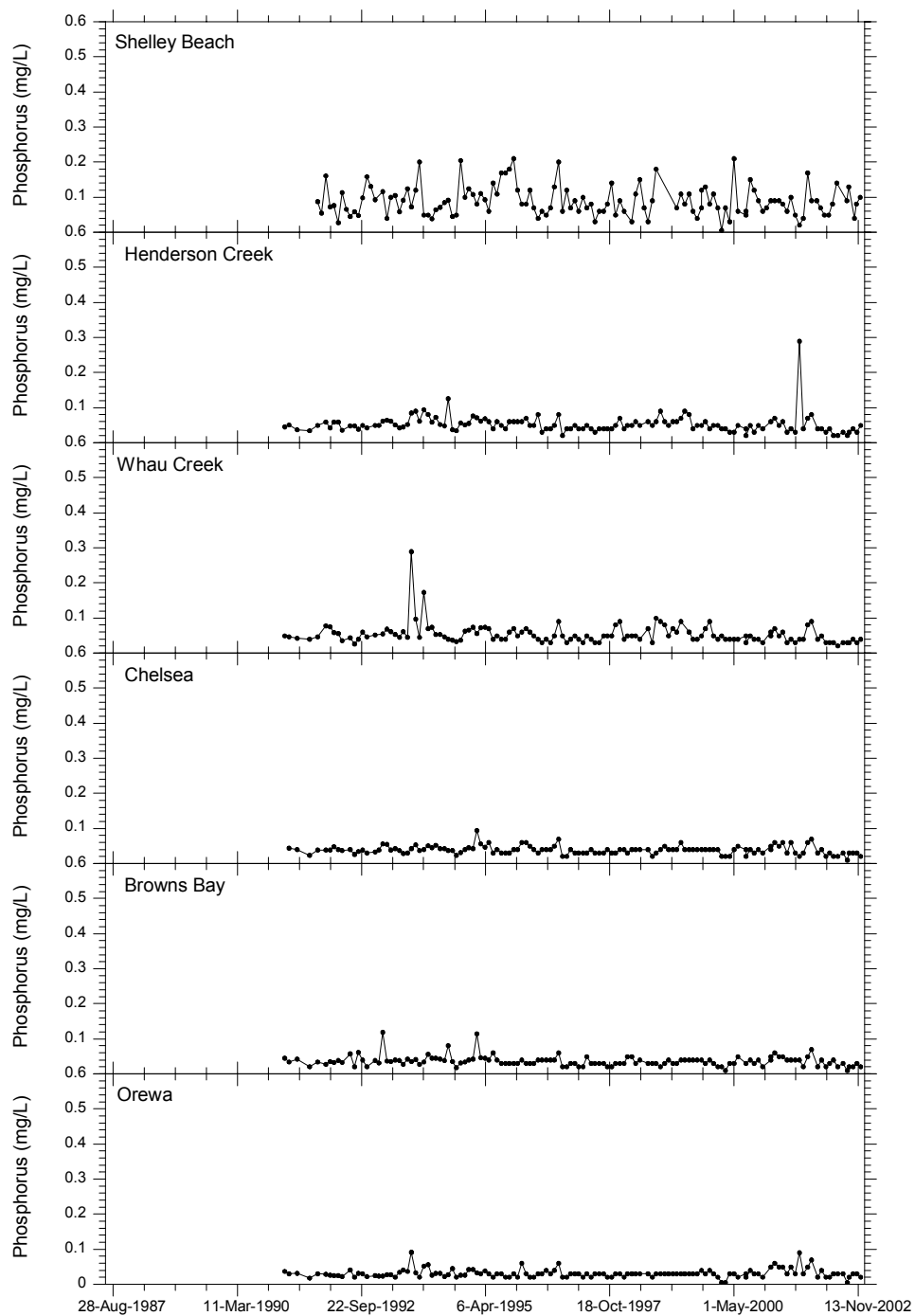
a) Total phosphorus (mg/L) during January 2002 - December 2002

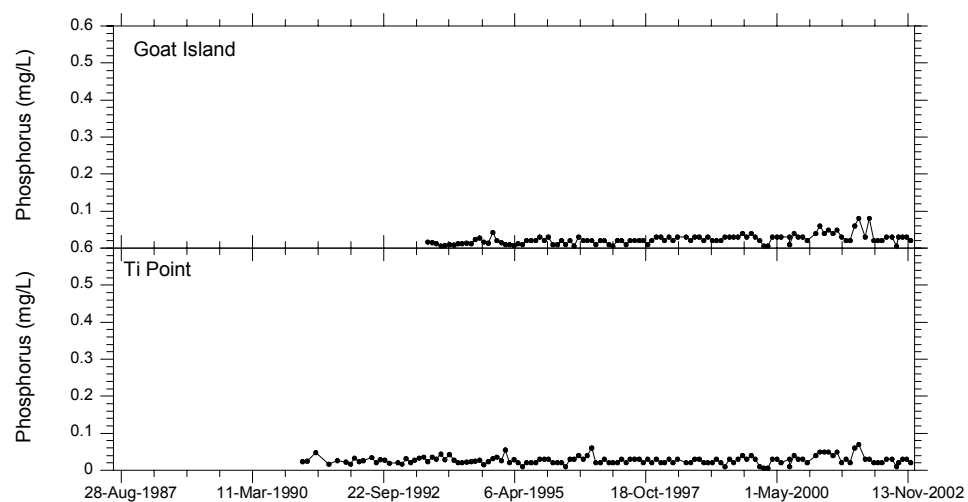
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	0.02	0.03	0.03	0.04	0.35	0.02	0.21	0.13	0.09	0.03	0.02	0.05	0.06	0.04
14-Feb-02	0.04	0.04	0.08	0.04	0.35	0.04	0.25	0.14	0.07	0.03	0.05	0.05	0.07	0.05
18-Mar-02	0.02	0.02	0.02	0.03	0.22	0.02	0.13	0.08	0.05	0.02	0.04	0.04	0.06	0.03
15-Apr-02	0.03	0.03	0.02	0.04	0.24	0.02	0.17	0.12	0.05	0.02	0.04	0.02	0.04	0.03
14-May-02	0.04	0.02	0.02	0.02	0.24	0.03	0.19	0.11	0.08	0.02	0.04	0.03	0.05	0.03
14-Jun-02	0.02	0.02	0.03	0.02	0.15	0.03	0.19	0.17	0.14	0.03	0.04	0.05	0.04	0.02
25-Jul-02	0.03	0.03	0.03	0.03		0.03				0.03				0.03
27-Aug-21	0.01	0.01	<0.01	0.02	0.30	0.01	0.27	0.17	0.09	0.01	0.04	0.05	0.05	0.03
9-Sep-02	0.02	0.03	0.03	0.03	0.28	0.02	0.32	0.1	0.13	0.02	0.04	0.04	0.04	0.03
7-Oct-02	0.02	0.03	0.03	0.04	0.22	0.03	0.27	0.08	0.04	0.03	0.03	0.04	0.05	0.04
5-Nov-02	0.03	0.03	0.03	0.03	0.29	0.03	0.23	0.17	0.08	0.03	0.03	0.05	0.04	0.03
4-Dec-02	0.02	0.02	0.02	0.05	0.22	0.02	0.32	0.16	0.1	0.02	0.05	0.05	0.07	0.04
Median	0.02	0.03	0.03	0.03	0.24	0.03	0.23	0.13	0.08	0.03	0.04	0.05	0.05	0.03
IQR/Median %	50	33	33	42	31	40	35	46	44	40	13	20	40	33

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show total phosphorus measurements from January 1992 to December 2002 (where data available).







APPENDIX 37: SALINE – CHLOROPHYLL *a*

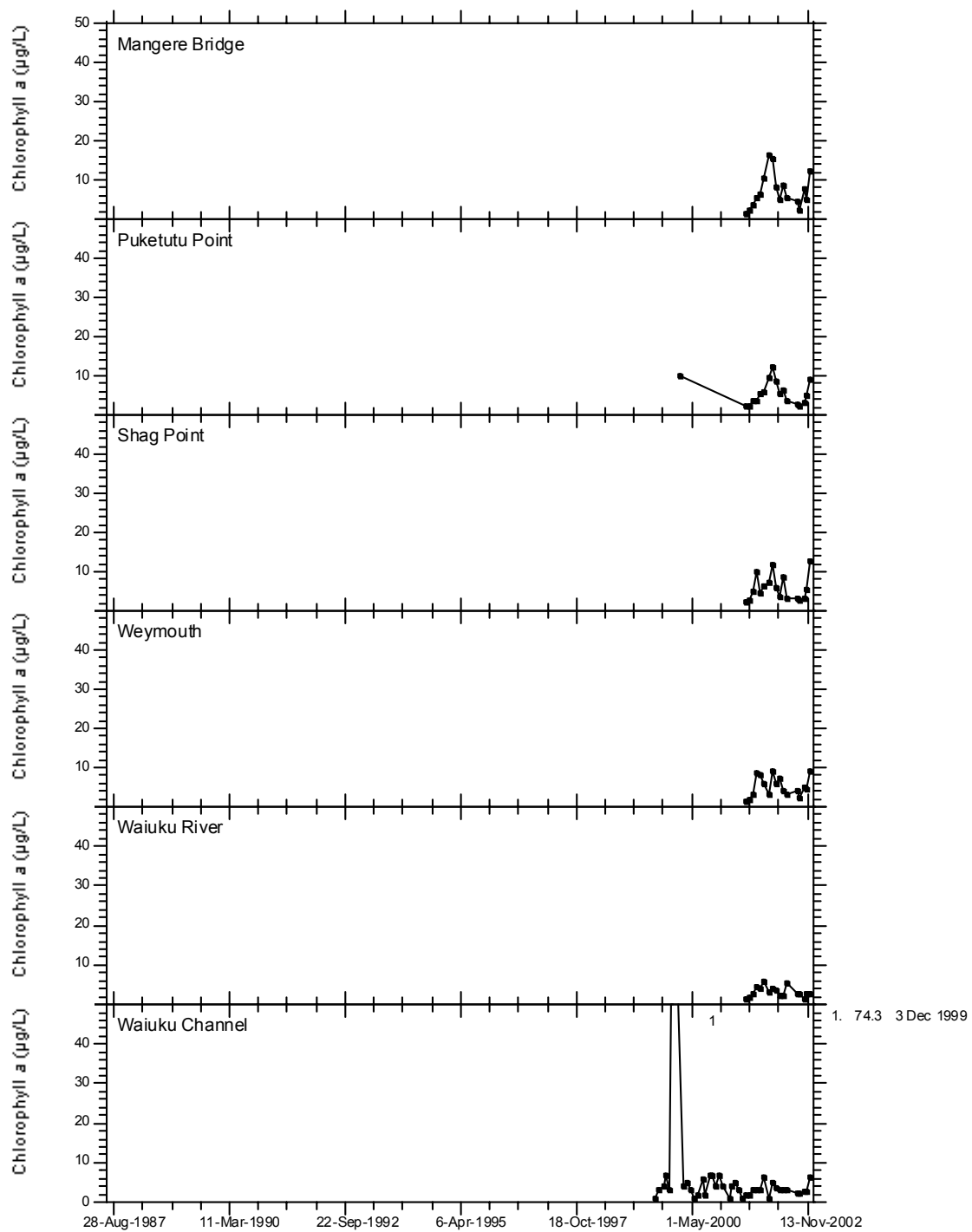
(Note that $\text{mg/m}^3 = \text{mg m}^{-3} = \mu\text{g/L}$)

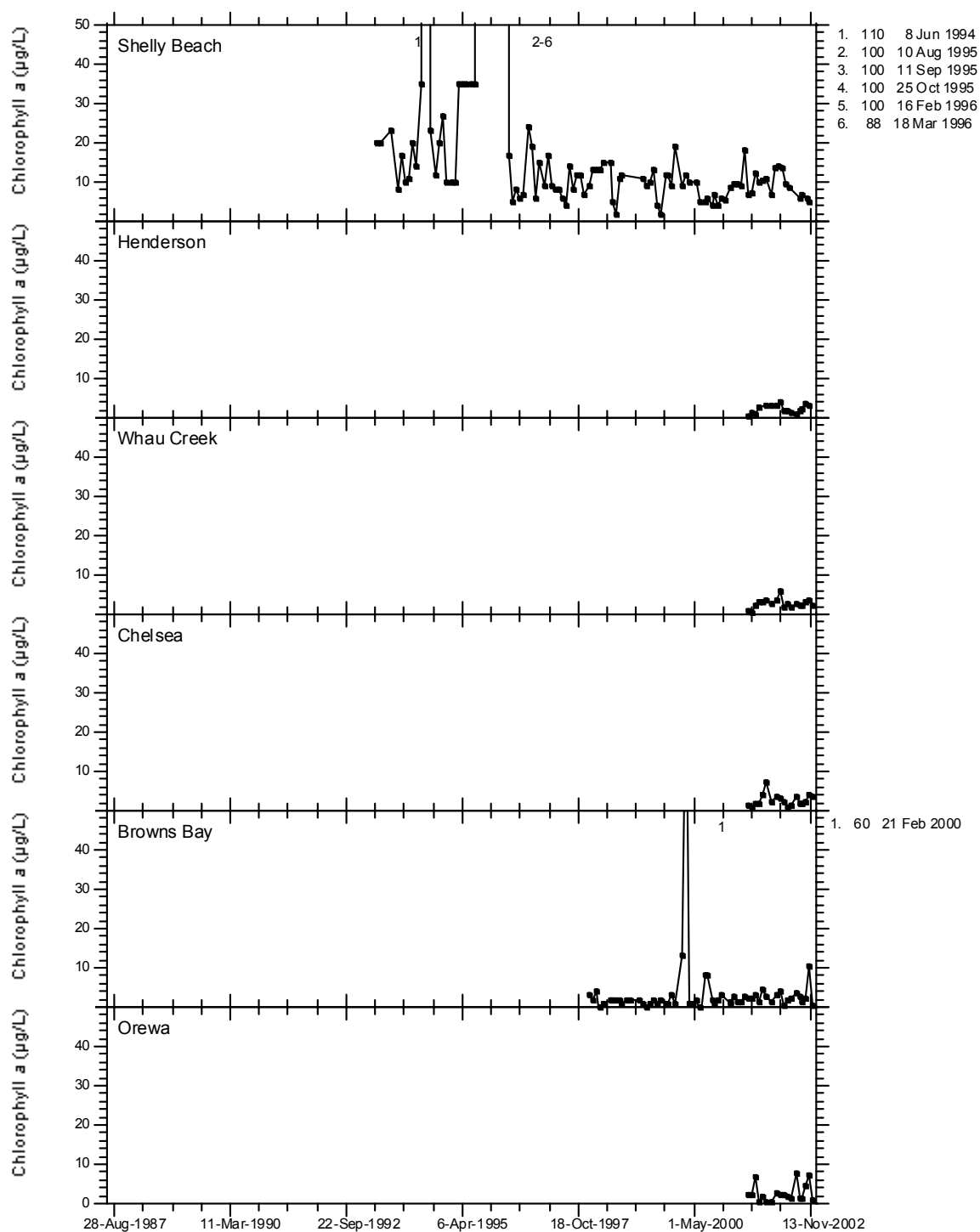
a) Chlorophyll *a* ($\mu\text{g/L}$) during January 2002 - December 2002

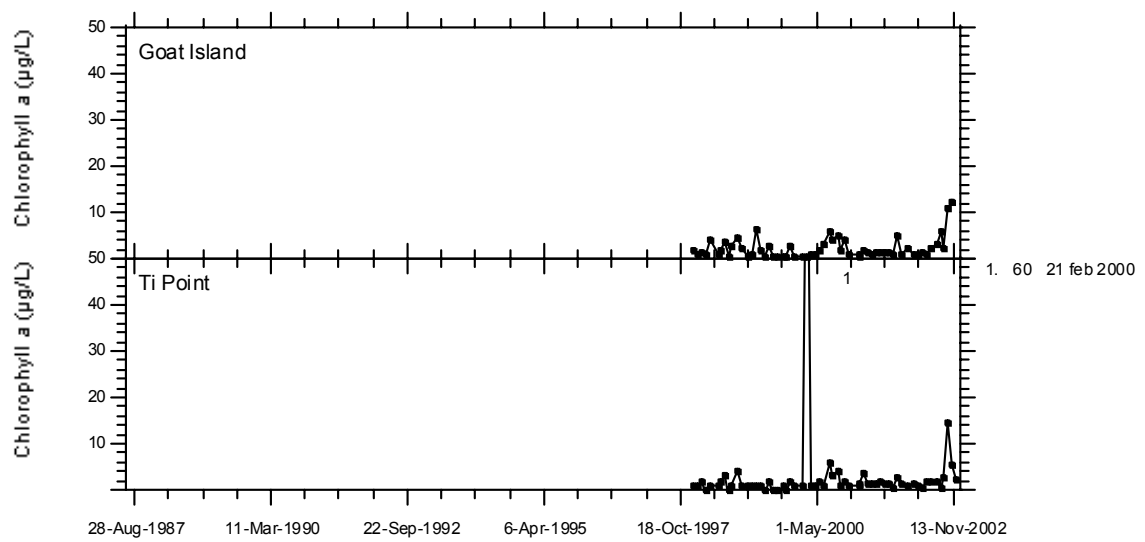
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	1.3	2.3	2.2	3.1	16.5	0.3	9.5	7.5	6.7	0.9	1.0	3.3	3.4	2.8
14-Feb-02	3.3	3.6	1.0	3.1	15.5	2.8	12.4	11.7	13.7	1.3	4.9	3.9	9.3	3.8
18-Mar-02	3.9	3.1	1.0	3.9	8.3	2.1	8.6	5.9	14.3	1.1	3.8	3.8	6.0	6.0
15-Apr-02	0.3	2.4	1.3	2.0	4.9	2.3	5.4	3.7	13.5	0.3	3.4	2.2	7.2	1.7
14-May-02	2.0	1.0	0.9	1.9	8.8	2.0	6.3	8.8	9.6	1.7	3.1	2.4	4.2	2.7
14-Jun-02	2.3	1.6	2.3	1.6	5.3	1.2	3.5	3.1	8.8	1.8	3.3	5.5	3.1	1.8
25-Jul-02	3.6	3.8	3.4	1.1		7.6				1.8				2.8
27-Aug-21	2.7	2.0	6.1	1.9	4.5	1.6	2.8	3.3	6.1	0.3	2.2	2.9	4.2	2.3
9-Sep-02	1.6	2.0	2.4	2.1	2.4	1.2	2.1	2.8	6.9	2.6	2.3	2.5	2.3	2.2
7-Oct-02	2.2	2.2	11.0	3.7	7.7	4.4	3.1	3.3	6.0	14.4	2.9	1.2	5.1	3.1
5-Nov-02	10.4	4.1	12.3	3.3	5.1	7.3	5.2	5.5	4.9	5.7	2.6	2.9	4.7	3.6
4-Dec-02	0.7	3.8	3.1	2.3	12.2	1.1	9.3	12.7	14.7	2.3	6.4	2.8	9.3	2.3
Median	2.3	2.4	2.4	2.2	7.7	2.1	5.4	5.5	8.8	1.8	3.1	2.9	4.7	2.8
IQR/Median %	82	70	121	57	71	98	105	88	82	76	37	38	60	35

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show chlorophyll *a* measurements from January 1992 to December 2002 (where data available).







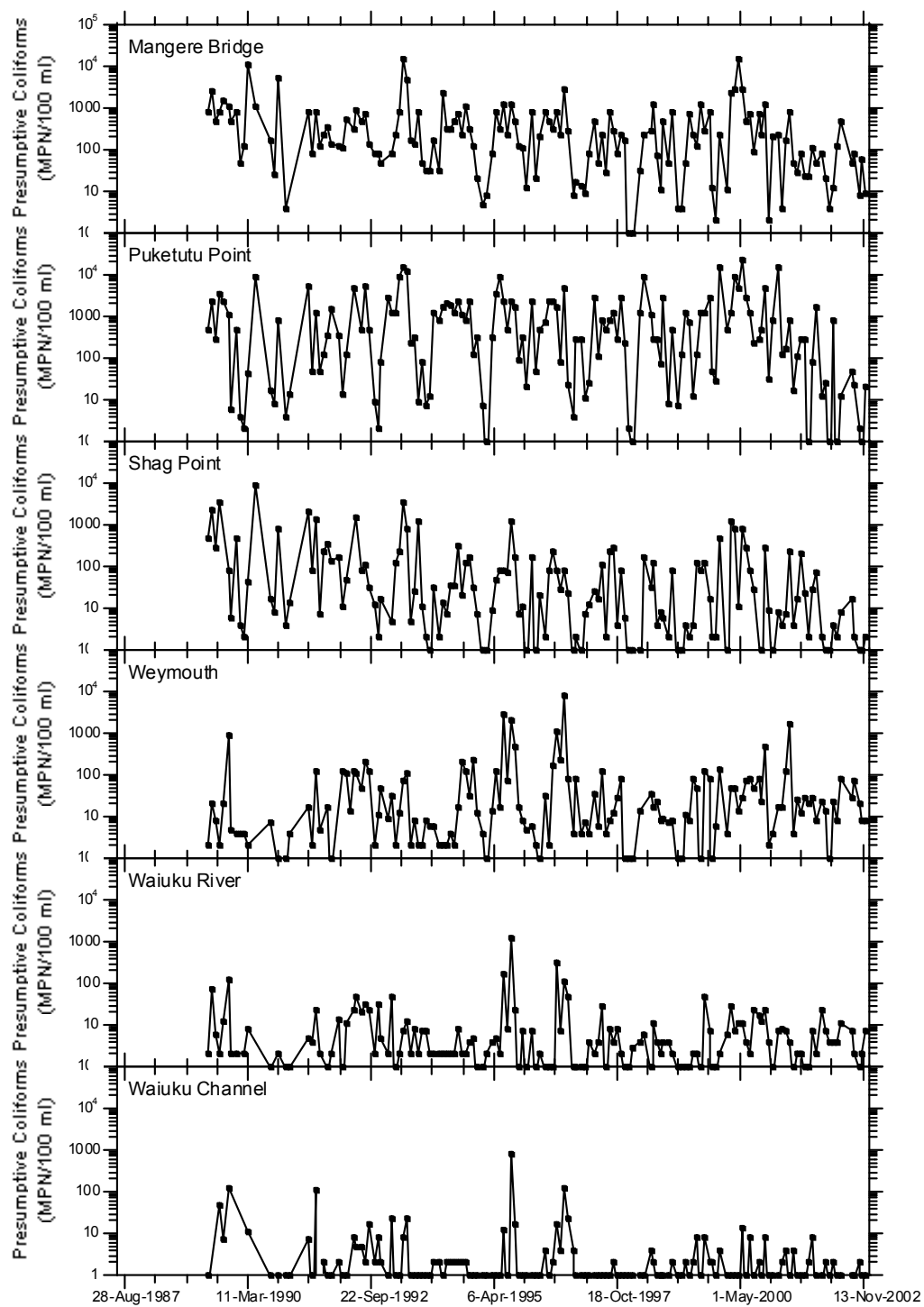
APPENDIX 38: SALINE – PRESUMPTIVE COLIFORMS

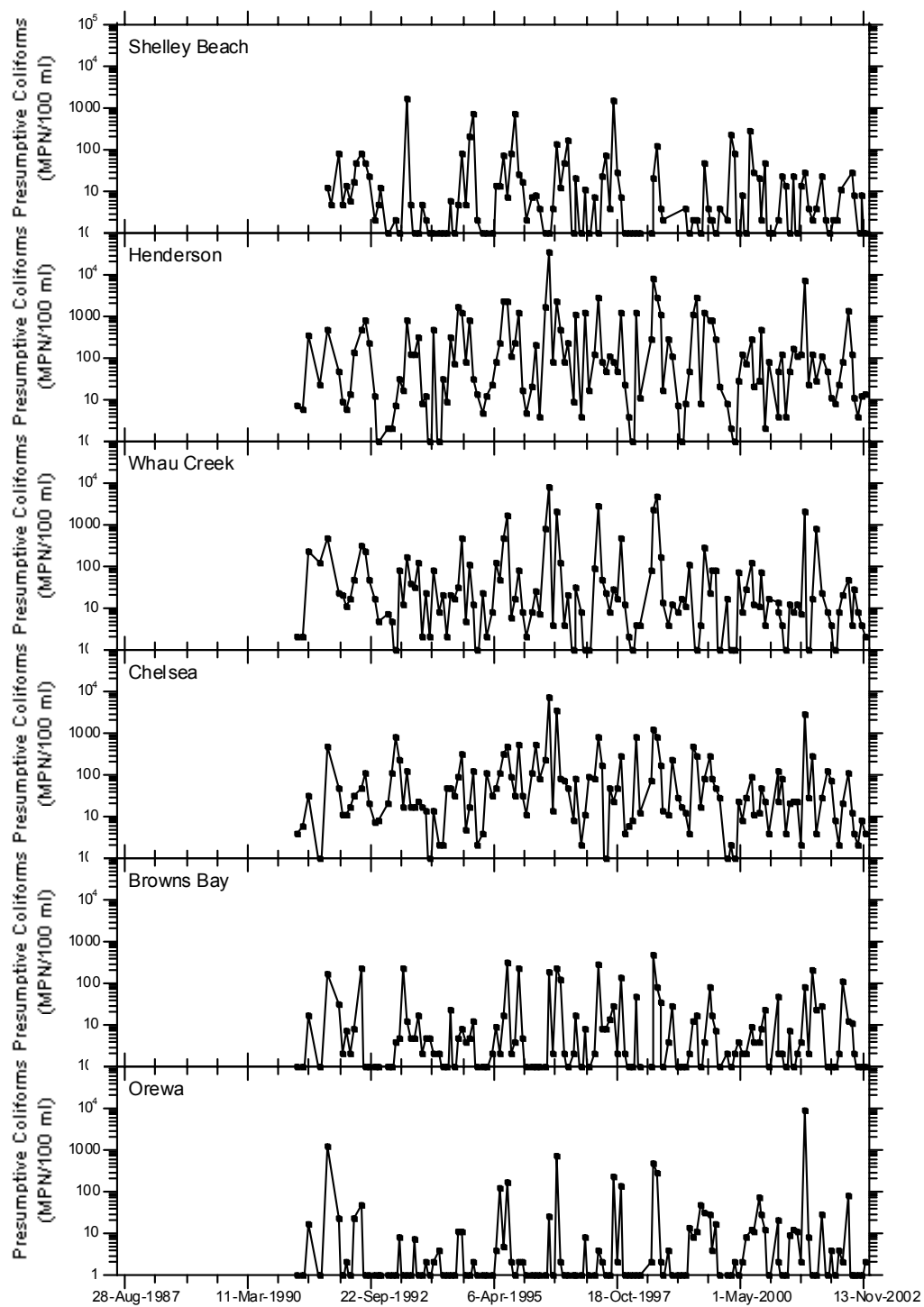
a) Presumptive coliform (MPN/100 mL) during January 2002 - December 2002

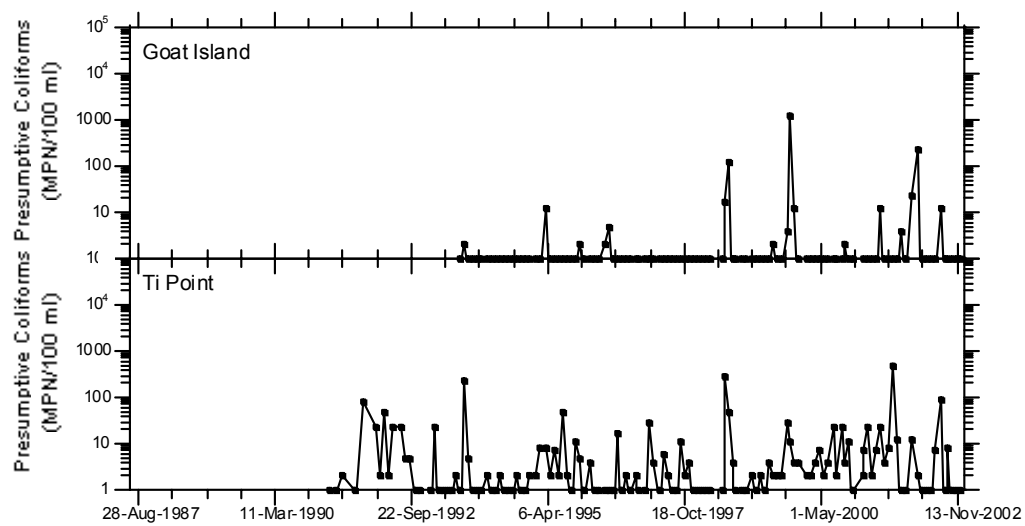
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	30	30	23	110	80	30	13	23	2	13	1	23	23	23
14-Feb-02	1	130	230	50	22	1	27	2	1	2	2	7	14	8
18-Mar-02	1	70	1	11	4	4	1	1	1	1	1	4	1	4
15-Apr-02	1	8	1	8	13	1	800	2	4	1	2	4	23	1
14-May-02	2	2	1	23	130	4	1	2	2	1	1	4	8	8
14-Jun-02	110	22	1	80	500	2			8	7	1	11	80	22
25-Jul-02	13	110	13	1400		80	13	11		90				50
27-Aug-21	11	13	1	130	50	1	50	30	17	1	1	7	30	4
9-Sep-02	2	4	1	11	80	1	23	8	2	8	1	2	70	30
7-Oct-02	1	2	1	4	8	1	2	1	1	1	2	1	20	8
5-Nov-02	1	8	1	13	60	1	1	8	1	1	1	2	8	4
4-Dec-02	1	4	1	14	9	2	22	1	2	1	1	7	8	2
Median	2	11	1	19	50	2	13	2	2	1	1	4	20	8
IQR/Median %	700	343	300	414	138	200	181	400	100	625	50	100	93	228

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show presumptive coliform measurements from January 1992 to December 2002 (where data available).







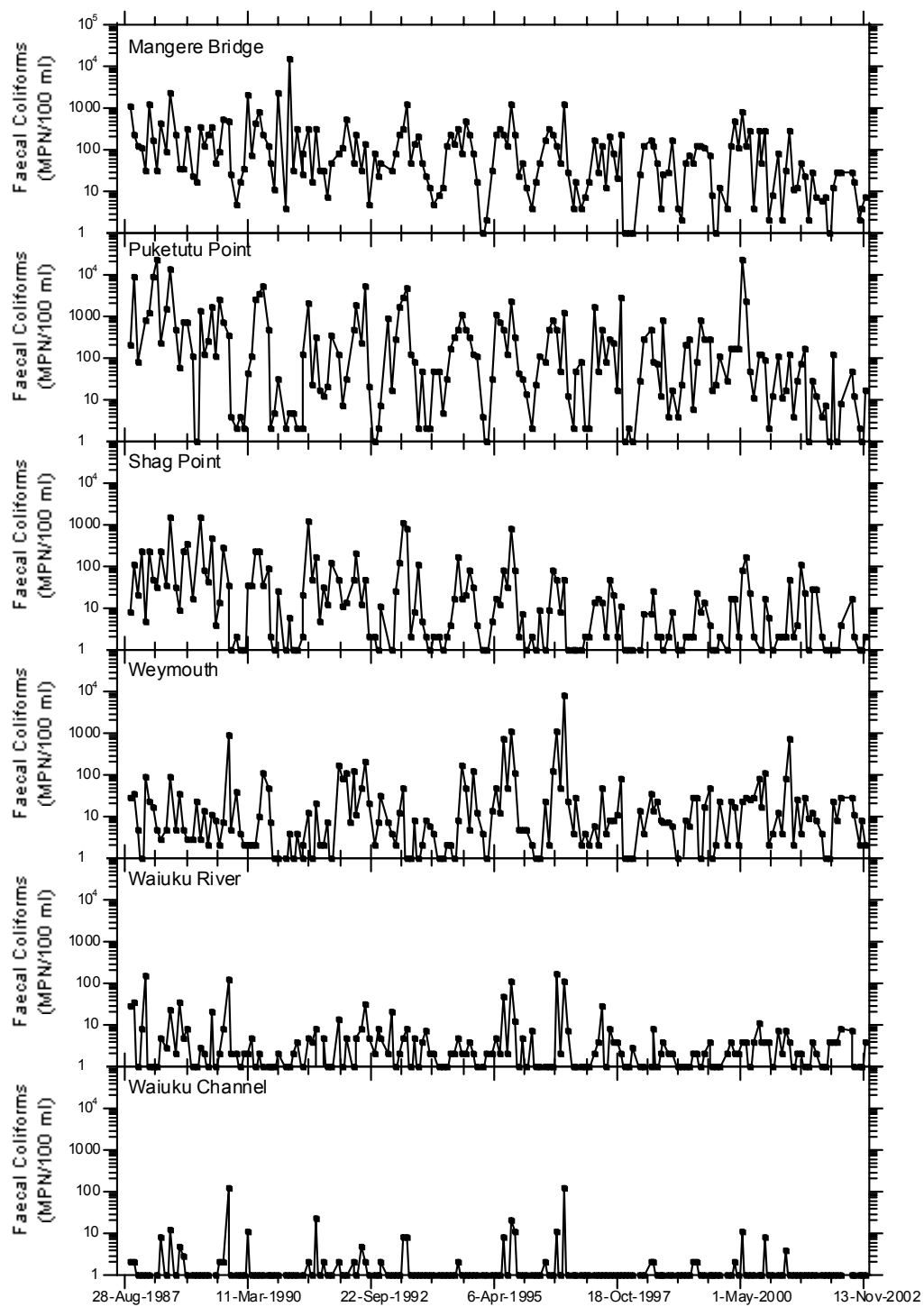
APPENDIX 39: SALINE – FAECAL COLIFORMS

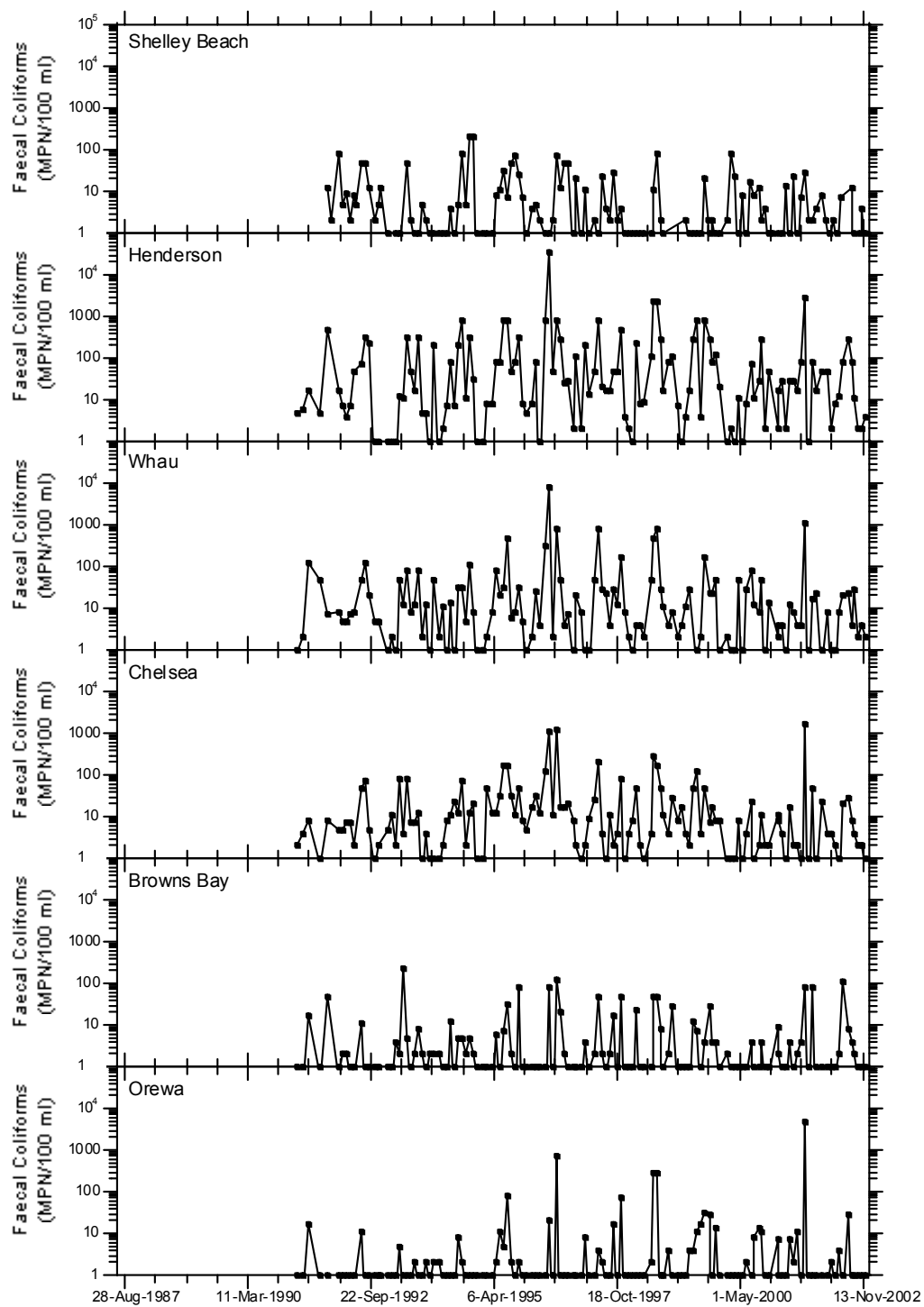
a) Faecal coliform (MPN/100 mL) during January 2002 - December 2002

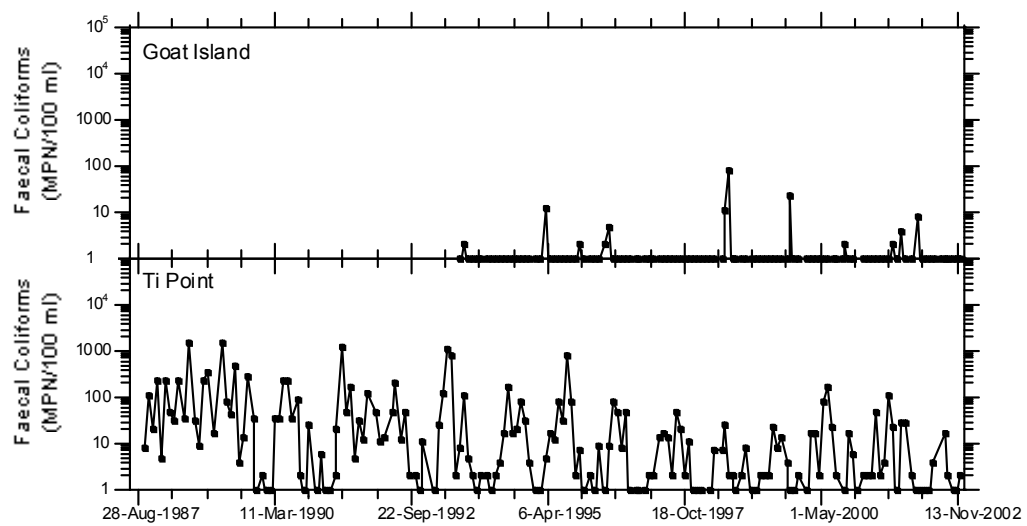
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	1	23	1	50	6	1	4	8	2	1	1	1	4	1
14-Feb-02	1	4	8	50	7	1	7	2	1	1	1	1	1	8
18-Mar-02	1	4	1	2	1	2	1	1	1	1	1	4	1	1
15-Apr-02	1	2	1	8	13	1	130	2	1	1	1	4	23	1
14-May-02	2	1	1	13	30	4	1	1	1	1	1	4	8	8
14-Jun-02	110	22	1	80	30	1	8	7	4	2	1	8	30	22
25-Jul-02	8	30	1	300		30				50				23
27-Aug-21	4	8	1	80	30	1	50	13	17	1	1	7	30	4
9-Sep-02	2	4	1	11	17	1	13	1	2	1	1	1	11	30
7-Oct-02	1	2	1	2	2	1	2	1	1	1	1	1	2	2
5-Nov-02	1	2	1	2	4	1	1	4	1	1	1	1	8	4
4-Dec-02	1	1	1	4	7	1	17	1	2	1	1	4	2	2
Median	1	4	1	12	7	1	7	2	1	1	1	4	8	4
IQR/Median %	150	238	0	450	264	25	193	225	100	0	0	75	188	244

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show faecal coliform measurements from January 1992 to December 2002 (where data available).







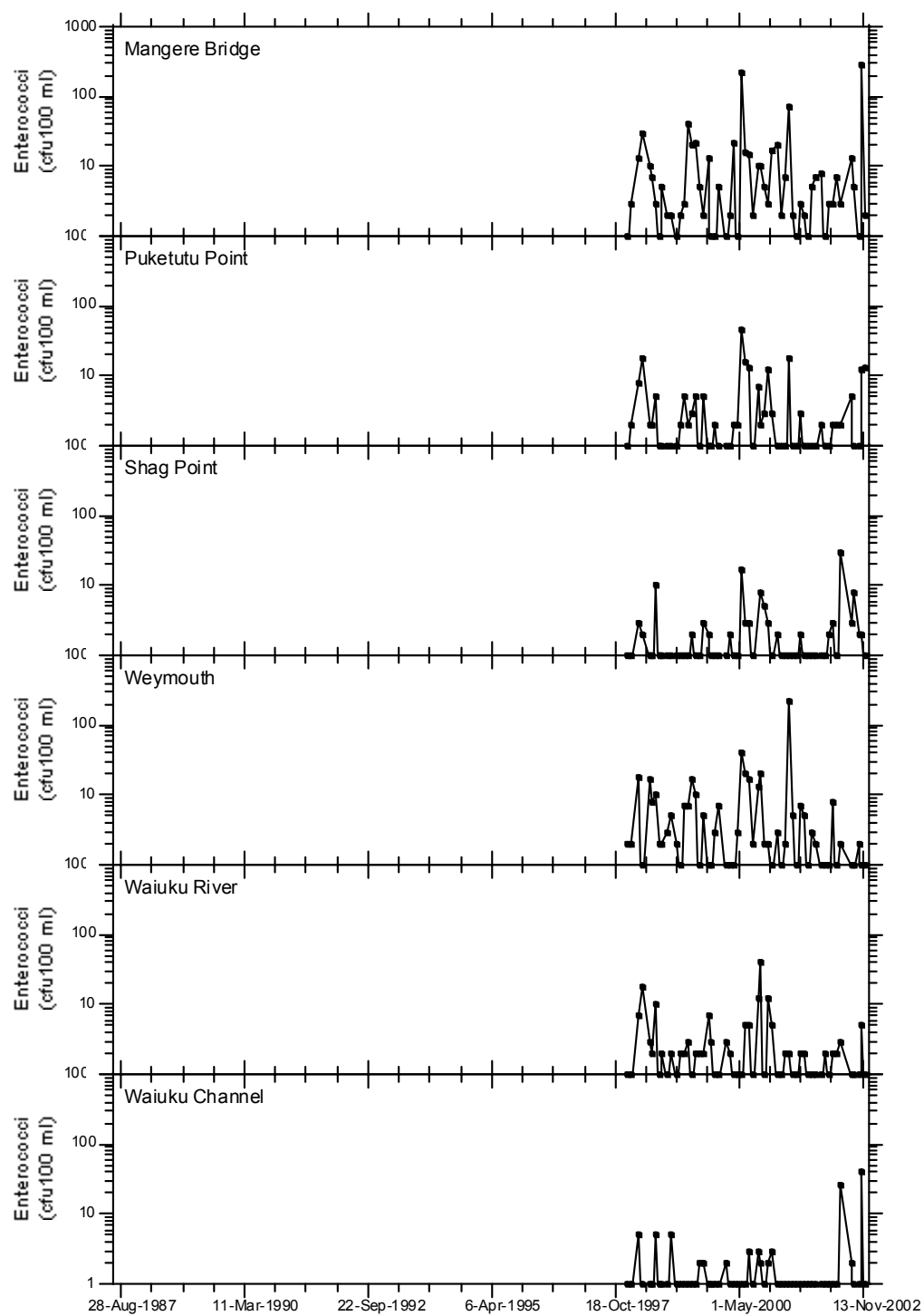
APPENDIX 40: SALINE – ENTEROCOCCI

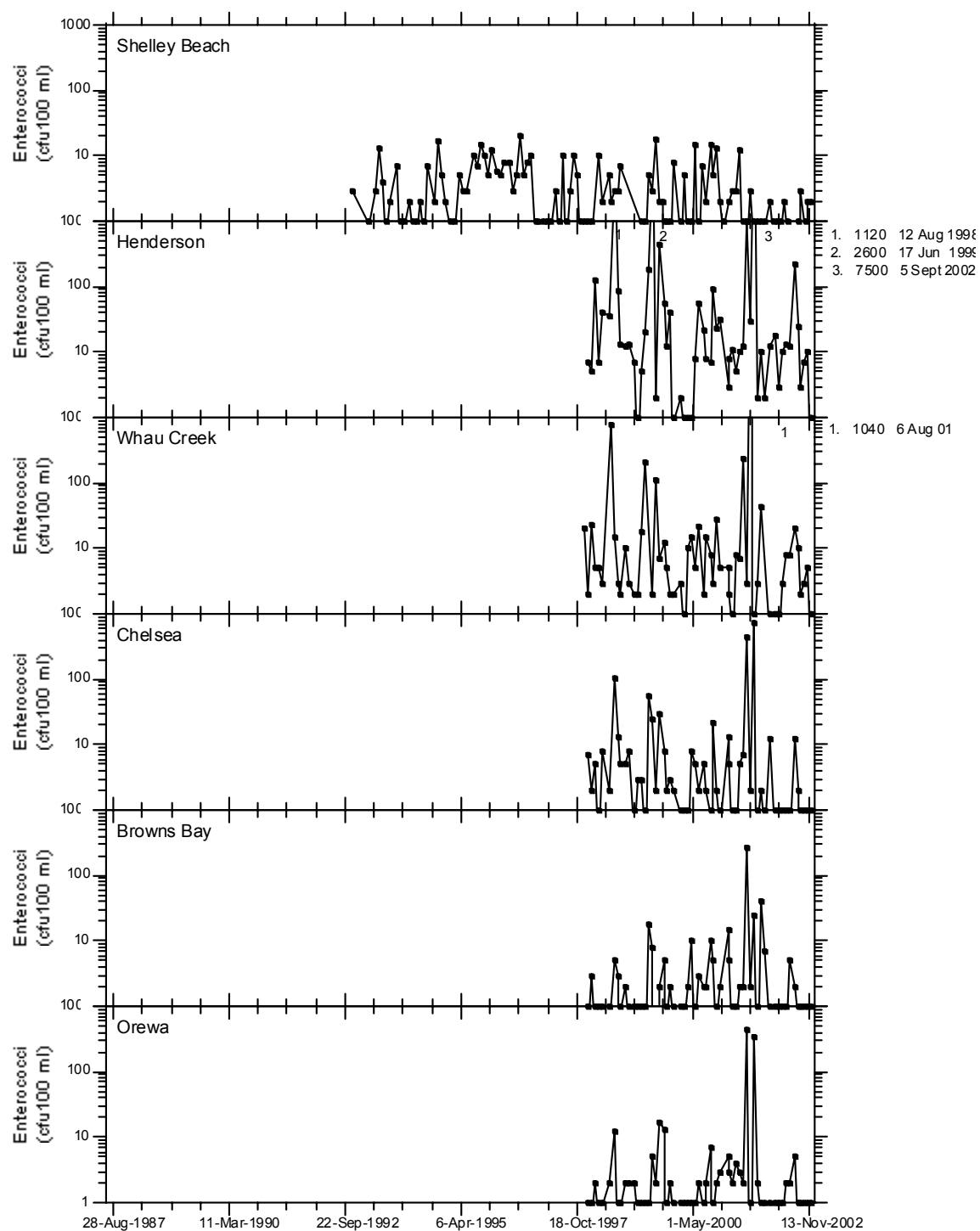
a) Enterococci (cfu/100 mL) during January 2002 - December 2002

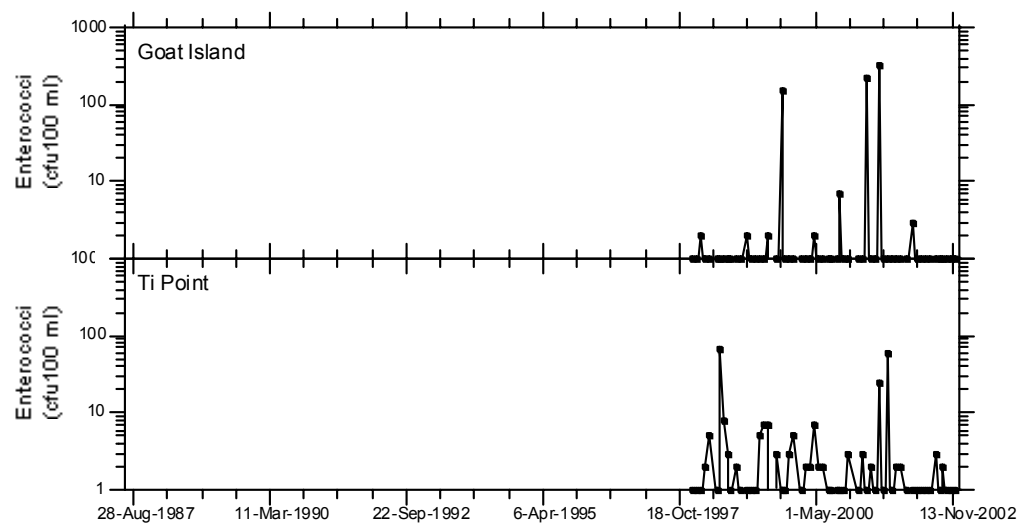
Date	Browns	Chelsea	Goat Isl	Henderson	Mangere	Orewa	Puketutu	Shag Point	Shelly	TiPoint	Waiuku Ch	Waiuku Rvr	Weymouth	Whau
16-Jan-02	1	12	1	12	8	1	2	2	1	1	1	1	1	1
14-Feb-02	1	1	3	18	1	1	1	1	1	1	1	2	1	1
18-Mar-02	1	1	1	3	3	1	1	1	2	1	1	1	1	1
15-Apr-02	1	1	1	10	3	1	2	1	3	1	1	2	8	3
14-May-02	1	1	1	13	7	2	2	2	1	1	1	2	1	8
14-Jun-02	5	1	1	12	3	2	2	1	30	1	27	3	2	8
25-Jul-02	2	12	1	220		5				3				20
27-Aug-21	1	2	1	25	13	1	5	1	3	1	2	1	1	10
9-Sep-02	1	1	1	3	5	1	1	3	8	2	1	1	1	2
7-Oct-02	1	1	1	7	1	1	1	1	2	1	1	1	2	3
5-Nov-02	1	1	1	10	280	1	12	2	2	1	42	5	1	5
4-Dec-02	1	1	1	1	2	1	13	2	1	1	1	1	1	1
Median	1	1	1	11	3	1	2	1	2	1	1	1	1	3
IQR/Median %	0	25	0	75	167	25	125	100	100	0	50	100	50	233

NB: The dates given are for the East Coast and Waitemata Harbour sites. The Manukau and Kaipara Harbour sites were visited on 9-Jan, 7-Feb, 8-Mar, 8-Apr, 8-May, 7-Jun, 20-Aug, 4-Sep, 16-Oct, 31-Oct and 29-Nov.

b) The graphs on the following pages show enterococci measurements from January 1992 to December 2002 (where data available).







LAKE SITES DATA TABLES, TIME-SERIES AND DEPTH PROFILES OF
DISSOLVED OXYGEN AND TEMPERATURE

APPENDIX 41: LAKE KERETA

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Annual mean and median chemical and bacteriological quality of Lake Kereta

Date	Depth (m)	BOD (mgO/L)	Chloride (mg/L)	EC (mS/m)	Faecal Coliform (MPN/100mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N (mg/L)	NO ₃ /NO ₂ -N (mg/L)	DRP (mg/L)	TP (mg/L)	pH	SS (mg/L)	TKN (mg/L)	Turb (NTU)	Chl a (mg/L)	Secchi Depth (m)
18-Feb-02	0	1.0	44.0	25.8	130	230	0.020	0.009	0.010	0.03	9.8	4.1	0.2	2.3	0.0052	
17-Jun-02	0	1.0	43.3	24.2	170	170	0.005	0.004	0.005	0.02	8.7	0.9	0.2	1.0	0.0022	
28-Aug-02	0	1.0	38.9	21.8	130	130	0.005	0.008	0.005	0.02	8.8	1.0	2.2	1.0	0.0026	
20-Nov-02	0	1.0	41.9	21.7	130	300	0.005	0.013	0.010	0.01	9.7	1.4	0.4	1.7	0.0029	
median		1.0	42.6	23.0	130	200	0.005	0.009	0.008	0.02	9.3	1.2	0.3	1.4	0.0028	
mean		1.0	42.0	23.4	140	208	0.009	0.009	0.008	0.02	9.3	1.9	0.8	1.5	0.0032	

APPENDIX 42: LAKE KUWAKATAI

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Annual mean and median chemical and bacteriological quality of Lake Kuwakatai

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N	NO ₃ /NO ₂ -N	DRP	TP	pH	SS	TKN	Turb	Chl a	Secchi Depth
	(m)	(mgO/L)	(mg/L)	(mS/m)			(mg/L)	(mg/L)	(mg/L)	(mg/L)		(mg/L)	(mg/L)	(NTU)	(mg/L)	(m)
18-Feb-02	0	2.8	37.9	22.9	7	7	0.005	0.012	0.010	0.04	8.6	4.2	0.5	1.6	0.0222	2.4
17-Jun-02	0	2.7	38.9	21.0	11	110	0.005	0.007	0.005	0.05	8.1	3.7	0.2	3.3	0.0814	1.2
28-Aug-02	0	2.9	38.7	20.6	2	4	0.005	0.006	0.005	0.05	8.6	7.1	2.3	3.0	0.0469	0.1
20-Nov-02	0	9.0	38.2	19.5	4	23	0.060	0.012	0.020	0.03	8.9	25.7	1.4	14.7	0.1208	
median		2.9	38.5	20.8	6	15	0.005	0.010	0.008	0.045	8.6	5.7	1.0	3.2	0.0642	1.2
mean		4.4	38.4	21.0	6	36	0.019	0.009	0.010	0.043	8.6	10.2	1.1	5.7	0.0678	1.2
18-Feb-02	19	8.8	38.0	22.8	1	2	0.010	0.018	0.020	0.09	8.0	6.3	1.3	3.6	0.186	
17-Jun-02	19	2.0	38.8	21.3	23	30	0.005	0.009	0.005	0.03	8.0	3.9	0.2	2.7	0.070	
28-Aug-02	19	2.0	38.2	20.4	9	14	0.005	0.003	0.005	0.03	8.2	3.2	3.4	2.0	0.027	
20-Nov-02	19	7.7	38.6	19.7	23	30	0.060	0.012	0.010	0.02	8.5	9.2	1.1	10.4	0.078	
median		4.9	38.4	20.9	16	22	0.008	0.011	0.008	0.03	8.1	5.1	1.2	3.1	0.074	
mean		5.1	38.4	21.1	14	19	0.020	0.011	0.010	0.04	8.2	5.7	1.5	4.7	0.090	

APPENDIX 43: LAKE OTOTOA

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N	NO ₃ /NO ₂ -N	DRP	TP	pH	SS	TKN	Turb	Chl a	Secchi Depth
	(m)	(mgO/L)	(mg/L)	(mS/m)			(mg/L)	(mg/L)	(mg/L)	(mg/L)		(mg/L)	(mg/L)	(NTU)	(mg/L)	(m)
18-Feb-02	0	1.0	39.9	22.2	1	4	0.005	0.007	0.010	0.03	8.1	0.5	0.1	0.4	0.004	5.6
17-Jun-02	0	1.0	41.0	20.3	2	23	0.030	0.011	0.005	0.01	7.8	1.2	0.5	0.7	0.008	3.5
28-Aug-02	0	1.0	40.3	20.1	1	1	0.030	0.019	0.005	0.01	8.0	1.8	2.2	0.9	0.009	3.4
19-Nov-02	0	1.0	40.3	20.8	1	2	0.010	0.010	0.010	0.02	8.0	0.7	1.1	0.8	0.003	4.2
median		1.0	40.3	20.6	1	3	0.020	0.011	0.008	0.02	8.0	1.0	0.8	0.8	0.006	3.9
mean		1.0	40.4	20.9	1	8	0.019	0.012	0.008	0.02	8.0	1.1	1.0	0.7	0.006	4.2
18-Feb-02	10	1.0	40.0	22.2	1	4	0.010	0.032	0.010	0.03	7.9	4.3	0.1	0.6	0.002	
17-Jun-02	10	1.0	41.2	20.6	2	8	0.030	0.018	0.005	0.01	7.8	1.0	0.5	0.9	0.005	
28-Aug-02	10	1.0	40.5	20.0	1	1	0.050	0.021	0.020	0.02	8.0	1.9	2.6	1.0	0.008	
19-Nov-02	10	1.0	41.3	21.3	4	4	0.060	0.016	0.010	0.02	8.0	1.5	1.1	0.7	0.006	
median		1.0	40.9	21.0	2	4	0.040	0.020	0.010	0.02	8.0	1.7	0.8	0.8	0.006	
mean		1.0	40.8	21.0	2	4	0.038	0.022	0.011	0.02	7.9	2.2	1.1	0.8	0.005	
18-Feb-02	29	2.6	40.0	24.0	1	1	0.280	0.007	0.010	0.03	6.5	9.2	1.1	5.2	0.005	
17-Jun-02	29	1.0	40.8	20.5	2	11	0.030	0.019	0.005	0.01	7.8	1.0	0.2	0.8	0.004	
28-Aug-02	29	1.0	39.9	20.0	4	4	0.040	0.019	0.005	0.01	7.9	1.8	2.2	0.9	0.007	
19-Nov-02	29	1.0	40.8	21.4	1	1	0.160	0.019	0.005	0.02	7.6	1.3	3.3	1.9	0.004	
median		1.0	40.4	21.0	2	2.5	0.100	0.019	0.005	0.02	7.7	1.6	1.7	1.4	0.005	
mean		1.4	40.4	21.5	2	4	0.128	0.016	0.006	0.02	7.5	3.3	1.7	2.2	0.005	

APPENDIX 44: LAKE PUPUKE

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N (mg/L)	NO ₃ /NO ₂ -N (mg/L)	DRP (mg/L)	TP (mg/L)	pH (units)	SS (mg/L)	TKN (mg/L)	Turb (NTU)	Chl <i>a</i> (mg/L)	Secchi Depth (m)
	(m)	(mgO/L)	(mg/L)	(mS/m)												
15-Feb-02	5	2.1	37.9	28.1	4	23	0.010	0.002	0.010	0.03	8.9	1.5	1.5	1.0	0.005	3.4
25-Jun-02	5	1.0	38.3	27.8	7	50	0.020	0.018	0.005	0.02	7.9	2.6	0.4	0.7	0.008	3.4
29-Aug-02	5	1.5	37.8	26.5	50	70	0.040	0.014	0.005	0.02	8.1	1.2	0.1	0.9	0.012	4.0
25-Nov-02	5	2.0	38.8	28.0	1	13	0.020	0.020	0.005	0.02	9.0	2.2	1.3	1.0	0.011	3.8
median		1.8	38.1	27.9	6	36.5	0.020	0.016	0.005	0.02	8.5	1.9	0.9	0.9	0.010	3.6
mean		1.7	38.2	27.6	16	39	0.023	0.014	0.006	0.02	8.5	1.9	0.8	0.9	0.009	3.6
15-Feb-02	25	1.0	36.2	28.2	1	30	0.005	0.079	0.005	0.02	7.6	0.4	2.9	0.7	0.001	
25-Jun-02	25	1.0	37.2	27.1	13	50	0.010	0.025	0.005	0.02	7.9	1.2	0.1	0.9	0.008	
29-Aug-02	25	1.5	38.1	26.1	2	2	0.030	0.015	0.005	0.02	8.0	1.0	0.1	0.6	0.010	
25-Nov-02	25	1.0	38.4	28.2	27	600	0.005	0.021	0.005	0.02	7.6	0.9	0.3	0.5	0.004	
median		1.0	37.7	27.7	8	40	0.008	0.023	0.005	0.02	7.8	1.0	0.2	0.7	0.006	
mean		1.1	37.5	27.4	11	171	0.013	0.035	0.005	0.02	7.8	0.9	0.9	0.7	0.006	
15-Feb-02	50	3.2	36.3	28.9	23	230	0.270	0.011	0.010	0.03	7.3	4.9	1.0	4.3	0.000	
25-Jun-02	50	2.5	15.0	27.7	4	30	0.510	0.015	0.030	0.08	7.5	6.8	0.3	7.1	0.001	
29-Aug-02	50	1.5	37.5	26.0	4	8	0.020	0.015	0.005	0.01	8.0	0.8	0.1	0.8	0.009	
25-Nov-02	50	1.0	38.5	28.2	1	4	0.050	0.095	0.005	0.02	7.5	1.1	6.4	1.5	0.004	
median		2.0	36.9	28.0	4	19	0.160	0.015	0.008	0.03	7.5	3.0	0.7	2.9	0.002	
mean		2.1	31.8	27.7	8	68	0.213	0.034	0.013	0.04	7.6	3.4	2.0	3.4	0.004	

APPENDIX 45: LAKE SPECTACLE

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N (mg/L)	NO ₃ /NO ₂ -N (mg/L)	DRP (mg/L)	TP (mg/L)	pH	SS (mg/L)	TKN (mg/L)	Turb (NTU)	Chl a (mg/L)	Secchi Depth (m)
	(m)	(mgO/L)	(mg/L)	(mS/m)												
18-Feb-02	0	5.3	36.4	26.0	1	8	0.020	0.011	0.020	0.12	9.5	46.0	1.6	48.6	0.111	0.2
17-Jun-02	0	1.0	41.7	26.3	170	1100	0.005	0.004	0.005	0.04	7.7	11.4	0.5	11.9	0.021	0.7
28-Aug-02	0	1.0	37.3	23.7	8	23	0.005	0.019	0.010	0.09	7.8	20.0	0.3	24.0	0.064	0.4
20-Nov-02	0	1.0	40.9	23.6	30	80	0.005	0.019	0.020	0.04	7.9	29.8	1.2	26.8	0.038	
median		1.0	39.1	24.9	19	52	0.005	0.015	0.015	0.07	7.9	24.9	0.9	25.4	0.051	0.4
mean		2.1	39.1	24.9	52	303	0.009	0.013	0.014	0.07	8.2	26.8	0.9	27.8	0.059	0.4
18-Feb-02	5	5.1	37.4	26.0	1	17	0.020	0.009	0.020	0.16	9.1	55.0	1.8	59.4	0.091	
17-Jun-02	5	1.0	42.0	26.0	900	1700	0.005	0.007	0.005	0.06	7.7	18.7	0.7	20.0	0.025	
28-Aug-02	5	2.4	37.6	23.7	13	23	0.020	0.012	0.010	0.10	7.8	19.0	2.6	23.0	0.079	
20-Nov-02	5	1.0	41.4	23.6	17	80	0.005	0.014	0.040	0.04	8.1	32.3	1.2	28.3	0.047	
median		1.7	39.5	24.9	15	52	0.013	0.011	0.015	0.08	8.0	25.7	1.5	25.7	0.063	
mean		2.4	39.6	24.8	233	455	0.013	0.011	0.019	0.09	8.2	31.3	1.6	32.7	0.060	

APPENDIX 46: LAKE TOMARATA

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N	NO ₃ /NO ₂ -N	DRP	TP	pH	SS	TKN	Turb	Chl a	Secchi Depth
	(m)	(mgO/L)	(mg/L)	(mS/m)			(mg/L)	(mg/L)	(mg/L)	(mg/L)		(mg/L)	(mg/L)	(NTU)	(mg/L)	(m)
18-Feb-02	0	1.0	47.0	18.1	11	170	0.050	0.010	0.020	0.03	7.8	3.7	0.1	2.4	0.009	1.5
17-Jun-02	0	1.0	37.0	16.8	9	170	0.005	0.080	0.020	0.02	8.2	1.8	0.4	1.5	0.006	2.0
28-Aug-02	0	1.0	34.9	15.7	7	7	0.005	0.022	0.005	0.02	8.1	1.4	0.1	1.8	0.006	1.4
20-Nov-02	0	1.0	36.8	15.5	2	22	0.030	0.023	0.005	0.01	7.4	2.1	0.6	1.6	0.005	
median		1.0	36.9	16.3	8	96	0.018	0.023	0.013	0.02	8.0	2.0	0.3	1.7	0.006	1.5
mean		1.0	38.9	16.5	7	92	0.023	0.034	0.013	0.02	7.9	2.3	0.3	1.8	0.007	1.6
18-Feb-02	5	2.6	36.1	18.4	8	220	0.070	0.012	0.020	0.03	7.6	2.0	1.5	2.3	0.009	
17-Jun-02	5	1.0	38.5	16.9	8	80	0.020	0.006	0.005	0.02	8.0	1.9	0.7	1.6	0.009	
28-Aug-02	5	1.0	39.0	16.3	13	13	0.010	0.022	0.005	0.01	7.9	1.7	0.1	2.0	0.007	
20-Nov-02	5	1.0	37.4	15.7	22	80	0.005	0.024	0.010	0.01	7.3	2.0	0.7	1.7	0.003	
median		1.0	38.0	16.6	11	80	0.015	0.017	0.008	0.02	7.8	2.0	0.7	1.9	0.008	
mean		1.4	37.8	16.8	13	98	0.026	0.016	0.010	0.02	7.7	1.9	0.7	1.9	0.007	

APPENDIX 47: LAKE WAINAMU

(Note that $\text{g/m}^3 = \text{g m}^{-3} = \text{mg/L}$)

Date	Depth	BOD	Chloride	EC	Faecal Coliform (MPN/100 mL)	Presumptive Coliform (MPN/100mL)	NH ₄ -N	NO ₃ /NO ₂ -N	DRP	TP	pH	SS	TKN	Turb	Chl a	Secchi Depth
	(m)	(mgO/L)	(mg/L)	(mS/m)			(mg/L)	(mg/L)	(mg/L)	(mg/L)		(mg/L)	(mg/L)	(NTU)	(mg/L)	(m)
18-Feb-02	0	2.5	38.1	20.1	4	50	0.005	0.009	0.020	0.04	8.0	3.4	0.4	11.7	0.015	0.8
17-Jun-02	0	1.0	40.2	19.5	50	50	0.005	0.028	0.010	0.03	7.9	4.0	0.2	11.2	0.016	0.7
28-Aug-02	0	1.0	40.8	18.5	500	700	0.005	0.075	0.030	0.03	7.9	6.2	2.2	13.0	0.019	0.8
20-Nov-02	0	1.0	42.2	18.6	8	13	0.010	0.007	0.010	0.02	8.0	3.3	0.5	10.9	0.004	
median		1.0	40.5	19.1	29	50	0.005	0.019	0.015	0.03	8.0	3.7	0.5	11.5	0.015	0.8
mean		1.4	40.3	19.2	141	203	0.006	0.030	0.018	0.03	8.0	4.2	0.8	11.7	0.013	0.8
18-Feb-02	15	1.0	38.6	20.5	4	4	0.020	0.016	0.020	0.04	7.5	1.8	1.0	11.6	0.004	
17-Jun-02	15	1.0	40.4	19.9	30	50	0.005	0.030	0.010	0.03	7.8	3.3	0.2	11.8	0.011	
28-Aug-02	15	1.0	40.5	18.5	7	7	0.020	0.071	0.020	0.03	7.7	4.3	1.8	14.0	0.009	
20-Nov-02	15	1.0	42.5	18.9	23	23	0.030	0.006	0.010	0.02	7.8	3.0	0.5	10.5	0.004	
median		1.0	40.5	19.4	15	15	0.020	0.023	0.015	0.03	7.8	3.2	0.8	11.7	0.007	
mean		1.0	40.5	19.5	16	21	0.019	0.031	0.015	0.03	7.7	3.1	0.9	12.0	0.007	

