

## **Appendix 3**

### **Quality Assurance and Quality Control**

Results for internal QA/QC for sampling efficiency for the sampling rounds Autumn '97, Spring '97, Autumn '98, Spring '98, Autumn '99 and Spring '99.

Site		Actual:			Normalised (100):		
Autumn 1997	Sampler	Rel. Ab	Pres/ Abs	LS/WSE	Rel. Ab	Pres/ Abs	LS/WSE
AT04R	TK	0.2683	0.1613	1.3846	0.3498	0.1613	1.3846
C01E	DO	0.7067	0.3143	0.9444	0.7825	0.3939	1.0625
AT03E	TK	0.381	0.1111	0.8000	0.4266	0.1111	0.8000
CT35R	TK	0.3153	0.0556	1.1176	0.387	0.1176	1.2667
BT04E	TK	0.2822	0.1515	1.3571	0.358	0.1875	1.4615
BT28E	DO	0.372	0.1429	1.4286	0.5	0.2121	1.5385
BT20R	TK	0.4823	0.1	1.1053	0.6355	0.1351	0.1313
DT10R	TK	0.2998	0.1064	1.2381	0.4347	0.1556	1.3684
DT31R	DO	0.3827	0.1837	0.9600	0.4521	0.1739	1.0909
<b>Average</b>		0.3878	0.1474	1.1484	0.4807	0.1831	1.1227

Site		Actual:			Normalised (100):		
Spring 1997	Sampler	Rel. Ab	Pres/ Abs	LS/WSE	Rel. Ab	Pres/ Abs	LS/WSE
BT03E	DO	0.3134	0.2432	1.0556	0.3169	0.1135	1.0556
D14R	DO	0.5982	0.2273	0.7600	0.4906	0.1282	0.9500
D14R	TK	0.5804	0.2083	0.8846	0.4892	0.1364	1.0952
C13R	DO	0.3635	0.2000	0.7500	0.4551	0.1613	0.9375
C13R	TK	0.4156	0.1915	0.9583	0.4327	0.1163	1.1500
CMON4R	DO	0.4672	0.2821	0.9500	0.5174	0.2105	1.0000
CMON4R	TK	0.5565	0.2000	1.1053	0.5736	0.1892	1.3125
BT9E	TK	0.4387	0.2353	1.4286	0.4727	0.1111	1.2500
DT21E	DO	0.6126	0.3000	0.8182	0.5132	0.1579	0.9000
DT23E	DO	0.4615	0.3191	0.8077	0.517	0.2889	0.8400
DT45R	DO	0.3507	0.2195	0.7083	0.4644	0.0857	0.9444
DT45R	TK	0.3508	0.1795	0.8571	0.4118	0.1111	1.0000
BT32E	TK	0.4076	0.2778	1.4000	0.349	0.1282	1.1667
AT15R	TK	0.4521	0.2941	0.7000	0.4667	0.2222	0.6364
<b>Average</b>		0.4549	0.2413	0.9417	0.4622	0.1543	1.0170

Site		Actual:			Normalised (100):		
Autumn 98	Sampler	Rel. Ab	Pres/ Abs	LS/WSE	Rel. Ab	Pres/ Abs	LS/WSE
E16R	TK	0.372	0.1556	1.0455	0.3816	0.0909	1.0952
E23E	TK	0.6674	0.2727	1.2000	0.758	0.3333	1.1429
E27E	NP	0.4785	0.3500	1.0000	0.46	0.2308	1.0000
E34R	TK	0.4645	0.3023	0.7917	0.3074	0.1500	0.9048
ET01E	TK	0.377	0.2308	1.0526	0.3413	0.1579	1.1111
F11E	NP	0.4743	0.2917	1.1818	0.3971	0.1429	1.1304
FT15R	NP	0.4139	0.2857	1.0000	0.7106	0.3023	0.9545
FT17E	TK	0.5582	0.2917	1.4000	0.4277	0.0980	1.2174
G26R	TK	0.3681	0.3023	0.7200	0.348	0.2000	0.8182
G29R	NP	0.4192	0.1818	0.9130	0.3512	0.0476	1.0000
GT06R	NP	0.356	0.2727	1.0952	0.4359	0.1429	1.2105
GT25R	TK	0.4385	0.2381	1.1000	0.3798	0.0698	1.0476
H05R	NP	0.3722	0.0833	1.0870	0.3512	0.0833	1.0870
H14R	TK	0.2438	0.4815	0.5882	0.1133	0.3077	0.6250
HT09E	NP	0.5306	0.3333	1.0769	0.3468	0.0714	1.0000
HT10R	NP	0.4664	0.2222	1.2500	0.4268	0.1418	1.2500
HT18R	NP	0.43	0.1837	0.9600	0.3701	0.0638	1.0435
<b>Average</b>		0.4371	0.2635	1.0272	0.4063	0.1550	1.0375

Site		Actual:			Normalised (100):		
Spring 98	Sampler	Rel. Ab	Pres/ Abs	LS/WSE	Rel. Ab	Pres/ Abs	LS/WSE
A19R	NP	0.3926	0.3333	1.0455	0.2901	0.1556	1.0455
E18E	NP	0.2764	0.3143	1.1875	0.1443	0.2105	1.0000
E19R	NP	0.4643	0.1556	1.1429	0.3581	0.0909	1.2000
E39E	NP	0.3448	0.2105	1.0000	0.292	0.1351	1.0556
T02R	TK	0.1877	0.3333	1.0000	0.3311	0.2000	1.2727
ET09R	NP	0.2857	0.1892	1.0556	0.1667	0.1053	1.0000
F03E	RP	0.3313	0.1628	1.1500	0.2981	0.1163	1.1500
F11E	NP	0.4719	0.1915	1.0435	0.3333	0.0870	1.0909
FT17R	TK	0.3786	0.2000	1.2727	0.4286	0.1429	1.3333
FT18R	NP	0.6207	0.3778	1.0455	0.3302	0.0612	0.8846
G01R	NP	0.392	0.3200	1.0000	0.3472	0.2000	1.0000
G24E	NP	0.5200	0.1250	0.9200	0.2736	0.0417	0.9200
GT17R	TK	0.3561	0.2340	1.2381	0.4398	0.0800	1.0833
GT21E	TK	0.4861	0.3143	1.5000	0.4096	0.2222	1.4000
GT25R	TK	0.3472	0.2245	1.0417	0.3011	0.0870	1.1905
GT31E	NP	0.3083	0.2195	0.8636	0.1946	0.1282	0.9500
H03R	NP	0.3969	0.3171	1.0500	0.3080	0.0952	1.0000
H09E	TK	0.3740	0.1250	1.0000	0.3118	0.0323	1.0667
H13E	NP	0.3579	0.1556	0.9565	0.2955	0.0909	1.0000
H13R	NP	0.4695	0.3462	1.0800	0.3776	0.1852	1.0000
H33R	TK	0.3238	0.2000	0.8000	0.3139	0.2195	0.9524
H37E	TK	0.4583	0.2000	1.3077	0.2898	0.1250	1.1333
<b>Average</b>		0.3884	0.2386	1.0773	0.3107	0.1278	1.0786

<b>Site</b>		<b>Actual:</b>			<b>Normalised (100):</b>		
<b>Autumn 1999</b>	<b>Sampler</b>	<b>Rel. Ab</b>	<b>Pres/ Abs</b>	<b>LS/WSE</b>	<b>Rel. Ab</b>	<b>Pres/ Abs</b>	<b>LS/WSE</b>
B11E	TK	0.3077	0.2821	0.8571	0.2381	0.2105	0.9000
E15E	TK	0.3001	0.2057	1.2609	0.3223	0.1837	1.3810
FT24E	TK	0.3449	0.2381	1.3333	0.4381	0.1364	1.2000
G32R	TK	0.3295	0.1351	0.9474	0.348	0.0811	0.9474
GT18R	TK	0.3874	0.1739	1.3000	0.3832	0.1064	1.2381
H34R	TK	0.2899	0.2683	0.7826	0.2706	0.2308	0.8571
H35R	TK	0.4251	0.2778	0.8000	0.4164	0.1515	0.9412
HT07R	TK	0.4652	0.3333	0.8750	0.234	0.1724	0.9333
<b>Average</b>		0.3562	0.2393	1.0195	0.3313	0.1591	1.0498

<b>Site</b>		<b>Actual:</b>			<b>Normalised (100):</b>		
<b>Spring 99</b>	<b>Sampler</b>	<b>Rel. Ab</b>	<b>Pres/ Abs</b>	<b>LS/WSE</b>	<b>Rel. Ab</b>	<b>Pres/ Abs</b>	<b>LS/WSE</b>
C18 R	TK	0.3276	0.2000	1.0833	0.4898	0.1250	0.1818
E36 E	TK	0.3491	0.2558	0.8690	0.3184	0.2000	1.0000
FT02 E	TK	0.4350	0.2683	1.7333	0.4670	0.3000	1.8571
FT33 E	TK	0.3105	0.2000	1.2222	0.3555	0.1000	1.2222
G17 E	TK	0.3474	0.2195	1.0500	0.2955	0.1500	1.1053
G21 R	TK	0.4314	0.1321	1.1200	0.4930	0.1837	1.3333
GT16 R	TK	0.3346	0.2000	1.0950	0.4792	0.2381	1.2778
<b>Average</b>		0.3622	0.2108	1.1675	0.4141	0.1853	1.1396

Site	Identifier	Total No. of Taxa	No. of New Taxa	Percent	Pass /Fail	Total No. of Organisms	No. of incorrect ID's or Counts	Percent	Pass /Fail
<b>Autumn 1995</b>									
A04 Riffle	MN	22	5	22.7	Fail	192	31	16.1	Fail
	DO	22	3	13.6	Fail	192	20	10.4	Fail
	TK	22	5	22.7	Fail	192	34	17.7	Fail
A08 Riffle	MN	19	3	15.8	Fail	243	16	6.6	Pass
	DO	19	2	10.5	Fail	243	11	4.5	Pass
	TK	19	3	15.8	Fail	243	8	3.3	Pass
	LC	19	2	10.5	Fail	243	11	4.5	Pass
A19 Riffle	MN	23	4	17.4	Fail	131	11	8.4	Pass
	DO	23	4	17.4	Fail	131	13	9.9	Pass
	TK	23	6	26.1	Fail	131	13	9.9	Pass
	LC	23	3	13	Fail	131	5	3.8	Pass
A20 Riffle	MN	23	3	13	Fail	177	9	5.1	Pass
	DO	23	3	13	Fail	177	7	4	Pass
	TK	23	3	13	Fail	177	7	4	Pass
	LC	23	3	13	Fail	177	12	6.8	Pass
B01 Edge	MN	17	4	23.5	Fail	163	13	8	Pass
	DO	17	3	17.6	Fail	163	12	7.4	Pass
	TK	17	4	23.5	Fail	163	14	8.6	Pass
	LC	17	3	17.6	Fail	163	8	4.9	Pass
B02 Edge	MN	10	2	20	Fail	44	12	27.3	Fail
	DO	10	2	20	Fail	44	3	6.8	Pass
	TK	10	2	20	Fail	44	3	6.8	Pass
	LC	10	2	20	Fail	44	2	4.5	Pass
<b>Autumn 1996</b>									
A17 Riffle	TK	23	0	0	Pass	316	2	0.63	Pass
B01 Riffle	TK	22	0	0	Pass	353	3	0.85	Pass
B09 Edge	TK	17	0	0	Pass	168	1	0.6	Pass
B11 Riffle	TK	19	0	0	Pass	334	3	0.9	Pass
B18 Riffle	TK	22	0	0	Pass	167	1	0.6	Pass
B22 Riffle	TK	22	0	0	Pass	353	5	1.42	Pass
C02 Riffle	TK	23	0	0	Pass	246	3	1.2	Pass
C12 Riffle	TK	24	0	0	Pass	241	6	2.5	Pass
C19 Riffle	TK	23	0	0	Pass	323	8	2.5	Pass
D06 Riffle	PL	22	0	0	Pass	292	1	0.3	Pass
D24 Riffle	TK	15	0	0	Pass	178	1	0.6	Pass
<b>Autumn 1997</b>									
AT03 Riffle	TK	15	0	0	Pass	117	2	1.71	Pass
AT12 Edge	TK	15	0	0	Pass	193	2	1.04	Pass
AT18 Edge	DO	14	0	0	Pass	161	9	5.59	Pass
BT05 Edge	DO	22	0	0	Pass	208	1	0.48	Pass
BT13 Riffle	TK	24	0	0	Pass	232	2	0.86	Pass
BT22 Riffle	TK	21	0	0	Pass	206	4	1.94	Pass
CT07 Edge	TK	21	0	0	Pass	213	2	0.94	Pass
CT20 Edge	TK	20	0	0	Pass	210	5	2.38	Pass
CT36 Riffle	TK	23	0	0	Pass	189	4	2.12	Pass
DT07 Edge	TK	20	0	0	Pass	167	1	0.6	Pass
DT21 Edge	TK	26	0	0	Pass	206	7	3.4	Pass
DT41 Edge	TK	22	0	0	Pass	168	3	1.79	Pass

Site	Identifier	Total No. of Taxa	No. of New Taxa	Percent	Pass /Fail	Total No. of Organisms	No. of incorrect ID's or Counts	Percent	Pass /Fail
<b>Spring 1997</b>									
AT04 Edge	DH	23	2	8.7	Pass	204	7	3.43	Pass
AT07 Edge	DH	7	0	0	Pass	84	1	1.19	Pass
AT11 Riffle	DH	15	3	20	Fail	164	31	18.9	Fail
AT12 Riffle	DH	16	0	0	Pass	213	3	1.41	Pass
AT16 Edge	DH	15	2	13.3	Fail	208	9	4.33	Pass
AT16 Riffle	DH	23	0	0	Pass	209	6	2.87	Pass
AT18 Riffle	DH	14	2	14.3	Fail	162	13	8.02	Pass
B11 Riffle	CM	17	0	0	Pass	209	2	0.96	Pass
BT14 Edge	CM	27	2	7.4	Pass	180	3	1.67	Pass
BT19 Riffle	DH	22	0	0	Pass	196	5	2.55	Pass
BT22 Edge	NP	23	0	0	Pass	207	3	1.45	Pass
BT24 Edge	CS	18	1	5.6	Pass	206	6	2.91	Pass
BT25 Edge	CS	24	2	8.3	Pass	201	13	6.47	Pass
<b>Autumn 1998</b>									
E04 Edge	TK	21	0	0	Pass	227	5	2.2	Pass
E17 Edge	RP	26	0	0	Pass	205	0	0	Pass
E22 Riffle	RP	26	0	0	Pass	217	7	3.23	Pass
E30 Edge	NP	23	0	0	Pass	176	9	5.11	Pass
ET06 Riffle	NP	27	1	3.7	Pass	244	6	2.46	Pass
F03 Riffle	RP	31	0	0	Pass	205	2	0.98	Pass
F12 Edge	RP	22	0	0	Pass	170	0	0	Pass
FT18 Edge	NP	26	1	3.8	Pass	203	10	4.93	Pass
FT20 Riffle	TK	23	1	4.3	Pass	218	2	0.92	Pass
G07 Edge	RP	19	0	0	Pass	129	0	0	Pass
G31 Riffle	RP	23	0	0	Pass	238	0	0	Pass
G40 Edge	NP	13	0	0	Pass	117	1	0.85	Pass
GT33 Riffle	RP	22	0	0	Pass	205	1	0.49	Pass
GT37 Edge	TK	29	0	0	Pass	163	2	1.23	Pass
H05 Riffle	TK	27	0	0	Pass	202	2	0.99	Pass
H11 Riffle	TK	21	0	0	Pass	160	0	0	Pass
H19 Edge	RP	21	1	4.8	Pass	171	0	0	Pass
HT17 Edge	RP	17	0	0	Pass	160	1	0.63	Pass

Site	Identifier	Total No. of Taxa	No. of New Taxa	Percent	Pass /Fail	Total No. of Organisms	No. of incorrect ID's or Counts	Percent	Pass /Fail
<b>Spring 1998</b>									
B14 Riffle	DH	24	0	0	Pass	185	0	0	Pass
D14 Edge	MR	20	0	0	Pass	195	2	1.03	Pass
E08 Riffle	RP	26	0	0	Pass	131	0	0	Pass
E22 Edge	TK	20	0	0	Pass	140	3	2.14	Pass
E23 Edge	RP	25	0	0	Pass	172	0	0	Pass
ET14 Edge	DH	30	0	0	Pass	174	0	0	Pass
ET20 Riffle	TK	14	0	0	Pass	147	0	0	Pass
F01 Edge	TK	24	0	0	Pass	189	2	1.06	Pass
F02 Riffle	TK	27	0	0	Pass	191	4	2.09	Pass
FT02 Edge	DH	23	0	0	Pass	142	0	0	Pass
FT13 Edge	TK	23	0	0	Pass	154	0	0	Pass
G01 Riffle	DH	25	1	4	Pass	187	2	1.07	Pass
G12 Riffle	DH	23	2	8.7	Pass	206	5	2.43	Pass
G33 Riffle	TK	31	0	0	Pass	265	2	0.75	Pass
GT14 Edge	DH	28	1	3.6	Pass	127	7	5.51	Pass
GT31 Riffle	DH	28	0	0	Pass	163	1	0.61	Pass
GT42 Riffle	TK	22	0	0	Pass	212	0	0	Pass
H02 Riffle	RP	22	0	0	Pass	221	1	0.45	Pass
HEC05 Riffle	DA	21	1	4.8	Pass	220	5	2.27	Pass
HEC06 Edge	MJ	23	1	4.3	Pass	149	3	2.01	Pass
HT05 Edge	DH	26	0	0	Pass	184	0	0	Pass
HT19 Edge	TK	20	0	0	Pass	128	1	0.78	Pass
<b>Autumn 1999</b>									
B09 Riffle	TK	27	0	0	Pass	251	2	0.8	Pass
E15 Edge	DH	29	0	0	Pass	196	4	2.04	Pass
E36 Riffle	TK	21	0	0	Pass	195	0	0	Pass
F12 Edge	TK	25	0	0	Pass	222	3	1.35	Pass
FT26 Edge	DH	23	0	0	Pass	226	3	1.33	Pass
GT16 Riffle	DH	18	0	0	Pass	206	2	0.97	Pass
H34 Riffle	DH	18	0	0	Pass	153	0	0	Pass
<b>Spring 1999</b>									
A19 Riffle	AJ	24	3	12.5	Fail	221	10	4.5	Pass
C18 Riffle	AJ	27	2	7.4	Pass	324	6	1.8	Pass
D11 Edge	AJ	22	1	4.5	Pass	168	2	1.19	Pass
E15 Riffle	DH	27	0	0	Pass	228	0	0	Pass
GT06 Riffle	AF	22	1	4.5	Pass	256	7	2.73	Pass
GT25 Edge	AF	26	0	0	Pass	243	3	1.23	Pass
GT33 Edge	NP	26	1	3.9	Pass	236	7	2.96	Pass
Mer15 Riffle	AF	19	1	5.2	Pass	251	1	0.39	Pass
<b>Autumn 2000</b>									
C20 Edge	AF	31	2	6.5	Pass	235	16	6.81	Pass
C18 Riffle	AF	25	0	0	Pass	240	9	3.75	Pass
E36 Edge	AF	26	0	0	Pass	193	4	2.07	Pass
D07 Riffle	AF	24	2	8.33	Pass	212	36	16.98	Fail
B11 Edge	AF	29	0	0	Pass	246	0	0	Pass
C22 Riffle	JG	20	1	5	Pass	245	1	0.41	Pass