AB-179

CONSTRUCTION PHASE
ECOLOGICAL MONITORING PROGRAM

MARBLE HILL
NUCLEAR GENERATING STATION
UNITS 1 AND 2

FINAL REPORT
FEBRUARY - NOVEMBER 1978

APPENDIX: VOLUME 2

FEBRUARY 1979

APPLIED BIOLOGY, INC.

ATLANTA, GEORGIA

APPENDIX TABLES

APPENDIX TABLES
(continued)

APPENDIX TABLE A-1

WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE

Parameter	1 liter preservative	Holding time	95% confidence level on detection limit	Method	Page[a]
pH	none	none[b]	0.1 pH	Electronic pH meter	424
Alkalinity	none	6 hours	1.0 mg/l as $CaCo_3$	Potentiometric titration	278
Dissolved oxygen	none	none[b]	0.1 mg/l	Electronic dissolved oxygen meter	84
Specific conductance	none	7 days[b]	1 µmho/cm	Electronic conductance meter	73
Total dissolved solids	none	7 days	1.0 mg/l	Gravimetric	93
Total suspended solids[c]	none	7 days	1.0 mg/l	Gravimetric	94
Calcium	HNO_3 to <pH2	6 months	0.01 mg/l	Flame photometric method	148
Magnesium	5 ml HNO_3	7 days	0.01 mg/l	Atomic absorption spectrometric method	148
Sodium	5 ml HNO_3	7 days	0.01 mg/l	Flame photometric method	250
Chloride	none	7 days	0.5 mg/l	Argentometric method	303
Sulfate	4°C	7 days	0.2 mg/l	Turbidimetric method with spectrophotometer	496

a Procedures are described in APHA (1976) on given page numbers.
b Field determined.
c Station 8 only.

APPENDIX TABLE A-1
(continued)
WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE

Parameter	1 liter preservative	Holding time	95% confidence level on detection limit	Method	Page[a]
Chemical oxygen demand	H_2SO_4 to <PH2	24 hours	0.1 mg/l	Dichromate reflux method	550
Biochemical oxygen demand	4°C	6 hours	0.1 mg/l	Azide method	548
Total organic carbon	H_2SO_4 to <pH2	24 hours	1.0 mg/l	Combustion-infrared method	532
Orthophosphate[d]	4°C	24 hours	0.01 mg/l	Ascorbic acid method with spectrophotometer	476
Total phosphorus	4°C	24 hours	0.01 mg/l	Digestion and ascorbic acid method with spectrophotometer	476
Nitrate nitrogen	H_2SO_4 to <pH2, 4°C	24 hours	0.01 mg/l N	Cadmium reduction with diazotization	423
Ammonia nitrogen	H_2SO_4 to <pH2, 4°C	24 hours	0.01 mg/l N	Indophenol method with spectrophotometer	412
Organic nitrogen	H_2SO_4 to <pH2, 4°C	24 hours	0.01 mg/l N	Kjeldahl nitrogen minus ammonia nitrogen	406
Silica	4°C	7 days	0.2 mg/l	Heteropoly blue method with a spectrophotometer	490
Phenol	5 ml H_3PO_4, 1 g. $CuSO_4$, 4°C	24 hours	0.001 mg/l	Amino antipyrine method	577

[a] Procedures are described in APHA (1976) on given page numbers.
[b] Field determined.
[c] Station 8 only.
[d] Filtered in the field.

APPENDIX TABLE A-1
(continued)
WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE

Parameter	1 liter preservative	Holding time	95% confidence level on detection limit	Method	Page[a]
Hexane-soluble materials	HCl to <pH2, 4°C	24 hours	variable	Soxhlet extraction method	518
Free residual chlorine	none	none[b]	0.01 mg/l	Amperometric titration	322
Chloramines	none	none[b]	0.01 mg/l	Amperometric titration	322

[a] Procedures are described in APHA (1976) on given page numbers.
[b] Field determined.
[c] Station 8 only.
[d] Filtered in the field.

APPENDIX TABLE A-2

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorous (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.74	1.82	0.27	0.40	0.02
1B	0.75	1.83	0.28	0.38	0.02
Avg.	0.75	1.83	0.28	0.39	0.02
3A	0.73	1.77	0.31	0.35	0.02
3B	0.61	1.81	0.29	0.40	0.02
Avg.	0.67	1.79	0.30	0.38	0.02
5A	0.72	1.78	0.28	0.35	0.02
5B	0.72	1.76	0.29	0.40	0.02
Avg.	0.72	1.77	0.28	0.38	0.02
6A	0.12	1.97	0.05	0.04	<0.01
6B	0.13	1.96	0.05	0.05	<0.01
Avg.	0.13	1.97	0.05	0.05	<0.01

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	14.2	5.6	44.6	<10	*
1B	14.5	5.6	45.0	< 10	*
Avg.	14.4	5.6	44.8	< 10	
3A	14.0	5.5	44.2	< 10	0.008
3B	14.1	5.7	45.0	< 10	0.009
Avg.	14.1	5.6	44.6	< 10	0.009
5A	14.2	5.8	45.2	< 10	0.007
5B	14.1	5.7	44.5	< 10	0.007
Avg.	14.2	5.8	44.9	< 10	0.007
6A	7.3	6.6	43.1	10	<0.002
6B	7.2	6.7	43.2	11	<0.002
Avg.	7.3	6.7	43.2	11	<0.002

* Broken in shipment

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	58.4	<0.01	<0.01
1B	59.3	<0.01	<0.01
Avg.	58.9	<0.01	<0.01
3A	60.0	<0.01	<0.01
3B	59.8	<0.01	<0.01
Avg.	59.9	<0.01	<0.01
5A	60.5	<0.01	<0.01
5B	59.6	<0.01	<0.01
Avg.	60.1	<0.01	<0.01
6A	196.6	<0.01	<0.01
6B	195.9	<0.01	<0.01
Avg.	196.3	<0.01	<0.01

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	22.0	3.0	9.47
1B	30.0	2.9	9.60
Avg.	26.0	3.0	9.54
3A	22.0	2.8	9.88
3B	36.0	2.2	10.25
Avg.	29.0	2.5	10.07
5A	29.0	5.0	9.61
5B	27.0	4.1	9.88
Avg.	28.0	4.6	9.75
6A	4.8	1.5	3.54
6B	1.6	3.2	3.45
Avg.	.2	2.4	3.50

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	33.25	9.96	8.61
1B	33.00	9.98	8.92
Avg.	33.10	9.97	8.77
3A	34.00	9.82	9.55
3B	34.00	9.76	8.64
Avg.	34.00	9.79	9.09
5A	35.33	9.79	8.87
5B	34.30	9.85	8.66
Avg.	34.82	9.82	8.77
6A	64.72	25.22	3.41
6B	63.97	25.40	3.53
Avg.	64.35	25.31	3.47

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	207	225
1B	203	237
Avg.	205	231
3A	188	240
3B	194	243
Avg.	191	242
5A	198	239
5B	177	234
Avg.	188	237
6A	300	94
6B	306	40
Avg.	303	67
8	276	390

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific Conductance (μmho/cm)
1	11.8	94	7.4	172
3	11.2	89	7.4	170
5	11.9	95	7.4	170
6	11.7	94	7.8	168

APPENDIX TABLE A-3

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorous (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.40	1.04	<0.01	0.02	<0.01
1B	0.24	1.03	<0.01	0.02	<0.01
Avg.	0.32	1.04	<0.01	0.02	<0.01
3A	0.40	1.00	<0.01	0.02	<0.01
3B	0.50	0.97	<0.01	0.02	<0.01
Avg.	0.45	0.99	<0.01	0.02	<0.01
5A	0.40	1.05	<0.01	0.03	<0.01
5B	0.40	0.75	<0.01	0.02	<0.01
Avg.	0.40	0.90	<0.01	0.03	<0.01
6A	0.62	1.55	<0.01	<0.01	<0.01
6B	0.63	1.53	<0.01	<0.01	<0.01
Avg.	0.63	1.54	<0.01	<0.01	<0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	14.6	5.08	66.0	12.6	<0.004
1B	15.6	5.12	66.0	13.3	<0.004
Avg.	15.1	5.10	66.0	13.0	<0.004
3A	15.1	5.28	68.8	12.5	<0.002
3B	15.6	5.28	68.8	12.9	<0.002
Avg.	15.4	5.28	68.8	12.7	<0.002
5A	15.1	5.32	68.8	10.7	<0.002
5B	15.1	5.36	68.8	10.0	<0.002
Avg.	15.1	5.34	68.8	10.4	<0.002
6A	11.3	5.62	80.0	10.1	<0.002
6B	10.8	5.76	86.0	9.1	<0.002
Avg.	11.1	5.69	83.0	9.6	<0.002

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	54.5	<0.01	<0.01
1B	54.5	<0.01	<0.01
Avg.	54.5	<0.01	<0.01
3A	55.5	<0.01	<0.01
3B	55.6	<0.01	<0.01
Avg.	55.6	<0.01	<0.01
5A	54.1	<0.01	<0.01
5B	55.6	<0.01	<0.01
Avg.	54.9	<0.01	<0.01
6A	192.9	<0.01	<0.01
6B	193.8	<0.01	<0.01
Avg.	193.4	<0.01	<0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	16.0	2.9	11.88
1B	16.0	2.5	11.52
Avg.	16.0	2.7	11.70
3A	19.2	2.3	12.48
3B	19.2	2.7	12.00
Avg.	19.2	2.5	12.24
5A	17.6	2.0	13.82
5B	17.6	2.4	9.82
Avg.	17.6	2.2	11.82
6A	14.4	<1.0	6.91
6B	6.4	<1.0	7.52
Avg.	10.4	<1.0	7.22

APPENDIX TABLE A-3

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	30.90	9.78	12.20
1B	31.36	9.75	12.02
Avg.	31.13	9.77	12.11
3A	31.08	9.63	12.18
3B	31.64	9.71	12.08
Avg.	31.36	9.67	12.13
5A	31.14	9.86	12.28
5B	31.54	9.75	12.04
Avg.	31.34	9.81	12.16
6A	64.01	30.62	10.08
6B	63.38	30.01	9.87
Avg.	63.65	30.32	9.98

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	196	94
1B	189	98
Avg.	193	96
3A	215	89
3B	219	73
Avg.	217	81
5A	212	121
5B	211	80
Avg.	212	101
6A	314	41
6B	346	36
Avg.	330	39
8	207	279

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific conductance (μmho/cm)
1	7.6	80	7.2	251
3	7.4	78	7.2	250
5	7.2	76	7.2	252
6	9.2	99	7.8	452

APPENDIX TABLE A-4

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorous (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.45	1.15	0.03	0.10	0.06
1B	0.23	1.29	0.03	0.12	0.06
Avg.	0.34	1.22	0.03	0.11	0.06
3A	0.46	1.17	0.03	0.12	0.07
3B	0.29	1.17	0.04	0.14	0.07
Avg.	0.38	1.17	0.04	0.13	0.07
5A	0.23	1.16	0.06	0.11	0.07
5B	0.24	1.28	0.05	0.11	0.07
Avg.	0.24	1.22	0.06	0.11	0.07
6A	0.69	1.33	0.05	0.10	0.09
6B	-- [a]	1.44	0.03	0.09	0.04
Avg.	0.69	1.39	0.04	0.10	0.07

[a]Lost sample

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Chlorides (mg/l)	Silica (SiO mg/l)	Sulfate (mg/l)	Hexane-soluble analysis (mg/l)	Phenols (mg/l)
1A	19.6	4.04	62.0	10.2	0.003
1B	21.1	4.26	64.0	12.1	<0.002
Avg.	20.4	4.15	63.0	11.2	<0.003
3A	22.1	4.16	64.0	-- [a]	0.006
3B	21.1	4.30	70.0	7.4	<0.002
Avg.	21.6	4.23	67.0	7.4	<0.004
5A	21.1	4.36	68.8	4.8	0.004
5B	22.1	4.18	66.0	4.1	<0.002
Avg.	21.6	4.27	67.4	4.5	<0.003
6A	17.6	5.56	92.0	16.4	0.003
6B	18.6	5.84	96.0	11.9	<0.002
Avg.	18.1	5.70	94.0	14.2	<0.003

[a]Lost sample

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	56.4	<0.01	<0.01
1B	57.5	<0.01	<0.01
Avg.	57.0	<0.01	<0.01
3A	56.5	<0.01	<0.01
3B	57.2	<0.01	<0.01
Avg.	56.9	<0.01	<0.01
5A	56.8	<0.01	<0.01
5B	57.5	<0.01	<0.01
Avg.	57.2	<0.01	<0.01
6A	111.8	<0.01	<0.01
6B	110.6	<0.01	<0.01
Avg.	111.2	<0.01	<0.01

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	8.0	2.0	6.18
1B	7.0	3.3	5.34
Avg.	7.5	2.7	5.76
3A	9.0	3.0	5.31
3B	7.0	3.8	5.50
Avg.	8.0	3.4	5.41
5A	8.0	2.9	6.40
5B	8.0	2.3	5.75
Avg.	8.0	2.6	6.08
6A	5.0	3.8	8.27
6B	2.0	4.1	8.37
Avg.	3.5	4.0	8.32

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and Replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	36.00	9.02	16.86
1B	35.58	9.10	16.98
Avg.	35.79	9.06	16.92
3A	35.74	8.98	17.07
3B	36.62	8.98	17.18
Avg.	36.18	8.98	17.13
5A	36.16	8.80	17.11
5B	36.20	9.02	17.24
Avg.	36.18	8.91	17.18
6A	53.84	23.28	9.86
6B	53.66	22.82	9.81
Avg.	53.75	23.05	9.84

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	187	34
1B	179	32
Avg.	183	33
3A	151	31
3B	166	31
Avg.	159	31
5A	179	34
5B	198	38
Avg.	189	36
6A	256	138
6B	240	126
Avg.	248	132
8	447	176

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific conductance (µmho)
1	6.9	77	7.4	331
3	6.7	83	7.6	328
5	6.0	74	7.3	318
6	8.9	99	8.0	445

APPENDIX TABLE A-5

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorous (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.39	1.42	0.17	0.08	0.04
1B	0.41	0.90	0.16	0.13	0.05
Avg.	0.40	1.16	0.17	0.11	0.05
3A	0.40	1.38	0.18	0.09	0.04
3B	0.50	1.02	0.17	0.19	0.04
Avg.	0.45	1.20	0.18	0.14	0.04
5A	0.51	1.06	0.16	0.17	0.04
5B	0.58	0.83	0.17	0.14	0.04
Avg.	0.55	0.95	0.17	0.16	0.04
6A	0.42	1.61	0.11	0.09	0.02
6B	0.45	1.49	0.10	0.38	0.02
Avg.	0.44	1.55	0.11	0.24	0.02

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble analysis (mg/l)	Phenols (mg/l)
1A	38.9	1.5	106.0	3.1	0.005
1B	40.4	1.5	114.0	5.3	<0.002
Avg.	39.7	1.5	110.0	4.2	<0.004
3A	41.8	1.6	110.0	-- [a]	0.003
3B	41.8	1.5	116.0	5.2	0.006
Avg.	41.8	1.6	113.0	5.2	0.005
5A	41.8	1.7	114.0	4.7	0.005
5B	41.3	1.4	110.0	4.5	0.005
Avg.	41.6	1.6	112.0	4.6	0.005
6A	26.1	3.6	118.0	4.2	<0.002
6B	25.2	3.8	124.0	3.8	[a]
Avg.	25.7	3.7	121.0	4.0	<0.002

[a]Lost sample.

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	72.5	<0.01	<0.01
1B	73.0	<0.01	<0.01
Avg.	72.8	<0.01	<0.01
3A	72.1	<0.01	<0.01
3B	72.8	<0.01	<0.01
Avg.	72.5	<0.01	<0.01
5A	72.3	<0.01	<0.01
5B	72.3	<0.01	<0.01
Avg.	72.3	<0.01	<0.01
6A	145.4	<0.01	<0.01
6B	145.9	<0.01	<0.01
Avg.	145.7	<0.01	<0.01

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	3.0	3.9	4.78
1B	5.0	4.0	6.02
Avg.	4.0	4.0	5.40
3A	5.0	4.4	6.15
3B	5.0	4.5	6.34
Avg.	5.0	4.5	6.25
5A	5.0	3.8	10.37
5B	5.0	3.4	10.50
Avg.	5.0	3.6	10.44
6A	5.0	4.2	13.75
6B	10.0	4.2	13.10
Avg.	8.0	4.2	13.43

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	50.52	13.79	33.14
1B	51.25	14.39	33.82
Avg.	50.89	14.09	33.48
3A	51.91	14.32	32.33
3B	50.89	13.87	32.59
Avg.	51.40	14.10	32.46
5A	51.40	13.94	32.50
5B	51.62	14.24	32.77
Avg.	51.51	14.09	32.64
6A	65.88	28.75	14.12
6B	65.11	29.43	14.10
Avg.	65.50	29.09	14.11

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and Replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	283	13
1B	274	9
Avg.	279	11
3A	241	15
3B	225	18
Avg.	233	17
5A	215	11
5B	231	15
Avg.	223	13
6A	334	50
6B	367	49
Avg.	351	50
8	-[a]	-[a]

[a]Lost sample.

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific conductance (µmho)
1	8.6	83	6.8	388
3	8.7	84	6.8	387
5	8.6	83	6.8	383
6	9.2	85	7.3	478

APPENDIX TABLE A-6

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
23 MARCH 1978

Parameter	Station 1	3	5	6	8
Temperature (°C)	5.9	6.1	5.7	5.8	- [a]
Current velocity (cm/sec)	250	250	275	250	- [a]
Secchi depth (cm)	12	10	10	10	- [a]
Water depth (m)	7.3	6.7	7.9	1.5	- [a]
Turbidity (NTU)	- [a]	- [a]	- [a]	- [a]	220

[a]Not required

APPENDIX TABLE A-7

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
25 MAY 1978

Parameter	Station 1	3	5	6	8
Temperature (°C)	18.2	18.0	18.5	19.6	- [a]
Current velocity (cm/sec)	105	200	255	145	- [a]
Secchi depth (cm)	23.5	22.0	20	17	- [a]
Water depth (m)	6.3	6.0	6.6	0.5	- [a]
Turbidity (NTU)	- [a]	- [a]	- [a]	- [a]	55

[a]Not required

APPENDIX TABLE A-8

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Parameter	Station 1	3	5	6	8
Temperature (°C)	27.9	27.3	26.7	21.3	- [a]
Current velocity (cm/sec)	70	60	100	<10	- [a]
Secchi depth (cm)	25	25	25	30	- [a]
Water depth (m)	5.4	5.6	6.0	0.5	- [a]
Turbidity (NTU)	- [a]	- [a]	- [a]	- [a]	125

[a]Not required

APPENDIX TABLE A-9

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Parameter	Station 1	3	5	6	8
Temperature (°C)	13.9	13.9	13.7	11.8	- [a]
Current velocity (cm/sec)	20	20	20	80	- [a]
Secchi depth (cm)	115	115	115	bottom visible	- [a]
Water depth (m)	5.1	4.4	5.3	0.5	- [a]
Turbidity (NTU)	- [a]	- [a]	- [a]	- [a]	- [b]

[a] Not required.
[b] Lost Sample.

APPENDIX TABLE B-1

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
23 MARCH 1978

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	4500	600	130	4.61
1B	3800	450	160	2.81
Avg.	4150	525	145	3.71
3A	3400	370	220	1.68
3B	1100	1000	120	8.33
Avg.	2250	685	170	5.00
6A	110	<20	40	<0.50
6B	50	<20	50	<0.40
Avg.	80	<20	45	<0.45
8A	700	<20	60	<0.33
8B	800	<20	30	<0.67
Avg.	750	<20	45	<0.50

APPENDIX TABLE B-2

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
25 MAY 1978

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	63,000	4,800	710	6.76
1B	57,000	3,800	660	5.76
Avg.	60,000	4,300	685	6.26
3A	56,000	2,800	470	5.96
3B	54,000	5,900	560	10.53
Avg.	55,000	4,350	510	8.24
6A	27,000	2,000	390	2.56
6B	29,000	1,000	410	2.43
Avg.	28,000	1,500	400	2.49
8A	49,000	3,100	500	6.20
8B	51,000	3,800	580	6.55
Avg.	50,000	3,450	540	6.37

APPENDIX TABLE B-3

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1978

Station and replicate	Total coliforms (counts/ 100 ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	40,000	400	290	1.38
1B	32,000	450	310	1.45
Avg.	36,000	425	300	1.42
3A	75,000	1,000	410	2.44
3B	72,000	1,000	400	2.50
Avg.	73,500	1,000	405	2.50
6A	64,000	450	4,100	0.11
6B	76,000	380	4,100	0.09
Avg.	70,000	415	4,100	0.10
8A	54,000	120	7,200	0.02
8B	43,000	100	6,600	0.02
Avg.	48,500	110	6,900	0.02

APPENDIX TABLE B-4

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Station and replicate	Total coliforms (counts/ 100 ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	12,000	90	90	1.00
1B	15,000	90	130	0.69
Avg.	13,500	90	110	0.82
3A	9,000	170	70	2.43
3B	15,000	190	40	4.75
Avg.	12,000	180	55	3.27
6A	21,000	440	1,100	0.40
6B	28,000	290	2,400	0.12
Avg.	24,500	365	1,750	0.21
8A	30,000	290	1,500	0.19
8B	24,000	270	1,200	0.23
Avg.	27,000	280	1,350	0.21

APPENDIX TABLE C.1-1

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x	A	B	x	A	B	x	A	B	x
BACILLARIOPHYTA												
Centrales												
Coscinodiscus lacustris				13.3	0.0	6.6						
Cyclotella Meneghiniana	657.9	685.2	671.6	393.7	539.0	466.3	664.7	576.5	620.6	19.3	7.1	13.2
C. pseudostelligera				0.0	23.5	11.8	53.2	80.1	66.7	2.0	1.7	1.8
C. stelligera				42.0	35.3	38.7	11.1	25.9	18.5	2.0	0.0	1.0
Cyclotella sp. 1	67.0	298.5	182.7	77.4	63.5	70.5	42.1	134.4	88.3			
Melosira distans	21.5	18.3	19.9	112.8	47.1	79.9	75.3	25.9	50.6	16.5	20.5	18.5
M. granulata	21.5	88.3	54.9	42.0	58.8	50.4	42.1	41.4	41.7	13.5	3.7	8.6
M. granulata v. *angustissima*	43.1	0.0	21.5	0.0	23.5	11.8	11.1	41.4	26.2	3.9	0.0	2.0
M. varians	43.1	0.0	21.5	28.8	0.0	14.4						
Stephanodiscus astraea	21.5	210.1	115.8	70.8	94.1	82.5	42.1	108.6	75.3	2.0	0.0	1.0
Pennales												
Achnanthes defl. v.	21.5	0.0	10.8									
A. fragilarioides				13.3	11.8	12.5						
A. lanceolata	0.0	51.8	25.9	13.3	23.5	18.4	11.1	41.4	26.2	7.8	1.7	4.8
A. lanceolata v. *dubia*	21.5	51.8	36.7	13.3	0.0	6.6						
A. minutissima	220.1	298.5	259.3	267.6	235.4	251.5	332.4	188.7	260.5	7.8	41.1	24.4
Achnanthes sp. 1	21.5	106.6	64.1	55.3	11.8	33.5	64.3	93.1	78.7	3.9	17.9	10.9
Achnanthes sp. 2	21.5	0.0	10.8							0.0	3.7	1.8
Achnanthes sp. 3				13.3	0.0	6.6						
Amphora ovalis v. *pediculus*	67.0	0.0	33.5	0.0	23.5	11.8	11.1	12.9	12.0	0.0	14.3	7.1
Amphora sp. 1	21.5	0.0	10.8	0.0	11.8	5.9	22.2	0.0	11.1	0.0	1.7	0.9
Asterionella formosa	21.5	0.0	10.8									
A. formosa v. *gracillima*				28.8	0.0	14.4	22.2	12.9	17.5			
Cocconeis placentula v. *lineata* ?				13.3	0.0	6.6	0.0	54.3	27.1			
Cymbella affinis										0.0	3.7	1.8
C. delicatula				28.8	11.8	20.3						
C. minuta v. *silesiaca*				28.8	11.8	20.3						
C. prostrata v. *auerswaldii*				0.0	11.8	5.9						
Diatoma vulgare	0.0	36.5	18.3							2.0	3.7	2.8
D. vulgare v. *linearis*				0.0	11.8	5.9	0.0	12.9	6.5	17.4	1.7	9.6
Eunotia exigua	43.1	18.3	30.7	0.0	35.3	17.7						
Fragilaria crotonensis										3.9	1.7	2.8
Frustulia rhomboides v. ?							0.0	25.9	12.9	0.0	1.7	0.9
Gomphonema olivaceum	21.5	36.5	29.0	0.0	11.8	5.9	42.1	0.0	21.0	21.3	5.4	13.3
G. parvulum	21.5	106.6	64.1	97.3	82.4	89.8	75.3	108.6	92.0	36.9	48.2	42.6
Gomphonema sp. 1										5.9	5.4	5.6
Gyrosigma acuminatum							0.0	12.9	6.5			
Gyrosigma sp. 1				13.3	0.0	6.6						
Hantzschia sp. 1	0.0	36.5	18.3	55.3	35.3	45.3	22.2	0.0	11.1	3.9	0.0	2.0

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x̄	A	B	x̄	A	B	x̄	A	B	x̄
BACILLARIOPHYTA (continued)												
Pennales (continued)												
Meridion circulare	0.0	18.3	9.1				11.1	0.0	5.5	5.9	3.7	4.8
Navicula accomoda							0.0	12.9	6.5			
N. cryptocephala	0.0	246.7	123.3	64.1	98.9	81.5	117.4	147.4	132.4	2.0	0.0	1.0
N. cryptocephala v. *venta*	88.5	18.3	53.4	70.8	94.1	82.5	0.0	93.1	46.5	2.0	0.9	1.4
N. gysingensis	0.0	36.5	18.3	13.3	11.8	12.5	33.2	41.4	37.3	0.0	1.7	0.9
N. hungarica v. *capitata*	21.5	0.0	10.8									
N. mutica				13.3	0.0	6.6						
N. viridula v. *avenacea*	88.5	70.0	79.3	90.7	110.6	100.7	86.4	59.5	72.9	3.9	1.7	2.8
Navicula sp. 1	0.0	36.5	18.3	13.3	0.0	6.6						
Navicula sp. 2	43.1	88.3	65.7	55.3	82.4	68.8	86.4	41.4	63.9	2.0	0.0	1.0
Navicula sp. 3				13.3	0.0	6.6						
Navicula sp. 4	21.5	0.0	10.8				26.6	0.0	13.3			
Nitzschia acicularis v. *closterioides*	43.1	18.3	30.7	13.3	11.8	12.5						
N. communis	0.0	18.3	9.1	13.3	0.0	6.6	0.0	67.3	33.6			
N. communis v. *abbreviata*	88.5	70.0	79.3	28.8	35.3	32.0	22.2	25.9	24.0	0.0	1.7	0.9
N. dissipata	21.5	36.5	29.0	55.3	117.7	86.5	53.2	54.3	53.7	7.8	7.1	7.5
N. palea	437.8	121.8	279.8	238.9	188.3	213.6	128.5	294.7	211.6	3.9	1.7	2.8
N. tryblionella v. *levidensis*	0.0	18.3	9.1				11.1	12.9	12.0	0.0	1.7	0.9
Pinnularia abaujensis				13.3	0.0	6.6						
Rhoicosphenia curvata	0.0	36.5	18.3	13.3	47.1	30.2	11.1	0.0	5.5	7.8	1.7	4.8
Stauroneis sp. 1				0.0	11.8	5.9						
Surirella ovata	88.5	36.5	62.5	13.3	35.3	24.3	42.1	67.2	54.7	10.6	5.4	8.0
Synedra acus				0.0	11.8	5.9						
S. rumpens	21.5	0.0	10.8				22.2	12.9	17.5			
S. socia	0.0	121.8	60.9	55.3	70.6	63.0	0.0	25.9	12.9			
S. tabulata	0.0	18.3	9.1									
S. ulna	21.5	0.0	10.8							2.0	3.7	2.8
S. ulna v. *aequalis*												
S. ulna v. *contracta*	21.5	0.0	10.8									
Tabellaria flocculosa							11.1	25.9	18.5			
unidentified pennate sp. 2				0.0	11.8	5.9	11.1	0.0	5.5			
TOTAL BACILLARIOPHYTA	2384.8	3054.4	2720.2	2201.4	2353.9	2277.2	2218.3	2580.5	2398.8	217.9	215.9	217.0
CHRYSOPHYTA												
Botrydiopsis arhiza										0.0	2.0	1.0
Ophiocytium sp. 1	17.0	0.0	8.5	0.0	14.8	7.4	15.0	14.7	14.9			
Stipitococcus vasiformis	17.0	0.0	8.5									
TOTAL CHRYSOPHYTA	34.0	0.0	17.0	0.0	14.8	7.4	15.0	14.7	14.9	0.0	2.0	1.0

APPENDIX TABLE C.1-1
(continued)
PHYTUPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x̄	A	B	x̄	A	B	x̄	A	B	x̄
CRYPTOPHYTA												
Cryptophyte sp. 1	17.0	0.0	8.5							14.7	10.8	12.8
cryptophyte sp. 2							0.0	29.4	14.7			
TOTAL CRYPTOPHYTA	17.0	0.0	8.5	0.0	0.0	0.0	0.0	29.4	14.7	14.7	10.8	12.8
CHLOROPHYTA												
Chlamydomonas globosa ?	0.0	15.9	8.0				15.0	0.0	7.5	12.5	4.2	8.4
C. sphagnicola				14.8	0.0	7.4						
Chlamydomonas sp. 1				44.3	14.8	29.6	29.9	0.0	15.0			
Chlamydomonas ? sp. 2				0.0	14.8	7.4						
Chlorella ? sp.				0.0	14.8	7.4						
Cosmarium sp. 1	0.0	15.9	8.0									
Cosmarium sp. 2							0.0	14.7	7.4			
Gloeocystis planctonica	0.0	15.9	8.0	0.0	14.8	7.4						
Kirchneriella obesa										2.1	0.0	1.1
Scenedesmus acuminatus										2.1	0.0	1.1
S. quadricauda	17.0	31.7	24.4	0.0	14.8	7.4	0.0	14.7	7.4			
Stigeoclonium sp. 1	15.3	0.0	7.7									
Tetraedron minimum	17.0	15.9	16.5							4.2	6.4	5.3
Tetrastrum staurogeniaeforme	17.0	0.0	8.5									
unidentified green 1	17.0	15.9	16.5									
unidentified green 2	0.0	15.9	8.0									
TOTAL CHLOROPHYTA	83.3	127.1	105.6	59.1	74.0	66.6	44.9	29.4	37.3	20.9	10.6	15.9
CYANOPHYTA												
Aphanizomenon sp.	5.1	0.0	2.6				3.0	10.3	6.7			
Chroococcus dispersus v. *minor*	0.0	31.7	15.9	44.3	14.8	29.6	15.0	0.0	7.5			
Dactylococcopsis fascicularis							29.9	0.0	15.0	2.1	0.0	1.1
D. Smithii							15.0	29.4	22.2	0.0	2.0	1.0
Lyngbya agardhii	0.0	27.0	13.5				1.5	0.0	0.8			
L. limnetica	20.4	0.0	10.2				0.0	19.1	9.6	1.1	0.6	0.9
Lyngbya sp.				8.9	43.0	26.0	31.4	26.5	29.0			
Microcoleus lyngbyaceus							0.0	27.9	14.0			
Nostoc sp. 1	3.4	0.0	1.7									
Oscillatoria amphibia ?				0.0	10.4	5.2	10.5	8.8	9.7			
Oscillatoria sp. 3				4.4	0.0	2.2						
Oscillatoria sp. (1,2)	215.5	108.0	161.8	42.8	54.8	48.8	65.9	82.3	74.2	75.2	88.9	82.1
Phormidium minnesotense	18.7	25.4	22.1	20.6	3.0	11.8	46.4	25.0	35.7			
Rhabdoderma irregulare										0.0	2.2	1.1
R. lineare	101.8	79.3	90.6	14.8	0.0	7.4	15.0	14.7	14.9			

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CYANOPHYTA (continued)												
Spirulina laxissima	3.4	15.9	9.7	0.0	1.5	0.8	1.5	4.4	3.0			
coccoid blue-green 1										4.2	0.0	2.1
filamentous blue-green sp. 1				3.0	0.0	1.5						
TOTAL CYANOPHYTA	368.3	287.3	328.1	138.8	127.5	133.3	235.1	248.4	242.3	82.6	93.7	88.3
EUGLENOPHYTA												
Heteronema sp.	17.0	0.0	8.5									
Lepocinclis texta	0.0	15.9	8.0									
Phacus sp. 2	0.0	15.9	8.0									
Trachelomonas sp. 1	17.0	0.0	8.5	0.0	29.6	14.8	44.9	0.0	22.5			
Trachelomonas sp. 2	17.0	15.9	16.5									
Trachelomonas sp. 6	17.0	0.0	8.5									
Trachelomonas sp. 7										2.1	4.2	3.2
TOTAL EUGLENOPHYTA	68.0	47.7	56.0	0.0	29.6	14.8	44.9	0.0	22.5	2.1	4.2	3.2
PYRRHOPHYTA												
Glenodinium sp.				0.0	14.8	7.4						
TOTAL PYRRHOPHYTA	0.0	0.0	0.0	0.0	14.8	7.4	0.0	0.0	0.0	0.0	0.0	0.0
OTHERS												
phytoflagellate sp. 3							0.0	14.7	7.4			
phytoflagellate sp. 5							15.0	0.0	7.5			
TOTAL OTHERS	0.0	0.0	0.0	0.0	0.0	0.0	15.0	14.7	14.9	0.0	0.0	0.0
TOTAL PHYTOPLANKTON	2955.4	3516.5	3237.4	2399.3	2614.6	2506.7	2573.2	2917.1	2745.4	338.2	337.2	338.2
std. dev.			±420.6			±312.3			±284.4			±26.4

APPENDIX TABLE C.1-2

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
BACILLARIOPHYTA												
Centrales												
Cyclotella comta	0.0	27.2	13.6									
C. glomerata	0.0	49.0	24.5	35.9	61.0	48.4	18.7	19.9	19.3	1.8	0.0	0.9
C. Meneghiniana	889.7	740.3	815.0	406.9	494.5	450.7	271.1	430.5	350.8	1.8	8.7	5.3
C. ocellata	0.0	179.6	89.8	215.4	311.6	263.5	126.2	207.3	166.8			
C. pseudostelligera	374.6	794.7	584.7	351.1	677.4	514.3	448.6	402.6	425.7	0.0	1.8	0.9
C. stelligera	345.3	49.0	197.2	55.9	0.0	27.9	42.1	35.9	39.0			
Cyclotella sp. 1	398.0	206.8	302.4	291.2	264.2	277.7	280.5	251.1	265.8	0.0	0.7	0.4
Melosira ambigua				19.9	0.0	10.0						
M. distans	140.5	76.2	108.3	35.9	121.9	78.9	74.8	35.9	55.3	1.8	6.9	4.4
M. granulata	87.8	65.3	76.6	55.9	94.8	75.3	116.9	47.8	82.4			
M. granulata v. *angustissima*	41.0	16.3	28.7	79.8	0.0	39.9	42.1	35.9	39.0			
M. italica				0.0	33.9	16.9	126.2	0.0	63.1			
M. varians							102.8	0.0	51.4			
Stephanodiscus astraea	801.5	919.9	860.9	650.3	1605.5	1127.9	958.3	841.1	899.7			
Pennales												
Achnanthes deflexa	29.3	0.0	14.6									
A. lanceolata	29.3	76.2	52.7	55.9	61.0	58.4	18.7	19.9	19.3	8.7	10.6	9.6
A. minutissima	801.9	103.4	452.7	127.7	528.4	328.0	313.2	243.2	278.2	101.8	113.2	107.5
Achnanthes sp. 1	0.0	76.2	38.1	107.7	33.9	70.8	79.5	55.8	67.6	6.9	12.0	9.4
Achnanthes sp. 2	29.3	49.0	39.1							0.0	1.8	0.9
Amphipleura pellucida										0.0	1.8	0.9
Amphora ovalis v. *pediculus*	58.5	27.2	42.9	0.0	33.9	16.9				6.9	15.6	11.3
Amphora sp. 1				35.9	0.0	18.0	18.7	19.9	19.3	1.8	0.0	0.9
Asterionella formosa				35.9	0.0	18.0	42.1	19.9	31.0			
A. formosa v. *gracillima*	29.3	76.2	52.7	19.9	216.8	118.4	60.8	19.9	40.4			
Cocconeis pediculus	0.0	38.1	19.1	0.0	33.9	16.9						
C. placentula				19.9	0.0	10.0						
Cymbella minuta	29.3	0.0	14.6							5.1	5.1	5.1
C. minuta v. *silesiaca*							0.0	55.8	27.9	1.8	0.0	0.9
C. prostrata	29.3	0.0	14.6									
C. prostrata v. *auerswaldii*	0.0	76.2	38.1	35.9	94.8	65.4	18.7	35.9	27.3	0.0	1.8	0.9
C.rupicola	29.3	0.0	14.6									
C. tumida							0.0	19.9	10.0			
Diatoma hiemale v. *mesodon*	29.3	0.0	14.6									
D. vulgare				35.9	0.0	18.0	18.7	0.0	9.3	6.9	5.1	6.0
D. vulgare v. *linearis*	140.5	76.3	108.3	19.9	121.9	70.9	18.7	19.9	19.3			
Eunotia exigua	58.5	27.2	42.9	8.0	0.0	4.0	0.0	19.9	10.0			
Fragilaria capucina							18.7	0.0	9.3			
F. crotonensis				0.0	94.8	47.4						

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x̄	A	B	x̄	A	B	x̄	A	B	x̄
BACILLARIOPHYTA (continued)												
Pennales (continued)												
Frustulia rhomboides v. ?				19.9	0.0	10.0				1.8	0.0	0.9
Gomphonema angustatum v. *obtusatum*										1.8	0.0	0.9
G. olivaceum				0.0	94.8	47.4	18.7	19.9	19.3			
G. parvulum	87.8	130.6	109.2	127.7	155.8	141.7	102.8	55.8	79.3	69.0	40.0	54.5
Gyrosigma acuminatum										0.0	1.8	0.9
Hantzschia sp. 1				35.9	33.9	34.9	0.0	19.9	10.0	0.0	3.6	1.8
Meridion circulare										3.2	3.6	3.4
Navicula canalis				0.0	33.9	16.9				1.8	3.6	2.7
N. cryptocephala	58.5	103.4	81.0	63.8	61.0	62.4	84.1	83.7	83.9	2.5	5.1	3.8
N. cryptocephala v. *veneta*	58.5	27.2	42.9	71.8	74.5	73.2	51.4	35.9	43.6	0.0	1.8	0.9
N. exigua v. *capitata*				0.0	33.9	16.9						
N. gysingensis	0.0	27.2	13.6	0.0	33.9	16.9						
N. mutica										3.6	1.8	2.7
N. tripunctata				35.9	0.0	18.0	0.0	19.9	10.0			
N. viridula v. *avenacea*	228.3	179.6	203.9	143.6	216.8	180.2	177.6	131.6	154.6			
N. viridula v. *rostellata*				0.0	33.9	16.9	18.7	0.0	9.3			
Navicula sp. 2	0.0	27.2	13.6	0.0	155.8	77.9	60.8	35.9	48.3	0.0	3.6	1.8
Navicula sp. 3	29.3	0.0	14.6									
Navicula sp. 4	29.3	0.0	14.6									
Navicula sp. 5	87.8	49.0	68.4	0.0	33.9	16.9	18.7	0.0	9.3			
Nitzschia acicularis v. *closterioides*	87.8	76.2	82.0	107.7	94.8	101.3	229.1	207.3	218.2			
N. communis v. *abbreviata*	29.3	0.0	14.6				42.1	75.7	58.9	3.6	0.0	1.8
N. dissipata	169.7	206.8	188.3	127.7	121.9	124.8	102.8	75.7	89.3	46.6	26.2	36.4
N. filiformis	0.0	27.2	13.6									
N. gandersheimiensis	29.3	27.2	28.2							1.8	5.1	3.5
N. palea	456.6	566.1	511.3	343.1	372.6	357.8	168.3	187.4	177.8	58.9	60.8	59.8
N. stagnorum				0.0	33.9	16.9	0.0	19.9	10.0	1.8	1.8	1.8
N. subtilis				0.0	33.9	16.9	42.1	0.0	21.0			
N. tryblionella v. *levidensis*				0.0	33.9	16.9						
N. tryblionella v. *victoriae*	0.0	27.2	13.6	0.0	33.9	16.9						
Pinnularia subcapitata v. *paucistriata*				0.0	33.9	16.9						
Rhoicosphenia curvata	0.0	27.2	13.6				18.7	0.0	9.3	1.8	5.1	3.5
Stauroneis smithii	0.0	27.2	13.6									
Surirella ovata	0.0	103.4	51.7	71.8	61.0	66.4	60.8	19.9	40.4	13.0	13.1	13.1
S. ovalis	87.8	0.0	43.9	19.9	0.0	10.0						
Synedra amphicephala	0.0	27.2	13.6									
S. delicatissima	29.3	49.0	39.1				18.7	0.0	9.3			
S. radians				35.9	0.0	18.0						
S. rumpens							60.8	35.9	48.3			

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x̄	A	B	x̄	A	B	x̄	A	B	x̄
BACILLARIOPHYTA (continued)												
Pennales (continued)												
S. rumpens v. *familiaris*				19.9	94.8	57.4	84.1	19.9	52.0			
S. ulna				55.8	0.0	28.0				3.6	1.8	2.7
S. ulna v. *ramesi*				19.9	0.0	10.0	0.0	19.9	10.0	1.8	0.0	0.9
Tabellaria flocculosa	29.3	0.0	14.6									
unidentified pennate sp. 2				0.0	61.0	30.5	60.8	91.7	76.2			
TOTAL BACILLARIOPHYTA	5871.2	5459.2	5664.8	4001.1	6821.9	5411.4	4637.2	3993.9	4315.5	361.9	363.9	363.1
CRYPTOPHYTA												
cryptophyte sp. 1							58.6	28.5	43.6			
cryptophyte sp. 2				0.0	18.5	9.3						
TOTAL CRYPTOPHYTA	0.0	0.0	0.0	0.0	18.5	9.3	58.6	28.5	43.6	0.0	0.0	0.0
CHLOROPHYTA												
Ankistrodesmus Braunii				11.0	0.0	5.5						
A. falcatus	81.4	0.0	40.7	87.4	74.9	81.2	0.0	28.5	14.3	4.1	0.9	2.5
A. falcatus v. *acicularis*							44.0	14.3	29.2			
A. falcatus v. *convolutus*	0.0	14.8	7.4									
A. falcatus v. *mirabilis*	0.0	14.8	7.4	43.6	18.5	31.1						
A. falcatus v. *stipitatus*							14.7	0.0	7.4			
Carteria Klebsii	0.0	14.8	7.4									
Chlamydomonas globosa ?	16.4	14.8	15.6	21.7	56.1	38.9	0.0	42.7	21.4	1.0	0.9	1.0
Chlamydomonas sp. 1							14.7	0.0	7.4			
Chlorella ? sp.				0.0	18.5	9.3						
Dictyosphaerium Khrenbergianum				10.9	0.0	5.5	58.6	0.0	29.3			
Gloeocystis ampla							29.3	28.5	28.9			
Golenkinia radiata	64.5	0.0	32.3	32.9	74.7	53.8	14.7	0.0	7.4			
Kirchneriella contorta							14.7	0.0	7.4			
K. lunaris v. *Dianae*				10.9	0.0	5.5						
Lagerheimia longiseta							14.7	0.0	7.4			
L. quadriseta				11.0	0.0	5.5	44.0	14.3	29.2			
Micractinium pusillum	16.4	0.0	8.2	11.0	74.9	43.0	0.0	42.7	21.4			
M. quadrisetum	0.0	14.8	7.4	0.0	18.5	9.3						
Quadrigula sp.				21.8	56.1	39.0						
Scenedesmus abundans v. *longicauda*				10.9	0.0	5.5	14.7	0.0	7.4			
S. acuminatus							14.7	14.3	14.5			
S. arcuatus v. ?							0.0	14.3	7.2			
S. bijuga				11.0	0.0	5.5						
S. dimorphus				10.9	18.5	14.7						
S. opoliensis ?	96.7	0.0	48.4	0.0	55.6	27.8						

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Station and Replicate											
	1			3			5			6		
	A	B	x̄	A	B	x̄	A	B	x̄	A	B	x̄
CHLOROPHYTA (continued)												
Scenedesmus quadricauda	16.4	0.0	8.2	43.6	18.8	31.2	14.7	0.0	7.4			
Scenedesmus sp. 2				10.9	18.5	14.7						
Schroederia setigera				11.0	0.0	5.5	0.0	14.3	7.2			
Selenastrum sp.							29.3	0.0	14.7			
Tetraedron minimum										2.1	2.7	2.4
Tetrastrum elegans	32.2	0.0	16.1	10.9	0.0	5.5						
T. glabrum				43.8	0.0	21.9						
T. punctatum	15.9	0.0	8.0									
T. staurogeniaeforme	32.2	0.0	16.1	0.0	37.3	18.7	0.0	14.3	7.2			
Westella botryoides	0.0	14.8	7.4									
unidentified green 2	0.0	27.3	13.7	0.0	18.8	9.4	14.7	0.0	7.4			
TOTAL CHLOROPHYTA	372.1	116.1	244.3	415.2	559.7	488.0	337.5	228.2	283.7	7.2	4.5	5.9
CYANOPHYTA												
Chroococcus dispersus v. *minor*	0.0	44.3	22.2									
Dactylococcopsis acicularis	0.0	29.5	14.8									
D. fascicularis	48.1	13.7	30.9	10.9	37.1	24.0	29.3	0.0	14.7			
D. smithii				0.0	37.3	18.7						
Gomphosphaeria lacustris				21.7	18.5	20.1						
G. lacustris v. *compacta*							14.7	28.5	21.6			
Nostoc sp. 1				0.0	18.5	9.3						
Oscillatoria amphibia ?	33.8	16.3	25.1	66.5	11.1	38.8	0.0	7.1	3.6			
Oscillatoria sp. (1, 2)	11.3	5.9	8.6	6.6	43.1	24.9	20.6	24.2	22.4	13.8	14.5	14.2
Phormidium minnesotense				7.6	3.7	5.7	3.0	7.1	5.1	0.8	1.1	1.0
Rhabdoderma irregulare										1.0	4.6	2.8
Spirulina laxissima										0.0	0.3	0.2
coccoid blue-green 1										1.0	0.9	1.0
TOTAL CYANOPHYTA	93.2	109.7	101.6	113.3	169.3	141.5	67.6	66.9	67.4	16.6	21.4	19.2
EUGLENOPHYTA												
Euglena sp. 1										0.0	3.7	1.9
Phacus crenulata							14.7	0.0	7.4			
Trachelomonas robusta										2.1	0.0	1.1
T. volvocina										2.1	3.6	2.9
Trachelomonas sp. 1	64.0	28.4	46.2	43.8	74.1	59.0	44.0	28.5	36.3			
Trachelomonas sp. 8										0.0	0.9	0.5
euglenoid sp. 1				11.0	0.0	5.5						
euglenoid sp. 3				0.0	18.5	9.3						
TOTAL EUGLENOPHYTA	64.0	28.4	46.2	54.8	92.6	73.8	58.7	28.5	43.7	4.2	8.2	6.4
TOTAL PHYTOPLANKTON	6400.5	5713.4	6056.9	4584.4	7662.0	6124.0	5159.6	4346.0	4753.9	389.9	398.0	394.6
std. dev.			±481.6			±1782.7			±939.0			±16.4

APPENDIX TABLE C.1-3

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
BACILLARIOPHYTA												
Centrales												
Cyclotella Meneghiniana	1896.0	3305.8	2600.9	2446.1	3351.8	2899.0	1115.1	1093.9	1104.5	114.3	49.2	81.7
C. pseudostelligera	1733.2	1380.6	1556.9	930.2	934.0	932.1	697.0	561.8	629.4	26.4	9.2	17.8
C. stelligera	0.0	42.2	21.1	60.1	36.9	48.5	16.3	14.6	15.5	571.3	375.5	473.4
Cyclotella sp. 1	387.1	418.8	402.9	360.2	714.1	537.1	344.3	1108.5	726.4	167.0	89.3	128.2
Melosira distans	224.3	376.6	300.5	209.9	751.0	480.4	155.8	258.7	207.3	518.7	554.0	536.4
M. granulata	121.9	146.1	134.0	255.0	183.0	219.0	73.8	37.0	55.4	30.8	52.3	41.6
M. granulata v. *angustissima*	20.1	42.2	31.1	30.1	0.0	15.0	16.3	0.0	8.2			
M. islandica subsp. *helvetica*	81.7	62.5	72.1	105.2	128.1	116.6	114.7	96.3	105.5			
M. varians	0.0	42.2	21.1				0.0	14.6	7.3			
Stephanodiscus astraea	1101.0	711.0	906.0	780.5	732.9	756.7	262.3	266.1	264.2	8.9	30.8	19.8
Pennales												
Achnanthes lanceolata										8.9	0.0	4.4
A. minutissima	40.8	42.2	41.5	30.1	0.0	15.0	0.0	14.6	7.3	26.4	18.5	22.5
Achnanthes sp. 1				30.1	36.9	33.5	32.7	14.6	23.7	17.5	6.2	11.9
Amphora sp. 1	0.0	42.2	21.1				0.0	14.6	7.3	17.5	12.3	14.9
Asterionella formosa				0.0	36.9	18.4						
Cocconeis placentula	0.0	83.6	41.8				16.3	59.3	37.8	8.9	24.6	16.7
Cymbella prostrata v. *auerswaldii*										0.0	12.3	6.2
Frustulia rhomboides v. ?										0.0	6.2	3.1
Gomphonema olivaceum	40.8	0.0	20.4									
G. parvulum	0.0	83.6	41.8	0.0	36.9	18.4				8.9	0.0	4.4
Hantzschia sp. 1				0.0	36.9	18.4				8.9	0.0	4.4
Navicula bacillum	81.7	0.0	40.8							17.5	6.2	11.9
N. cryptocephala				30.1	0.0	15.0	0.0	14.6	7.3	0.0	6.2	3.1
N. exigua v. *capitata*	0.0	42.2	21.1									
N. rhynocephala	40.8	0.0	20.4	30.1	0.0	15.0	0.0	29.6	14.8	8.9	6.2	7.5
N. viridula v. *avenacea*	40.8	0.0	20.4	0.0	36.9	18.4				8.9	0.0	4.4
Navicula sp. 2	81.7	83.6	82.6				0.0	29.6	14.8	0.0	6.2	3.1
Nitzschia acicularis v. *closterioides*	81.7	83.6	82.6	60.1	36.9	48.5	16.3	29.6	23.0			
N. communis	0.0	42.2	21.1	30.1	0.0	15.0						
N. communis v. *abbreviata*	40.8	0.0	20.4									
N. dissipata	0.0	83.6	41.8	30.1	0.0	15.0	16.3	14.6	15.5	17.5	6.2	11.9
N. palea	40.8	293.0	166.9	60.1	146.1	103.1	114.7	162.5	138.6	52.8	24.6	38.7
Synedra acus	40.8	125.8	83.3	60.1	0.0	30.1	16.3	0.0	8.2			
S. delicatissima				30.1	36.9	33.5	16.3	14.6	15.5			
TOTAL BACILLARIOPHYTA	6096.0	7533.6	6814.6	5568.3	7236.2	6401.7	3024.5	3849.7	3437.5	1640.0	1296.0	1468.0
CHRYSOPHYTA												
Mallomonas sp.				13.8	0.0	6.9						
chrysophyte sp. 1	14.0	14.9	14.5									
TOTAL CHRYSOPHYTA	14.0	14.9	14.5	13.8	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CRYPTOPHYTA												
cryptophyte sp. 2	41.9	119.1	80.5									
TOTAL CRYPTOPHYTA	41.9	119.1	80.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHLOROPHYTA												
Actinastrum hantzschii				13.8	47.8	30.8	26.4	16.3	21.4			
A. hantzschii v. *fluviatile*	0.0	29.8	14.9									
Ankistrodesmus convolutus	14.0	14.9	14.5	55.1	31.9	43.5						
A. falcatus	41.9	0.0	21.0	13.8	63.8	38.8	0.0	40.8	20.4	86.9	69.8	78.4
Arthrodesmus sp.	0.0	14.9	7.5									
Carteria Klebsii	0.0	14.9	7.5									
Chlamydomonas globosa ?	153.5	59.6	106.6	27.6	47.8	37.7	39.7	65.3	52.5			
Chlamydomonas sp. 3										10.9	39.9	25.4
Chlamydomonas sp. 5	41.9	14.9	28.5									
Chlorella ? sp.	334.8	699.6	517.2	234.3	239.1	236.7	33.0	49.0	41.0			
Closterium acutum v. *variabile*	0.0	14.9	7.5				0.0	8.2	4.1			
Coelastrum sphaericum	0.0	29.8	14.9									
Cosmarium sp. 3	14.0	0.0	7.0									
Crucigenia apiculata	0.0	29.8	14.9									
C. fenestrata	0.0	14.9	7.5				19.8	0.0	9.9			
C. tetrapedia				0.0	47.8	23.9						
Dictyosphaerium Ehrenbergianum	55.8	29.8	42.8	0.0	143.4	71.7	59.5	122.4	91.0			
D. pulchellum				13.8	16.0	14.9						
Franceia Droescheri	0.0	14.9	7.5									
F. tuberculata	0.0	29.8	14.9									
Golenkinia radiata	41.9	89.3	65.6	13.8	0.0	6.9						
Kentrosphaera gloeophila	14.0	0.0	7.0									
Kirchneriella contorta	14.0	14.9	14.5	0.0	16.0	8.0						
K. lunaris	97.7	134.0	115.9							43.4	69.8	56.6
K. lunaris v. *irregularis*				13.8	127.5	70.7	13.2	8.2	10.7	86.9	10.0	48.5
K. subsolitaria				41.4	159.4	100.4	0.0	24.5	12.3			
Lagerheimia quadriseta	14.0	29.8	21.9				0.0	8.2	4.1			
L. subsalsa	14.0	14.9	14.5									
L. wratislawiensis	14.0	0.0	7.0									
Micractinium eriense				0.0	31.9	16.0						
Oocystis Borgei	14.0	29.8	21.9	0.0	16.0	8.0	19.8	32.6	26.2			
O. pusilla ?	27.9	0.0	14.0									
Pandorina morum	14.0	14.9	14.5	13.8	0.0	6.9	13.2	0.0	6.6			
Pediastrum tetras v. *tetraodon*							6.6	0.0	3.3			
Pteromonas angulosa	0.0	14.9	7.5									
Scenedesmus abundans v. *longicauda*	14.0	14.9	14.5	0.0	16.0	8.0	13.2	0.0	6.6	32.6	10.0	21.3
S. acuminatus	14.0	0.0	7.0									
S. bijuga	111.6	178.7	145.2	110.2	334.7	222.5	92.5	81.6	87.1			
S. bijuga v. *alternans*				13.8	0.0	6.9						
S. denticulatus							0.0	16.3	8.2			
S. dimorphus	14.0	0.0	7.0	13.8	0.0	6.9						
S. quadricauda	83.7	119.1	101.4	82.7	159.4	121.1	46.3	57.1	51.7			

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Schroederia setigera	0.0	14.9	7.5									
Selenastrum Westii	0.0	14.9	7.5	0.0	16.0	8.0						
Tetraedron caudatum				0.0	16.0	8.0						
T. muticum				13.8	0.0	6.9						
Tetrastrum anomalum	14.0	0.0	7.0	0.0	16.0	8.0						
T. glabrum	41.9	14.9	28.4									
T. heteracanthum	27.9	0.0	14.0	13.8	16.0	14.9	6.6	8.2	7.4			
T. punctatum	0.0	14.9	7.5									
T. staurogeniaeforme	0.0	29.8	14.9	68.9	31.9	50.4	39.7	40.8	40.3			
Treubaria setigerum	27.9	0.0	14.0									
coccoid green 7	27.9	0.0	14.0									
unidentified green 2	111.6	59.5	85.6	0.0	31.9	16.0						
TOTAL CHLOROPHYTA	1409.9	1816.6	1614.5	758.2	1626.3	1192.5	429.5	579.5	504.8	260.7	199.5	230.2
CYANOPHYTA												
Anabaena spiroides	0.0	6.0	3.0									
Chroococcus dispersus V. *minor*	209.3	387.0	298.2	96.5	159.4	128.0	26.4	40.8	33.6			
C. limneticus	41.9	14.9	28.4							130.3	79.7	105.0
Dactylococcopsis acicularis				0.0	31.9	16.0						
D. fascicularis ?	14.0	44.7	29.4									
Gomphosphaeria lacustris	14.0	29.8	21.9									
G. lacustris V. *compacta*							6.6	0.0	3.3			
Lyngbya contorta	32.1	28.3	30.2	5.5	28.7	17.1	11.3	1.6	6.5			
L. Diguetii										12.0	6.0	9.0
Marssoniella elegans	125.6	74.5	100.1	110.2	111.6	110.9	66.1	32.6	49.4			
Merismopedia tenuissima	0.0	29.8	14.9	41.4	63.7	52.6	13.2	24.5	18.9			
Oscillatoria tenuis (sp. 4)										0.0	4.0	2.0
Oscillatoria sp. (1, 2)	61.4	49.1	55.3				5.3	3.3	4.3	101.0	113.7	107.4
Rhabdoderma lineare	0.0	14.9	7.5				0.0	8.2	4.1			
TOTAL CYANOPHYTA	498.3	679.0	588.9	253.6	395.3	324.6	128.9	111.0	120.1	243.3	203.4	223.4
EUGLENOPHYTA												
Euglena sp. 1	0.0	14.9	7.5									
Phacus sp. 1	14.0	14.9	14.5									
Trachelomonas Playfairii				0.0	16.0	8.0						
T. robusta				0.0	16.0	8.0				0.0	10.0	5.0
T. superba				13.8	0.0	6.9	0.0	8.2	4.1			
T. urceolata				0.0	16.0	8.0						
T. volvocina	0.0	14.9	7.5									
Trachelomonas sp. 1	27.9	74.4	51.2	68.9	31.9	50.4	85.9	57.1	71.5			
Trachelomonas sp. 5	14.0	0.0	7.0									
Trachelomonas sp. 6				0.0	95.7	47.9				10.9	29.9	20.4
Trachelomonas sp. 8	14.0	0.0	7.0									
TOTAL EUGLENOPHYTA	69.9	119.1	94.7	82.7	175.6	129.2	85.9	65.3	75.6	10.9	39.9	25.4

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 AUGUST 1978

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PYRRHOPHYTA												
Glenodinium pulvisculus				13.8	16.0	14.9	13.2	24.5	18.9			
dinoflagellate sp. 1				0.0	16.0	8.0						
TOTAL PYRRHOPHYTA	0.0	0.0	0.0	13.8	32.0	22.9	13.2	24.5	18.9	0.0	0.0	0.0
OTHERS												
phytoflagellate sp. 11										0.0	10.0	5.0
TOTAL OTHERS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	5.0
TOTAL PHYTOPLANKTON	8130.0	10282.3	9207.7	6690.4	9465.4	8077.8	3682.0	4630.0	4156.9	2154.9	1748.8	1952.0
std. dev.			±1278.5			±1613.3			±597.3			±250.0

APPENDIX TABLE C.1-4

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
BACILLARIOPHYTA												
Centrales												
Coscinodiscus lacustris							0.0	23.4	11.7			
Cyclotella bodanica							21.8	0.0	10.9			
C. Meneghiniana	715.8	695.6	705.7	1215.7	1149.8	1182.8	1097.7	815.6	956.6	126.6	91.5	109.0
C. pseudostelligera	112.5	103.0	107.7	270.2	178.7	224.5	153.6	93.2	123.4			
C. stelligera							0.0	23.4	11.7	12.6	0.0	6.3
C. striata				81.3	51.2	66.2						
Cyclotella sp. 1	168.7	315.6	242.2	715.8	843.5	779.7	581.8	652.7	617.2	75.9	0.0	38.0
Melosira ambigua							21.8	34.9	28.3			
M. distans	178.9	225.4	202.1	621.0	358.0	489.5	219.5	349.7	284.6	75.9	22.9	49.4
M. granulata	204.6	238.2	221.4	580.7	817.9	699.3	625.9	676.1	651.0	0.0	11.5	5.7
M. granulata v. *angustissima*	10.2	12.8	11.5	94.7	25.6	60.2	55.0	46.8	50.9			
M. islandica subsp. *helvetica*	0.0	141.7	70.9	405.2	523.7	464.5	955.0	640.7	797.8	37.9	11.5	24.7
M. italica	56.2	32.2	44.2	108.2	127.5	117.9						
M. varians	0.0	38.7	19.4	26.9	0.0	13.5	0.0	23.4	11.7			
Stephanodiscus astraea	306.8	386.5	346.7	783.6	588.0	685.8	395.4	745.8	570.6	50.6	0.0	25.3
Pennales												
Achnanthes lanceolata	10.2	12.8	11.5				21.8	0.0	10.9			
A. minutissima	0.0	12.8	6.4				0.0	46.8	23.4	493.5	572.2	532.8
Achnanthes sp. 1	20.4	0.0	10.2	26.9	25.6	26.3				37.9	57.1	47.5
Amphora ovalis v. *pediculus*										25.3	0.0	12.7
Amphora sp. 1	10.2	0.0	5.1							12.6	0.0	6.3
Asterionella formosa				0.0	25.6	12.8	0.0	23.4	11.7			
A. formosa v. *gracillima*	0.0	12.8	6.4	0.0	25.6	12.8	0.0	46.8	23.4			
Cocconeis placentula v. *lineata*?				0.0	51.2	25.6				25.3	34.4	29.9
Cymbella minuta v. *silesiaca*										75.9	34.4	55.2
C. prostrata v. *auerswaldii*							21.8	0.0	10.9	25.3	34.4	29.9
Diatoma vulgare										0.0	11.5	5.7
Gomphonema aff. *ne*				0.0	25.6	12.8						
G. brasiliense	0.0	12.8	6.4							0.0	11.5	5.7
G. parvulum	112.5	64.3	88.4	135.1	76.8	106.0	44.1	0.0	22.0	101.2	137.4	119.3
Gyrosigma modiferum										0.0	11.5	5.7
Navicula bacillum	10.2	0.0	5.1	26.9	0.0	13.5				12.6	0.0	6.3
N. contenta										12.6	34.4	23.5
N. cryptocephala	30.8	0.0	15.4	26.9	0.0	13.5				12.6	34.4	23.5
N. cryptocephala v. *veneta*							21.8	0.0	10.9	0.0	91.5	45.8
N. hungarica v. *capitata*							0.0	23.4	11.7			
N. rhyncocephala	0.0	77.4	38.7	26.9	76.8	51.9	21.8	23.4	22.6	75.9	45.7	60.8
N. tripunctata										0.0	11.5	5.7
N. viridula v. *avenacea*							0.0	23.4	11.7	0.0	22.9	11.5
N. viridula v. *rostellata*							21.8	0.0	10.9	12.6	11.5	12.0
Navicula sp. 1	10.2	0.0	5.1							0.0	11.5	5.7
Navicula sp. 2							0.0	23.4	11.7	75.9	171.6	123.8

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
BACILLARIOPHYTA (continued)												
Pennales (continued)												
Navicula sp.4							0.0	23.4	11.7			
Navicula sp. 8										37.9	11.5	24.7
Nitzschia acicularis v. *closterioides*				26.9	25.6	26.3						
N. angustata							21.8	0.0	10.9			
N. communis										25.3	22.9	24.1
N. communis v. *abbreviata*	0.0	12.8	6.4	26.9	25.6	26.3						
N. dissipata	0.0	12.8	6.4				0.0	23.4	11.7	75.9	80.1	78.0
N. gandersheimiensis				26.9	0.0	13.5				50.6	22.9	36.8
N. palea	61.3	12.8	37.1	26.9	25.6	26.3	21.8	69.8	45.8	215.0	228.9	222.0
N. paradoxa	30.8	12.8	21.8	0.0	51.2	25.6	0.0	23.4	11.7			
N. tryblionella v. *victoriae*							0.0	23.4	11.7			
Rhoicosphenia curvata										12.6	0.0	6.3
Surirella angustata							0.0	23.4	11.7			
S. ovata	0.0	12.8	6.4	26.9	0.0	13.5				37.9	68.6	53.2
Synedra acus	61.3	115.8	88.6	215.8	76.8	146.3	153.6	186.3	170.0	12.6	0.0	6.3
S. delicatissima	10.2	51.5	30.9	108.2	51.2	79.7	44.1	69.8	56.9			
S. ulna							21.8	0.0	10.9			
TOTAL BACILLARIOPHYTA	2121.8	2613.9	2368.1	5604.5	5227.1	5416.6	4543.7	4779.2	4661.2	1846.5	1911.7	1879.1
CHRYSOPHYTA												
Mallomonas sp. 1	0.0	24.1	12.1	33.7	25.3	29.5	9.3	8.2	8.8			
TOTAL CHRYSOPHYTA	0.0	24.1	12.1	33.7	25.3	29.5	9.3	8.2	8.8	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata							18.6	8.2	13.4			
cryptophyte sp. 1							55.7	82.2	69.0			
cryptophyte sp. 2	114.3	120.2	117.3	235.7	277.8	256.8	343.2	279.6	311.4			
TOTAL CRYPTOPHYTA	114.3	120.2	117.3	235.7	277.8	256.8	417.5	370.0	393.8	0.0	0.0	0.0
XANTHOPHYTA												
xanthophyte sp. 1	12.0	0.0	6.0	0.0	16.8	8.4	9.3	8.2	8.8			
TOTAL XANTHOPHYTA	12.0	0.0	6.0	0.0	16.8	8.4	9.3	8.2	8.8	0.0	0.0	0.0
CHLOROPHYTA												
Actinastrum hantzschii v. *fluviatile*	0.0	6.0	3.0	0.0	8.4	4.2	9.3	8.2	8.8			
Ankistrodesmus convolutus	18.1	24.1	21.1	0.0	8.4	4.2	46.4	41.1	43.8			
A. falcatus	42.1	48.1	45.1	134.7	159.9	147.3	65.0	131.6	98.3	17.5	30.9	24.2
A. falcatus v. *acicularis*							37.1	0.0	18.6			
A. falcatus v. *mirabilis*	18.1	12.0	15.1	25.3	16.9	21.1	18.6	8.2	13.4			
Carteria Klebsii	0.0	6.0	3.0	0.0	8.4	4.2						
C. multifilis							0.0	8.2	4.1			

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Characium ? sp.										145.7	123.3	134.5
Chlamydomonas globosa	0.0	6.0	3.0				18.6	8.2	13.4			
C. sphagnicola										209.8	413.1	311.5
Chlamydomonas sp. 3				58.9	25.3	42.1				192.4	222.0	207.3
Chlorella? sp.	18.1	18.0	18.1	8.4	25.3	16.9	37.2	24.7	31.0			
Closterium moniliferum	0.0	6.0	3.0									
C. parvulum v. *angustatum*							9.3	0.0	4.7			
Closterium sp. 1										5.9	0.0	3.0
Closterium sp. 2							9.3	0.0	4.7			
Cosmarium sp. 4				8.4	33.7	21.1	18.6	0.0	9.3			
Crucigenia apiculata							9.3	0.0	4.7			
C. quadrata	6.0	6.0	6.0	8.4	8.4	8.4						
C. tetrapedia	6.0	0.0	3.0									
C. truncata				0.0	8.4	4.2						
Dictyosphaerium Ehrenbergianum	6.0	0.0	3.0									
Golenkinia radiata	6.0	0.0	3.0									
Kirchneriella lunaris				0.0	8.4	4.2	27.9	32.9	30.4	11.7	0.0	5.9
K. lunaris v. *irregularis*	12.0	0.0	6.0	33.7	8.4	21.1						
K. obesa	18.0	18.1	18.1	16.8	16.9	16.9	9.3	24.7	17.0			
K. subsolitaria	12.0	0.0	6.0	42.1	0.0	21.1	0.0	24.7	12.4			
Lagerheimia quadriseta	0.0	24.0	12.0	33.7	16.8	25.3	37.1	24.7	30.9			
L. wratislawiensis	6.0	0.0	3.0									
Oocystis Borgei	6.0	42.1	24.1	33.7	42.1	37.9	0.0	32.9	16.5			
O. pusilla ?	18.0	0.0	9.0				9.3	0.0	4.7			
Pandorina morum	0.0	18.1	9.1									
Pediastrum duplex v. *clathratum*				8.4	0.0	4.2						
Scenedesmus abundans							9.3	0.0	4.7			
S. abundans v. *longicauda*				8.4	0.0	4.2						
S. acuminatus	6.0	6.0	6.0									
S. bijuga	24.0	24.1	24.1	101.0	75.8	88.4	9.3	49.4	29.4			
S. dimorphus	6.0	6.0	6.0									
S. quadricauda	12.0	0.0	6.0	25.3	33.7	29.5	0.0	8.2	4.1	5.9	0.0	3.0
Tetraedron minimum	0.0	6.0	3.0	0.0	8.4	4.2						
Tetrastrum glabrum				8.4	0.0	4.2						
T. heteracanthum	0.0	6.0	3.0	8.4	8.4	8.4	9.3	0.0	4.7			
T. punctatum				8.4	0.0	4.2						
T. staurogeniaeforme	6.0	12.0	9.0	0.0	8.4	4.2	0.0	8.2	4.1			

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Tetrastrum triacarthum							18.6	8.2	13.4			
Westella botryoides	0.0	6.0	3.0	8.4	0.0	4.2						
unidentified green sp. 2							18.6	0.0	9.3			
TOTAL CHLOROPHYTA	246.4	300.6	273.8	580.8	530.4	555.9	427.4	444.1	436.4	588.9	789.3	689.4
CYANOPHYTA												
Anabaena sp. 1										0.0	2.5	1.3
Chroococcus dispersus v. *minor*	72.2	42.1	57.2	25.3	33.7	29.5	46.4	65.8	56.1			
C. limneticus							9.3	0.0	4.7			
Marssoniella elegans	54.1	42.1	48.1	109.4	42.1	75.8	46.4	57.6	52.0			
Microcystis incerta	0.0	6.0	3.0	8.4	8.4	8.4						
Oscillatoria tenuis (sp. 4)										2.9	0.0	1.5
Oscillatoria sp. (1,2)				0.0	1.7	0.9				39.1	38.2	38.7
Rhabdoderma Gorskii										93.3	92.5	92.9
R. lineare							9.3	0.0	4.7			
TOTAL CYANOPHYTA	126.3	90.2	108.3	143.1	85.9	114.6	111.4	123.4	117.5	135.3	133.2	134.4
EUGLENOPHYTA												
Euglena sp. 1	0.0	6.0	3.0									
Euglena sp. 3	6.0	12.0	9.0	0.0	16.9	8.5						
Phacus orbicularis	6.0	0.0	3.0									
Phacus sp. 1	6.0	6.0	6.0									
Trachelomonas volvocina	6.0	0.0	3.0									
Trachelomonas sp. 1	30.1	30.1	30.1	33.7	42.1	37.9	9.3	41.1	25.2			
Trachelomonas sp. 6										5.9	6.2	6.1
TOTAL EUGLENOPHYTA	54.1	54.1	54.1	33.7	59.0	46.4	9.3	41.1	25.2	5.9	6.2	6.1
OTHERS												
phytoflagellate sp. 3	78.2	78.2	78.2	75.8	101.0	88.4	37.2	57.6	47.4			
phytoflagellate sp. 6	84.2	102.2	93.2	193.6	176.8	185.2	92.8	181.0	136.9			
phytoflagellate sp. 9	0.0	24.1	12.1	0.0	8.4	4.2						
TOTAL OTHERS	162.4	204.5	183.5	269.4	286.2	277.8	130.0	238.6	184.3	0.0	0.0	0.0
TOTAL PHYTOPLANKTON	2837.3	3407.6	3123.2	6900.9	6508.5	6706.0	5657.9	6012.8	5836.0	2576.6	2840.4	2709.0
std. dev.			±336.6			±438.8			±1099.2			±211.7

APPENDIX TABLE C.1-5

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(x10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(x10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(x10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(x10^2)$/ml
BACILLARIOPHYTA									
Centrales									
Coscinodiscus lacustris	26024.2			0.3	1717.60				
Cyclotella Meneghiniana	330.8	20.7	2221.65	18.6	1542.52	22.6	2052.94	3.9	43.67
C. pseudostelligera	173.2			0.5	20.44	2.4	115.52	0.5	3.12
C. stelligera	173.2			1.5	67.03	0.7	32.04	0.3	1.73
Cyclotella sp. 1	91.9	5.6	167.90	2.8	64.79	3.2	81.15		
Melosira distans	564.6	0.6	112.36	3.2	451.12	1.8	285.69	5.5	104.45
M. granulata	1055.6	1.7	579.52	2.0	532.02	1.5	440.19	2.5	90.78
M. granulata v. *angustissima*	245.3	0.7	52.74	0.5	28.95	1.0	64.27	0.6	4.91
M. varians	5674.5	0.7	1220.02	0.6	817.13				
Stephanodiscus astraea	377.1	3.6	436.68	3.3	311.11	2.7	283.96	0.3	3.77
Pennales									
Achnanthes deflexa	70.5	0.3	7.61						
A. fragilarioides	364.0			0.5	45.50				
A. lanceolata	146.3	0.8	37.89	0.7	26.92	1.0	38.33	1.4	7.02
A. lanceolata v. *dubia*	355.0	1.1	130.29	0.3	23.43				
A. minutissima	89.1	8.0	231.04	10.0	224.09	9.5	232.11	7.2	21.74
Achnanthes sp. 1	52.3	2.0	33.52	1.3	17.52	2.9	41.16	3.2	5.70
Achnanthes sp. 2	466.9	0.3	50.43					0.5	8.40
Achnanthes sp. 3	117.0			0.3	7.72				
Amphora ovalis v. *pediculus*	325.1	1.0	108.98	0.5	38.39	0.4	39.04	2.1	23.10
Amphora sp. 1	99.0	0.3	10.69	0.2	5.84	0.4	10.99	0.3	0.89
Asterionella formosa	168.0	0.3	18.14						
A. formosa v. *gracillima*	188.0			0.6	27.07	0.6	32.90		
Cocconeis placentula v. *lineata* ?	1010.8			0.3	66.71	1.0	273.93		
Cymbella affinis	1640.3							0.5	29.53
C. delicatula	588.0			0.8	119.36				
C. minuta v. *silesiaca*	650.3			0.8	132.01				
C. prostrata v. *auerswaldii*	808.2			0.2	47.68				
Diatoma vulgare	2275.0	0.6	416.33					0.8	63.70

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA (continued)									
Pennales (continued)									
Diatoma vulgare v. *linearis*	877.6			0.2	51.78	0.2	57.04	2.8	84.25
Eunotia exigua	99.0	0.9	30.39	0.7	17.52				
Fragilaria crotonensis	2295.0							0.8	64.26
Frustulia rhomboides v. ?	1974.0					0.5	254.65	0.3	17.77
Gomphonema olivaceum	266.5	0.9	77.29	0.2	15.72	0.8	55.97	3.9	35.44
G. parvulum	255.0	2.0	163.46	3.6	228.99	3.4	234.60	12.6	108.63
Gomphonema sp. 1	520.5							1.7	29.15
Gyrosiyma acuminatum	10618.6					0.2	690.21		
Gyrosigma sp. 1	3371.7			0.3	222.53				
Hantzschia sp. 1	1215.0	0.6	222.35	1.8	550.40	0.4	134.87	0.6	24.30
Meridion circulare	648.0	0.3	58.97			0.2	35.64	1.4	31.10
Navicula accomoda	565.5					0.2	36.76		
N. cryptocephala	511.0	3.8	630.06	3.3	416.47	4.8	676.56	0.3	5.11
N. cryptocephala v. *veneta*	174.5	1.6	93.18	3.3	143.96	1.7	81.14	0.4	2.44
N. gysingensis	163.4	0.6	29.90	0.5	20.43	1.4	60.95	0.3	1.47
N. hungarica v. *capitata*	551.3	0.3	59.54						
N. mutica	275.7			0.3	18.20				
N. viridula v. *avenacea*	2730.0	2.4	2164.89	4.0	2749.11	2.7	1990.17	0.8	76.44
Navicula sp. 1	91.9	0.6	16.82	0.3	6.07				
Navicula sp. 2	96.2	2.0	63.20	2.7	66.19	2.3	61.47	0.3	0.96
Navicula sp. 3	433.7			0.3	28.62				
Navicula sp. 4	176.7	0.3	19.08			0.5	23.50		
Nitzschia acicularis v. *closterioides*	265.5	0.9	81.51	0.5	33.19				
N. communis	67.5	0.3	6.14	0.3	4.46	1.2	22.68		
N. communis v. *abbreviata*	18.8	2.4	14.91	1.3	6.02	0.9	4.51	0.3	0.17
N. dissipata	280.4	0.9	81.32	3.5	242.55	2.0	150.57	2.2	21.03
N. palea	227.8	8.5	637.38	8.5	486.58	7.7	482.02	0.8	6.38
N. tryblionella v. *levidensis*	944.2	0.3	85.92			0.4	113.30	0.3	8.50

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA (continued)									
Pennales (continued)									
Pinnularia abaujensis	4455.0			0.3	294.03				
Rhoicosphenia curvata	760.0	0.6	139.08	1.2	229.52	0.2	41.80	1.4	36.48
Stauroneis sp. 1	251.3			0.2	14.83				
Surirella ovata	777.5	1.9	485.94	1.0	188.93	2.0	425.29	2.4	62.20
Synedra acus	2315.3			0.2	136.60				
S. rumpens	178.3	0.3	19.26			0.6	31.20		
S. socia	303.8	1.9	185.01	2.5	191.39	0.5	39.19		
S. tabulata	1012.5	0.3	92.14						
S. ulna	1343.0	0.3	145.04						
S. ulna v. *aequalis*	8466.6							0.8	237.06
S. ulna v. *contracta*	5040.0	0.3	544.32						
Tabellaria flocculosa	162.6					0.7	30.08		
unidentified pennate sp. 2	459.5			0.2	27.11	0.2	25.27		
TOTAL BACILLARIOPHYTA		83.6	11982.92	91.0	12726.15	87.4	9783.66	64.0	1265.65
CHRYSOPHYTA									
Botrydiopsis arhiza	463.2							0.3	4.63
Ophiocytium sp. 1	56.5	0.3	4.80	0.3	4.18	0.5	8.42		
Stipitococcus vasiformis	165.5	0.3	14.07						
TOTAL CHRYSOPHYTA		0.6	18.87	0.3	4.18	0.5	8.42	0.3	4.63
CRYPTOPHYTA									
cryptophyte sp. 1	80.9	0.3	6.88					3.8	10.36
cryptophyte sp. 2	47.8					0.5	7.03		
TOTAL CRYPTOPHYTA		0.3	6.88	0.0	0.00	0.5	7.03	3.8	10.36
CHLOROPHYTA									
Chlamydomonas globosa ?	606.1	0.2	48.49			0.3	45.46	2.5	50.91
C. sphagnicola	4839.0			0.3	358.83				

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
Chlamydomonas sp. 1	335.1			1.2	99.19	0.5	50.27		
Chlamydomonas ? sp. 2	50.3			0.3	3.72				
Chlorella ? sp.	9.2			0.3	0.68				
Cosmarium sp. 1	192.3	0.2	15.38			0.3	842.19		
Cosmarium sp. 2	11380.9								
Gloeocystis planctonica	242.5[c]	0.2	19.40	0.3	17.95			0.3	1.38
Kirchneriella obesa	125.7[c]							0.3	5.08
Scenedesmus acuminatus	462.0[c]								
S. quadricauda	261.3[c]	0.8	63.76	0.3	19.34	0.3	19.34		
Stigeoclonium sp. 1	314.2[d]	0.2	24.19						
Tetraedron minimum	140.6	0.5	23.20					1.6	7.45
Tetrastrum staurogeniaeforme	173.2[c]	0.3	14.72						
unidentified green 1	348.6	0.5	57.52						
unidentified green 2	34.4[c]	0.2	2.75						
TOTAL CHLOROPHYTA		3.1	269.41	2.7	499.71	1.4	957.26	4.7	64.82
CYANOPHYTA									
Aphanizomenon sp.	254.5[d]	0.1	6.62			0.2	17.05		
Chroococcus dispersus v. *minor*	1.3[c]	0.5	0.21	1.2	0.38	0.3	0.10		
Dactylococcopsis fascicularis	21.2[c]					0.5	4.71	0.3	0.21
D. Smithii	40.5[c]					0.8	8.99	0.3	0.41
Lyngbya aestuarii	3421.2[d]	0.4	461.86			<0.1	27.37		
L. limnetica	254.5[d]	0.3	25.96			0.3	24.43	0.3	2.29
Lyngbya sp.	78.5[d]			1.0	20.41	1.1	22.77		
Microcoleus lyngbyaceus	832.5[d]					0.5	116.55		
Nostoc sp. 1	78.5[d]	0.1	1.33						
Oscillatoria amphibia ?	227.0[d]			0.2	11.80	0.4	22.02		
Oscillatoria sp. 3	176.7[d]			0.1	3.89				
Oscillatoria sp. (1,2)	81.7[d]	5.0	132.19	1.9	39.87	2.7	60.62	24.3	67.08
Phorimidium minnesotense	132.7[d]	0.7	29.33	0.5	15.66	1.3	47.37		

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
23 MARCH 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CYANOPHYTA (continued)									
Rhabdoderma irregulare	3.0[c]							0.3	0.03
R. lineare	40.7[c]	2.8	36.87	0.3	3.01	0.5	6.06		
Spirulina laxissima	50.3[d]	0.3	4.88	<0.1	0.40	0.1	1.51		
coccoid blue-green 1	38.8							0.6	0.81
filamentous blue-green sp. 1	132.7[d]			<0.1	1.99				
TOTAL CYANOPHYTA		10.2	699.25	5.2	97.41	8.7	359.55	26.1	70.83
EUGLENOPHYTA									
Heteronema sp.	606.1	0.3	51.52						
Lepocinclis texta	13309.5	0.2	1064.76						
Phacus sp. 2	1503.5	0.2	120.28						
Trachelomonas sp. 1	78.0	0.3	6.63	0.6	11.54	0.8	17.55		
Trachelomonas sp. 2	73.6	0.5	12.14						
Trachelomonas sp. 6	179.6	0.3	15.27						
Trachelomonas sp. 7	104.9							0.9	3.36
TOTAL EUGLENOPHYTA		1.8	1270.60	0.6	11.54	0.8	17.55	0.9	3.36
PYRRHOPHYTA									
Glenodinium sp.	202.0			0.3	14.95				
TOTAL PYRRHOPHYTA		0.0	0.00	0.3	14.95	0.0	0.00	0.0	0.00
OTHERS									
phytoflagellate sp. 3	1212.3					0.3	89.71		
phytoflagellate sp. 5	904.8					0.3	67.86		
TOTAL OTHERS		0.0	0.00	0.0	0.00	0.6	157.57	0.0	0.00
TOTAL BIOVOLUME			14247.93		13353.94		11291.04		1419.65

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-6

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ³)	Station and Parameter 1 Relative abundance[a] ( )	1 Biovolume[b] μ³(x10⁻⁶)/ml	3 Relative abundance ( )	3 Biovolume μ³(x10⁻⁶)/ml	5 Relative abundance ( )	5 Biovolume μ³(x10⁻⁶)/ml	6 Relative abundance ( )	6 Biovolume μ³(x10⁻⁶)/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella comta	665.2	0.2	90.47						
C. glomerata	88.4	0.4	21.66	0.8	42.79	0.4	17.06	0.2	0.80
C. Meneghiniana	369.0	13.5	3007.35	7.4	1663.08	7.4	1294.45	1.3	19.56
C. ocellata	286.3	1.5	257.10	4.3	754.40	3.5	477.55		
C. pseudostelligera	238.9	9.7	1396.85	8.4	1228.66	9.0	1017.00	0.2	2.15
C. stelligera	381.7	3.3	752.71	0.5	106.49	0.8	148.86		
Cyclotella sp. 1	123.2	5.0	372.56	4.5	342.13	5.6	327.47	0.1	0.49
Melosira ambigua	157.1			0.2	15.71				
M. distans	197.9	1.8	214.33	1.3	256.14	1.2	109.44	1.1	3.71
M. granulata	1407.4	1.3	1078.07	1.2	1059.77	1.7	1159.70		
M. granulata v. angustissima	176.7	0.5	50.71	0.7	70.50	0.8	68.91		
M. italica	196.3			0.3	33.17	1.3	123.87		
M. varians	4580.4					1.1	2354.33		
Stephanodiscus astraea	509.7	14.2	4388.01	18.4	5748.91	18.9	4585.77		
Pennales									
Achnanthes deflexa	126.9	0.2	18.53						
A. lanceolata	213.9	0.9	112.73	1.0	124.92	0.4	41.28	2.4	20.53
A. minutissima	51.0	7.5	230.88	5.4	167.28	5.9	141.88	27.2	54.83
Achnanthes sp. 1	42.4	0.6	16.15	1.2	30.02	1.4	28.66	2.4	3.99
Achnanthes sp. 2	537.2	0.6	210.05					0.2	4.83
Amphipleura pellucida	2116.6							0.2	19.05
Amphora ovalis v. pediculus	116.6	0.7	50.02	0.3	19.71			2.9	13.18
Amphora sp. 1	159.0			0.3	28.62	0.4	30.69	0.2	1.43
Asterionella formosa	522.0			0.3	93.96	0.7	161.82		
A. formosa v. gracillima	208.0	0.9	109.62	1.9	246.27	0.8	84.03		
Cocconeis pediculus	2799.2	0.3	534.65	0.3	473.06				
C. placentula	1390.9			0.2	139.19				
Cymbella minuta	285.9	0.2	41.74					1.3	14.58
C. minuta v. silesiaca	3078.8					0.6	858.99	0.2	27.71

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] μ^3(x10^2)/ml	3 Relative abundance (%)	3 Biovolume μ^3(x10^2)/ml	5 Relative abundance (%)	5 Biovolume μ^3(x10^2)/ml	6 Relative abundance (%)	6 Biovolume μ^3(x10^2)/ml
BACILLARIOPHYTA (continued)									
Pennales (continued)									
Cymbella prostrata	2419.0	0.2	353.17						
C. prostrata v. *auerswaldii*	923.6	0.6	351.89	1.1	604.03	0.6	252.14	0.2	8.31
C. rupicola	609.0	0.2	88.91						
C. tumida	14419.9					0.2	1441.99		
Diatoma hiemale v. *mesodon*	593.8	0.2	86.69						
D. vulgare	1930.5			0.3	347.49	0.2	179.54	1.5	115.83
D. vulgare v. *linearis*	283.5	1.8	307.03	1.2	201.00	0.4	54.72		
Eunotia exigua	424.1	0.7	181.94	0.1	16.96	0.2	42.41		
Fragilaria capucina	607.5					0.2	56.50		
F. crotonensis	1107.0			0.8	524.72				
Frustulia rhomboides v. ?	2160.0			0.2	216.00			0.2	19.44
Gomphonema angustatum v. *obtusatum*	202.5							0.2	1.82
G. olivaceum	299.3			0.8	141.87	0.4	57.76		
G. parvulum	326.4	1.8	356.43	2.3	462.51	1.7	258.84	13.8	177.89
Gyrosigma acuminatum	5733.4							0.2	51.60
Hantzschia sp. 1	1732.5			0.6	604.64	0.2	173.25	0.5	31.19
Meridion circulare	785.4							0.9	26.70
Navicula canalis	81.0			0.3	13.69			0.7	2.19
N. cryptocephala	441.0	1.3	357.21	1.0	275.18	1.8	370.00	1.0	16.76
N. cryptocephala v. *veneta*	121.5	0.7	52.12	1.2	88.94	0.9	52.97	0.2	1.09
N. exigua v. *capitata*	1039.1			0.3	175.61				
N. gysingensis	353.4	0.2	48.06	0.3	59.72				
N. mutica	544.3							0.7	14.70
N. tripunctata	1204.0			0.3	216.72	0.2	120.40		
N. viridula v. *avenacea*	911.3	3.4	1858.14	2.9	1642.16	3.3	1408.87		
N. viridula v. *rostellata*	684.0			0.3	115.60	0.2	63.61		
Navicula sp. 2	163.4	0.2	22.22	1.3	127.29	1.0	78.92	0.5	2.94
Navicula sp. 3	530.1	0.2	77.39						
Navicula sp. 4	196.3	0.2	28.66						

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(x10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(x10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(x10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(x10^2)$/ml
BACILLARIOPHYTA (continued)									
Pennales (continued)									
Navicula sp. 5	191.3	1.1	130.85	0.3	32.33	0.2	17.79		
Nitzschia acicularis v. *closterioides*	1100.1	1.4	90.28	1.7	111.53	4.6	240.24		
N. communis v. *abbreviata*	32.3	0.2	4.72			1.2	19.02	0.8	0.58
N. dissipata	486.5	3.1	916.08	2.0	607.15	1.9	434.44	9.2	177.09
N. filiformis	1908.0	0.2	259.49						
N. gandersheimiensis	753.8	0.5	212.57					0.9	26.38
N. palea	213.8	8.4	1093.16	5.8	764.98	3.7	380.14	15.2	127.85
N. stagnorum	506.3			0.3	85.56	0.2	50.63	0.5	9.11
N. subtilis	138.0			0.3	23.32	0.4	28.98		
N. tryblionella v. *levidensis*	2862.8			0.3	483.81				
N. tryblionella v. *victoriae*	3180.9	0.2	432.60	0.3	537.57				
Pinnularia subcapitata v. *paucistriata*	1224.0			0.3	206.86				
Rhoicosphenia curvata	1134.0	0.2	154.22			0.2	105.46	0.9	39.69
Stauroneis smithii	150.8	0.2	20.51						
Surirella ovata	1227.1	0.9	634.41	1.1	814.79	0.8	495.75	3.3	160.75
S. ovalis	593.8	0.7	260.68	0.2	59.38				
Synedra amphicephala	357.8	0.2	48.66						
S. delicatissima	2389.5	0.6	934.29			0.2	222.22		
S. radians	247.5			0.3	44.55				
S. rumpens	121.5					1.0	58.68		
S. rumpens v. *familiaris*	231.0			0.9	132.59	1.1	120.12		
S. ulna	3465.0			0.5	970.20			0.7	93.56
S. ulna v. *ramesi*	1984.5			0.2	198.45	0.2	198.45	0.2	17.86
Tabellaria flocculosa	314.2	0.2	45.87						
unidentified pennate sp. 2	219.9			0.5	67.07	1.6	167.56		
TOTAL BACILLARIOPHYTA		93.1	22332.44	89.2	23519.08	90.7	20183.16	92.2	1315.17

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ^3)	Station and Parameter 1 Relative abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CRYPTOPHYTA									
Cryptophyte sp. 1	86.4					0.9	37.67		
Cryptophyte sp. 2	62.5			0.2	5.81				
TOTAL CRYPTOPHYTA		0.0	0.00	0.2	5.81	0.9	37.67	0.0	0.00
CHLOROPHYTA									
Ankistrodesmus Braunii	81.1			0.1	4.46				
A. falcatus	27.7[c]	0.7	11.27	1.3	22.49	0.3	3.96	0.6	0.69
A. falcatus v. *acicularis*	94.9[c]					0.6	27.71		
A. falcatus v. *convolutus*	99.0[c]	0.1	7.33						
A. falcatus v. *mirabilis*	39.8[c]	0.1	2.94	0.5	12.38				
A. falcatus v. *stipitatus*	36.0[c]					0.2	2.66		
Carteria Klebsii	392.1	0.1	29.01						
Chlamydomonas globosa ?	523.6	0.3	81.68	0.6	203.68	0.5	112.05	0.3	5.24
Chlamydomonas sp. 1	197.9					0.2	14.64		
Chlorella ? sp.	9.2			0.2	0.86				
Dictyosphaerium Ehrenbergianum	199.5[c]			0.1	10.97	0.6	58.45		
Gloeocystis ampla	91.6[c]					0.6	26.47		
Golenkinia radiata	97.0	0.5	31.33	0.9	52.19	0.2	7.18		
Kirchneriella contorta	4.9[c]					0.2	0.36		
K. lunaris v. *Dianae*	11.8[c]			0.1	0.65				
Lagerheimia longiseta	150.8					0.2	11.16		
L. quadriseta	21.8			0.1	1.20	0.6	6.37		
Macractinium pusillum	344.8[c]	0.1	28.27	0.7	148.26	0.5	73.79		
M. quadrisetum	30.6[c]	0.1	2.26	0.2	2.85				
Quadrigula sp.	103.5[c]			0.6	40.37				
Scenedesmus abundans v. *longicauda*	167.4[c]			0.1	9.21	0.2	12.39		
S. acuminatus	122.4[c]					0.3	17.75		
S. arcuatus v.	671.2[c]					0.2	48.33		
S. bijuga	104.6[c]			0.1	5.75				
S. dimorphus	301.8[c]			0.2	44.36				

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
S. opoliensis ?	433.8[c]	0.8	209.96	0.5	120.60				
S. quadricauda	184.8[c]	0.1	15.15	0.5	57.66	0.2	13.68		
Scenedesmus sp. 2	52.0[c]			0.2	7.64				
Schroederia setigera	44.8			0.1	2.46	0.2	3.26		
Selenastrum sp.	6.5[c]					0.3	0.96		
Tetraedron minimum	132.7							0.6	3.18
Tetrastrum elegans	93.3[c]	0.3	15.02	0.1	5.13				
T. glabrum	201.6[c]			0.4	44.15				
T. punctatum	820.8[c]	0.1	65.66						
T. staurogeniaeforme	88.0[c]	0.3	14.17	0.3	16.46	0.2	6.34		
Westella botryoides	312.0[c]	0.1	23.09						
unidentified green 2	44.3[c]	0.2	6.07	0.2	4.16	0.2	3.28		
TOTAL CHLOROPHYTA		3.9	543.21	8.1	817.94	6.5	450.79	1.5	9.11
CYANOPHYTA									
Chroococcus dispersus v. *minor*	9.2[c]	0.4	2.04						
Dactylococcopsis acicularis	15.5[c]	0.2	2.29						
D. fascicularis	10.6[c]	0.5	3.28	0.4	2.54	0.3	15.34		
D. Smithii	9.4[c]			0.3	1.76				
Gomphosphaeria lacustris	73.6[c]			0.3	14.79				
G. lacustris v. *compacta*	82.4[c]					0.5	17.80		
Nostoc sp. 1	63.6[d]			0.2	5.91				
Oscillatoria amphibia ?	530.9[d]	0.4	133.26	0.6	205.99	0.1	19.11		
Oscillatoria sp. (1, 2)	78.5[d]	0.1	6.75	0.4	19.55	0.5	17.58	3.6	11.15
Phormidium minnesotense	346.4[d]			0.1	19.74	0.1	17.67	0.3	3.46
Rhabdoderma irregulare	7.4[c]							0.7	0.21
Spirulina laxissima	50.3[d]							0.1	0.10
coccoid blue-green 1	9.2							0.3	0.09
TOTAL CYANOPHYTA		1.6	147.62	2.3	270.28	1.5	87.50	5.0	15.01

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
25 MAY 1978

Species	Average biovolume (μ^3)	Station and Parameter: 1 Relative abundance[a] ( )	1 Biovolume[b] μ^3(x10^{-})/ml	3 Relative abundance ( )	3 Biovolume μ^3(x10^{-})/ml	5 Relative abundance ( )	5 Biovolume μ^3(x10^{-})/ml	6 Relative abundance ( )	6 Biovolume μ^3(x10^{-})/ml
EUGLENOPHYTA									
Euglena sp. 1	3392.9							0.5	403.76
Phacus crenulata	3568.4					0.2	264.06		
Trachelomonas robusta	735.6							0.3	8.09
T. volvocina	3003.0							0.7	87.09
Trachelomonas sp. 1	78.0	0.8	36.04	1.0	46.02	0.8	28.31		
Trachelomonas sp. 8	1413.7							0.1	7.07
Euglenoid sp. 1	2261.9			0.1	124.40				
Euglenoid sp. 3	90.0			0.2	8.37				
TOTAL EUGLENOPHYTA		0.8	36.04	1.3	178.79	1.0	292.37	1.6	506.01
TOTAL BIOVOLUME			23059.31		24791.9		21051.49		1845.30

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-7

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Average Biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella Meneyhiniana	318.1	28.2	8273.46	35.9	9221.72	26.6	3513.41	4.2	259.89
C. pseudostelligera	118.9	16.9	1851.15	11.5	1108.27	15.1	748.36	0.9	21.16
C. stelligera	203.6	0.2	42.96	0.6	98.75	0.4	31.56	24.3	963.84
Cyclotella sp. 1	66.5	4.4	267.93	6.6	357.17	17.5	483.06	6.6	85.25
Melosira distans	730.6	3.3	2195.45	5.9	3509.80	5.0	1514.53	27.5	3918.94
M. granulata	2035.8	1.5	2727.97	2.7	4458.40	1.3	1127.83	2.1	846.89
M. granulata v. *angustissima*	183.8	0.3	57.16	0.2	27.57	0.2	15.07		
M. islandica subsp. *helvetica*	42.4	0.8	30.57	1.4	49.44	2.5	44.73		
M. varians	2261.9	0.2	477.26			0.2	165.12		
Stephanodiscus astraea	279.2	9.8	2529.55	9.4	2112.71	6.4	737.65	1.0	55.28
Pennales									
Achnanthes lanceolata	81.0							0.2	3.56
A. minutissima	16.0	0.5	6.64	0.2	2.40	0.2	1.17	1.2	3.60
Achnanthes sp. 1	22.6			0.4	7.57	0.6	5.36	0.6	2.69
Amphora sp. 1	247.4	0.2	52.20			0.2	19.06	0.8	36.86
Asterionella formosa	324.0			0.2	59.62				
Cocconeis placentula	699.8	0.5	292.52			0.9	264.52	0.9	116.87
Cymbella prostrata v. *auerswaldii*	167.9							0.3	10.41
Frustulia rhomboides v. ?	1417.5							0.2	43.94
Gomphonema olivaceum	595.0	0.2	121.38						
G. parvulum	546.0	0.5	228.23	0.2	100.46			0.2	24.02
Hantzschia sp. 1	252.0			0.2	46.37			0.2	11.09
Navicula bacillum	472.5	0.4	192.78					0.6	56.23
N. cryptocephala	283.5			0.2	42.53	0.2	20.70	0.2	8.79
N. exigua v. *capitata*	846.7	0.2	178.65						
N. rhyncocephala	247.5	0.2	50.49	0.2	37.13	0.4	36.63	0.4	18.56
N. viridula v. *avenacea*	972.0	0.2	198.29	0.2	178.85			0.2	42.77
Navicula sp. 2	81.7	0.9	67.48			0.4	12.09	0.2	2.53
Nitzschia acicularis v. *closterioides*	424.1	0.9	350.31	0.6	205.69	0.6	97.54		
N. communis	74.3	0.2	15.68	0.2	11.15				
N. communis v. *abbreviata*	39.4	0.2	8.04						
N. dissipata	315.0	0.5	131.67	0.2	47.25	0.4	43.83	0.6	37.49
N. palea	144.0	1.8	240.34	1.3	148.46	3.3	193.58	2.0	55.73
Synedra acus	1768.0	0.9	1469.41	0.4	530.96	0.2	144.65		
S. delicatissima	144.0			0.4	48.24	0.4	22.32		
TOTAL BACILLARIOPHYTA		73.3	22057.57	78.9	22410.51	82.3	9252.77	75.1	6626.39
CHRYSOPHYTA									
Mallomonas sp.	557.6			0.1	38.47				
chrysophyte sp. 1	113.1	0.2	16.40						
TOTAL CHRYSOPHYTA		0.2	16.40	0.1	38.47	0.0	0.00	0.0	0.00

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Average Biovolume (μ^3)	Station and parameter: 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CRYPTOPHYTA									
cryptophyte sp. 2	63.7	0.9	51.28						
TOTAL CRYPTOPHYTA		0.9	51.28	0.0	0.00	0.0	0.00	0.0	0.00
CHLOROPHYTA									
Actinastrum hantzschii	250.5[c]			0.4	77.15	0.5	53.61		
A. hantzschii v. *fluviatile*	462.0[c]	0.2	68.84						
Ankistrodesmus convolutus	28.3[c]	0.2	4.10	0.5	12.31				
A. falcatus	63.3[c]	0.2	13.29	0.5	24.56	0.5	12.91	4.0	49.63
Arthrodesmus sp.	1390.4	0.1	104.28						
Carteria Klebsii	174.3	0.1	13.07						
Chlamydomonas globosa ?	589.0	1.2	627.87	0.5	222.05	1.3	309.23		
Chlamydomonas sp. 3	50.3							1.3	12.78
Chlamydomonas sp. 5	87.1	0.3	24.82						
Chlorella ? sp.	51.0	5.6	263.77	2.9	120.72	1.0	20.91		
Closterium acutum v. *variabile*	176.5	0.1	13.28			0.1	7.24		
Coelastrum sphaericum	1204.3[c]	0.2	179.44						
Cosmarium sp. 3	107.2	0.1	7.50						
Crucigenia apiculata	37.8[c]	0.2	5.63						
C. fenestrata	10.8[c]	0.1	0.81			0.3	1.07		
C. tetrapedia	72.0[c]			0.3	17.21				
Dictyosphaerium Ehrenbergianum	124.8[c]	0.5	53.41	0.9	89.48	2.2	113.57		
D. pulchellum	65.4[c]			0.2	9.74				
Franceia Droescheri	104.7	0.1	7.85						
F. tuberculata	301.6	0.2	44.94						
Golenkinia radiata	73.6	0.7	48.28	0.1	5.08				
Kentrosphaera gloeophila	5575.3	0.1	390.27						
Kirchneriella contorta	50.2[c]	0.2	7.28	0.1	4.02				
K. lunaris	16.6[c]	1.3	19.24					2.9	9.40
K. lunaris v. *irregularis*	32.1[c]			0.9	22.69	0.3	3.43	2.5	15.57
K. subsolitaria	24.2[c]			1.2	24.30	0.3	2.98		
Lagerheimia quadriseta	33.9	0.2	7.42			0.1	1.39		
L. subsalsa	24.5	0.2	3.55						
L. wratislawiensis	50.3	0.1	3.52						
Micractinum eriense	268.1[c]			0.2	42.90				
Oocystis Borgei	950.8[c]	0.2	208.23	0.1	76.06	0.6	249.11		
O. pusilla ?	310.4[c]	0.2	43.46						
Pandorina morum	2142.8[c]	0.2	310.71	0.1	147.85	0.2	141.42		
Pediastrum tetras v. *tetraodon*	339.3[c]					0.1	11.70		
Pteromonas angulosa	476.5	0.1	35.74						
Scenedesmus abundans v. *longicauda*	187.2[c]	0.2	27.14	0.1	14.98	0.2	12.36	1.1	39.87
S. acuminatus	103.6[c]	0.2	7.25						
S. bijuga	75.0[c]	1.2	108.90	2.8	166.88	2.1	65.33		
S. bijuga v. *alternans*	450.0[c]			0.1	31.05				

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Average Biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
S. denticulatus	889.6[c]					0.2	72.95		
S. dimorphus	1099.2[c]	0.1	76.94	0.1	75.84				
S. quadricauda	207.6[c]	1.1	210.51	1.5	251.40	1.2	107.33		
Schroederia setigera	123.5	0.1	9.26						
Selenastrum Westii	191.2[c]	0.1	14.34	0.1	15.30				
Tetraedron caudatum	214.7			0.1	17.18				
T. muticum	36.0			0.1	2.48				
Tetrastrum anomalum	127.2[c]	0.1	8.90	0.1	10.18				
T. glabrum	256.0[c]	0.3	72.70						
T. heteracanthum	778.7[c]	0.2	109.02	0.2	116.03	0.2	57.62		
T. punctatum	275.6[c]	0.1	20.67						
T. staurogeniaeforme	79.6[c]	0.2	11.86	0.6	40.12	1.0	32.08		
Treubaria setigerum	17.5	0.2	2.45						
coccoid green 7	268.1	0.2	37.53						
unidentified green 2	34.0[c]	0.9	29.10	0.2	5.44				
TOTAL CHLOROPHYTA		18.1	3257.17	14.9	1643.00	12.4	1275.74	11.8	127.50
CYANOPHYTA									
Anabaena spiroides	3217.0[d]	<0.05	96.51						
Chroococcus dispersus v. minor	12.9[c]	3.2	38.47	1.6	16.51	0.8	4.33		
C. limneticus	268.1[c]	0.3	76.14					5.4	281.51
Dactylococcopsis acicularis	16.5[c]			0.2	2.64				
D. fasciculatis ?	3.0[c]	0.3	0.88						
Gomphosphaeria lacustris	268.1[c]	0.2	58.71						
G. lacustris v. compacta	904.8[c]					0.1	29.86		
Lyngbya contorta	452.4[d]	0.3	136.62	0.2	77.36	0.2	29.41		
L. Diguetii	452.4[d]							0.5	40.72
Marssoniella elegans	63.8[c]	1.1	63.86	1.4	70.75	1.2	31.52		
Merismopedia tenuissima	136.9[c]	0.2	20.40	0.7	72.01	0.5	25.87		
Oscillatoria tenuis (sp. 4)	1809.6[d]							0.1	36.19
Oscillatoria sp. (1,2)	113.1[d]	0.6	62.54			0.1	4.86	5.5	121.47
Rhabdoderma lineare	40.7[c]	0.1	3.05			0.1	1.67		
TOTAL CYANOPHYTA		6.3	557.14	4.1	239.27	3.0	127.52	11.5	479.89
EUGLENOPHYTA									
Euglena sp. 1	2675.9	0.1	200.69						
Phacus sp. 1	402.1	0.2	58.30						
Trachelomonas Playfairii	8601.1			0.1	688.09			0.3	142.73
T. robusta	2854.5			0.1	228.36				
T. superba	3899.9			0.1	269.09	0.1	159.90		
T. urceolata	9005.4			0.1	720.43				
T. volvocina	113.1	0.1	8.48						
Trachelomonas sp. 1	113.1	0.6	57.91	0.6	57.00	1.7	80.87		
Trachelomonas sp. 5	2065.2	0.1	144.56						
Trachelomonas sp. 6	78.0			0.7	37.36			1.0	15.91
Trachelomonas sp. 8	348.5	0.1	24.40						
TOTAL EUGLENOPHYTA		1.2	494.34	1.7	2000.33	1.8	240.77	1.3	158.64

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100u filament volume.

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 AUGUST 1978

Species	Average Biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
PYRRHOPHYTA									
Glenodinium pulvisculus	7238.2			0.2	1078.49	0.5	1368.02		
dinoflagellate sp. 1	258.2			0.1	20.66				
TOTAL PYRRHOPHYTA		0.0	0.00	0.3	1099.15	0.5	1368.02	0.0	0.00
OTHERS								0.3	12.33
phytoflagellate sp. 11	246.6	0.0	0.00	0.0	0.00	0.0	0.00	0.3	12.33
TOTAL OTHERS									
TOTAL BIOVOLUME			26433.90		27430.73		12264.82		7404.75

[a]Values represent the relative percentage of the total phytoplankton and are based on the average duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-8

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Average Biovolume (μ^3)	Station and parameter: 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)/ml$	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)/ml$	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)/ml$	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)/ml$
BACILLARIOPHYTA									
Centrales									
Coscinodiscus lacustris	3421.2					0.2	400.28		
Cyclotella bodanica	5131.8					0.2	559.37		
C. meneghiniana	506.6	22.6	3575.08	17.6	5992.06	16.4	4816.14	4.0	552.19
C. pseudostelligera	123.7	3.4	133.22	3.3	277.71	2.1	152.65		
C. stelligera	203.6					0.2	23.82	0.2	12.83
C. striata	597.3			1.0	395.41				
Cyclotella sp. 1	164.1	7.8	397.45	11.6	1279.49	10.6	1012.83	1.4	62.36
Melosira ambigua	1005.3					0.5	284.50		
M. distans	453.6	6.5	916.73	7.3	2220.37	4.9	1290.95	1.8	224.08
M. granulata	1932.1	7.1	4277.67	10.4	13511.18	11.2	12577.97	0.2	110.13
M. granulata V. *angustissima*	155.5	0.4	17.88	0.9	93.61	0.9	79.15		
M. islandica subsp. *helvetica*	163.8	2.2	116.13	6.9	760.85	13.7	1306.80	0.9	40.46
M. italica	100.5	1.4	84.42	1.8	118.49				
M. varians	6927.2	0.6	1343.88	0.2	935.17	0.2	810.48		
Stephanodiscus astraea	407.2	11.1	1411.76	10.2	2792.58	9.8	2323.48	0.9	103.02
Pennales									
Achnanthes lanceolata	113.9	0.4	13.10			0.2	12.42		
A. minutissima	60.1	0.2	3.85			0.4	14.06	19.7	32.02
Achnanthes sp. 1	49.5	0.3	5.05	0.4	13.02			1.8	23.51
Amphora ovalis V. *pediculus*	197.9							0.5	25.13
Amphora sp. 1	148.4	0.2	7.57					0.2	9.35
Asterionella formosa	281.3			0.2	36.01	0.2	32.91		
A. formosa V. *gracillima*	360.0	0.2	23.04	0.2	46.08	0.4	84.24		
Cocconeis placentula V. *lineata* ?	643.2			0.4	164.66			1.1	192.31
Cymbella minuta V. *silesiaca*	353.4							2.0	195.08
Cymbella prostrata V. *auerswaldii*	1078.7					0.2	117.58	1.1	322.53
Diatoma vulgare	1701.0							0.2	96.96
Gomphonema affine	2025.0			0.2	259.20				
G. brasiliense	714.0	0.2	45.70					0.2	40.70
G. parvulum	474.4	2.8	419.37	1.6	502.86	0.4	104.36	4.4	565.96
Gyrosigma modiferum	2513.3							0.2	143.26
Navicula bacillum	504.0	0.2	25.70	0.2	68.04			0.2	31.75
N. contenta	77.8							0.9	18.28
N. cryptocephala	192.4	0.5	29.63	0.2	25.97			0.9	45.21
N. cryptocephala V. *veneta*	222.8					0.2	24.25	1.7	102.04
N. hungarica V. *capitata*	81.0					0.2	9.48		
N. rhyncocephala	425.3	1.2	164.59	0.8	220.73	0.4	96.11	2.2	258.58
N. tripunctata	945.0							0.2	53.87
N. viridula V. *avenacea*	784.0					0.2	91.73	0.4	90.16
N. viridula V. *rostellata*	1296.0					0.2	141.26	0.4	155.52

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Average Biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA (continued)									
Pennales (continued)									
Navicula sp. 1	106.0	0.2	5.41					0.2	6.04
Navicula sp. 2	103.5					0.2	12.11	4.6	128.13
Navicula sp. 4	339.3					0.2	39.70		
Navicula sp. 8	251.3							0.9	62.07
Nitzschia acicularis v. *closteroides*	316.7			0.4	83.29				
N. angustata	582.8					0.2	63.53		
N. communis	74.3							0.9	17.91
N. communis v. *abbreviata*	40.5	0.2	2.59	0.4	10.65				
N. dissipata	486.2	0.2	31.12			0.2	56.88	2.9	379.24
N. gandersheimiensis	980.0			0.2	132.30			1.4	360.64
N. palea	152.3	1.2	56.50	0.4	40.05	0.8	69.75	8.1	338.10
N. paradoxa	437.5	0.7	95.38	0.4	112.00	0.2	51.18		
N. tryblionella v. *victoriae*	5541.8					0.2	648.39		
Rhoicosphenia curvata	833.0							0.2	52.48
Surirella angustata	1308.5					0.2	153.09		
S. ovata	933.1	0.2	59.72	0.2	125.97			2.0	496.40
Synedra acus	2495.2	2.8	2210.75	2.2	3650.48	3.0	4241.84	0.2	157.19
S. delicatissima	450.0	1.0	139.05	1.2	358.65	1.0	256.05		
S. ulna	10125.0					0.2	1103.63		
TOTAL BACILLARIOPHYTA		75.5	15572.34	80.7	34226.88	76.4	33092.97	69.5	5505.49
CHRYSOPHYTA									
Mallomonas sp. 1	368.9	0.4	44.64	0.4	108.82	0.2	32.46		
TOTAL CHRYSOPHYTA		0.4	44.64	0.4	108.82	0.2	32.46	0.0	0.00
CRYPTOPHYTA									
Cryptomonas ovata	261.4					0.2	35.03		
cryptophyte sp. 1	50.3					1.2	34.71		
cryptophyte sp. 2	193.2	3.8	226.62	3.8	496.14	5.3	601.62		
TOTAL CRYPTOPHYTA		3.8	226.62	3.8	496.14	6.7	671.36	0.0	0.00
XANTHOPHYTA									
xanthophyte sp. 1	2012.7	0.2	120.76	0.1	169.07	0.2	177.11		
TOTAL XANTHOPHYTA		0.2	120.76	0.1	169.07	0.2	177.11	0.0	0.00
CHLOROPHYTA									
Actinastrum hantzschii v. *fluviatile*	1131.0[c]	0.1	33.93	0.1	47.50	0.2	99.53		
Ankistrodesmus convolutus	67.7[c]	0.7	14.28	0.1	2.84	0.8	26.65		
A. falcatus	54.3[c]	1.4	24.49	2.2	79.98	1.7	53.38	0.9	13.14
A. falcatus v. *acicularis*	102.5[c]					0.3	19.06		
A. falcatus v. *mirabilis*	65.9[c]	0.5	9.95	0.3	13.90	0.2	8.83		
Carteria Klebsii	121.5	0.1	3.64	0.1	5.10				

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Average Biovolume (μ^3)	Station and parameter: 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
C. multifilis	2144.7					0.1	87.93		
Characium ? sp.	33.2							5.0	44.65
Chlamydomonas globosa	229.8	0.1	689.40			0.2	30.79		
C. sphagnicola	904.8							11.5	2819.45
Chlamydomonas sp. 3	116.1			0.6	48.88			7.6	240.67
Chlorella ? sp.	24.4	0.6	4.42	0.2	4.12	0.5	7.56		
Closterium moniliferum	118989.9	0.1	3569.70						
C. parvulum v. *angustatum*	617.8					0.1	29.04		
Closterium sp. 1	14490.6							0.1	434.72
Closterium sp. 2	123.5					0.1	5.80		
Cosmarium sp. 4	251.3			0.3	53.02	0.2	7.37		
Crucigenia apiculata	1019.2[c]					0.1	90		
C. quadrata	444.4[c]	0.2	26.66	0.1	37.33				
C. tetrapedia	118.6[c]	0.1	3.56						
C. truncata	1008.0[c]			0.1	42.34				
Dictyosphaerium Ehrenbergianum	555.6[c]	0.1	30.24						
Golenkinia radiata	356.8	0.1	10.70						
Kirchneriella lunaris	19.1[c]			0.1	0.80	0.5	5.81	0.2	1.13
K. lunaris v. *irregularis*	3.4[c]	0.2	1.15	0.3	0.72				
K. obesa	91.6[c]	0.6	16.58	0.2	15.48	0.3	15.57		
K. subsolitaria	11.9[c]	0.2	0.71	0.3	2.51	0.2	1.48		
Lagerheimia quadriseta	27.9	0.4	3.35	0.4	7.06	0.5	8.62		
L. wratislawiensis	77.0	0.1	2.31						
Oocystis Borgei	665.0[c]	0.8	160.26	0.6	252.04	0.3	109.72		
O. pusilla ?	193.9[c]	0.3	17.45			0.1	9.11		
Pandorina morum	4523.9[c]	0.3	411.67						
Pediastrum duplex v. *clathratum*	6647.6[c]			0.1	279.20				
Scenedesmus abundans	71.6[c]					0.1	3.36		
S. abundans v. *longicauda*	325.6[c]			0.1	13.68				
S. acuminatus	2661.6[c]	0.2	159.70						
S. bijuga	47.0[c]	0.8	11.33	1.3	41.55	0.5	13.82		
S. dimorphus	462.0[c]	0.2	27.72						
S. quadricauda	60.0[c]	0.2	3.60	0.4	17.70	0.1	2.46	0.1	1.80
Tetraedron minimum	384.2	0.1	11.53	0.1	16.14				
Tetrastrum glabrum	256.0[c]			0.1	10.75				
T. heteracanthum	119.0[c]	0.1	3.57	0.1	10.00	0.1	5.59		
T. punctatum	384.2[c]			0.1	16.14				
T. staurogeniaeforme	92.2[c]	0.3	8.30	0.1	3.87	0.1	3.78		
T. triacanthum	169.9[c]					0.2	22.77		
Westella botryoides	588.8[c]	0.1	17.66	0.1	24.73				
unidentified green sp. 2	37.7[c]					0.2	3.51		
TOTAL CHLOROPHYTA		9.0	5277.86	8.5	1047.38	7.7	645.44	25.4	3554.56

[a] Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b] Biovolume per species was derived by multiplying the average biovolume for each species by the average density of that species at each station.

[c] Value represents colony volume.

[d] Value represents 100μ filament volume.

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
16 NOVEMBER 1978

Species	Average Biovolume (μ^3)	Station and parameter: 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CYANOPHYTA									
Anabaena sp. 1	1134.1[d]							<0.05	14.74
Chroococcus dispersus v. *minor*	18.3[c]	1.8	10.47	0.4	5.40	1.0	10.27		
C. limneticus	65.4[c]					0.1	3.07		
Marssoniella elegans	28.1[c]	1.5	13.52	1.1	21.30	0.9	13.61		
Microcystis incerta	1838.8[c]	0.1	55.16	0.1	154.46				
Oscillatoria tenuis (sp. 4)	1963.5[d]							0.1	29.45
Oscillatoria sp. (1,2)	78.5[d]			<0.05	0.71			1.4	30.38
Rhabdoderma Gorskii	37.7[c]							3.4	35.02
R. lineare	18.8[c]					0.1	0.88		
TOTAL CYANOPHYTA		3.4	79.15	1.6	181.87	2.1	28.83	4.9	109.59
EUGLENOPHYTA									
Euglena sp. 1	753.2	0.1	22.60						
Euglena sp. 3	731.9	0.3	65.87	0.1	62.21				
Phacus orbicularis	26521.8	0.1	795.65						
Phacus sp. 1	129.3	0.2	7.70						
Trachelomonas volvocina	2854.5	0.1	115.64						
Trachelomonas sp. 1	113.1	1.0	34.04	0.6	42.87	0.4	28.50		
Trachelomonas sp. 6	65.4							0.2	3.99
TOTAL EUGLENOPHYTA		1.8	1041.50	0.7	105.08	0.4	28.50	0.2	3.99
OTHERS									
phytoflagellate sp. 3	598.4	2.5	467.95	1.3	528.99	0.8	283.64		
phytoflagellate sp. 6	7.2	3.0	6.71	2.8	13.33	2.3	9.86		
phytoflagellate sp. 9	50.3	0.4	6.09	0.1	2.11	3.2	92.70		
TOTAL OTHERS		5.9	480.75	4.2	544.43	6.3	386.20	0.0	0.00
TOTAL BIOVOLUME			22843.62		36879.67		35062.87		9173.63

[a]Values represent the relative percentage of the total phytoplankton and are based on the average of duplicate samples.

[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density of teat species at each station.

[c]Value represents colony volume.

[d]Value represents 100 μ filament volume.

APPENDIX TABLE C.2-1

ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
21 MARCH 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED												
PROTOZOA												
Arcella spp.	1.1	2.3	1.7	1.8	0.7	1.2	0.9	1.6	1.2	0.1	0.1	0.1
Carchesium sp.	6.8	6.4	6.6	4.5	6.0	5.2	3.9	4.9	4.4			
Centropyxis spp.	14.4	21.5	17.9	16.7	4.9	10.8	7.5	18.1	12.8	0.2	0.2	0.2
Difflugia sp.	7.5	9.4	8.4	10.3	2.4	6.4	4.3	10.1	7.2	0.2	0.2	0.2
Vorticella sp.	3.2	4.5	3.8	3.8	3.6	3.7	4.6	5.3	5.0			
Zoothamnium sp.	0.4	0.0	0.2	0.1	0.1	0.1	0.0	0.5	0.3	<0.1	<0.1	<0.1
TOTAL PROTOZOA	33.4	44.1	38.6	37.2	17.7	27.4	21.2	40.5	30.9	0.5	0.5	0.5
ROTIFERA												
Brachionus spp.										<0.1	0.0	<0.1
B. calyciflorus				0.1	0.1	0.1						
Keratella cochlearis	0.1	0.4	0.3	0.4	0.0	0.2	0.1	0.1	0.1			
K. quadrata							0.1	0.1	0.1			
Monostyla lunaris				0.2	0.0	0.1	0.0	0.1	0.1			
Notholca sp.				0.0	0.2	0.1	0.0	0.1	0.1			
Platyias patulus										<0.1	0.0	<0.1
Polyarthra sp.							0.2	0.0	0.1			
unidentified Bdelloidea				0.0	0.1	<0.1						
unidentified Rotifera	1.7	1.6	1.6	1.9	0.8	1.4	0.9	1.7	1.3	0.1	0.2	0.1
TOTAL ROTIFERA	1.8	2.0	1.9	2.6	1.2	1.9	1.3	2.1	1.8	0.1	0.2	0.1

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
21 MARCH 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
CLADOCERA												
Bosmina longirostris				0.1	0.0	0.1	0.1	0.0	<0.1	<0.1	0.0	<0.1
Chydorus sphaericus							0.1	0.0	<0.1	0.1	1.0	0.5
Eubosmina sp.										0.0	<0.1	<0.1
immature Cladocera										<0.1	<0.1	<0.1
unidentified Cladocera										<0.1	0.0	<0.1
TOTAL CLADOCERA				0.1	0.0	0.1	0.2	0.0	<0.1	0.1	1.0	0.5
COPEPODA												
Calanoida												
Diaptomus sp.										0.0	<0.1	<0.1
Cyclopoida												
Cyclops bicuspidatus thomasi	0.1	0.0	<0.1				0.1	0.1	0.1	0.0	<0.1	<0.1
Eucyclops speratus										<0.1	0.0	<0.1
unidentified Cyclopoida										0.0	<0.1	<0.1
Harpacticoida												
Attheyella sp.										<0.1	<0.1	<0.1
A. illinoisensis										<0.1	<0.1	<0.1
copepodites	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	<0.1	<0.1	<0.1	<0.1
nauplii	0.1	0.6	0.3	0.4	0.2	0.3	0.3	0.0	0.2	0.1	0.2	0.2
TOTAL COPEPODA	0.3	0.6	0.4	0.5	0.2	0.4	0.5	0.1	0.3	0.1	0.2	0.2
OTHERS												
Nematoda												
Criconema sp.	0.2	0.1	0.2	0.2	0.0	0.1						
unidentified Nematoda	1.7	3.6	2.7	3.1	1.3	2.2	1.0	2.3	1.6	<0.1	0.1	<0.1

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
21 MARCH 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
OTHERS (continued)												
Ectoprocta statoblasts	0.1	0.2	0.2	0.3	0.6	0.4	0.1	0.1	0.1			
Tardigrada	0.1	0.1	0.1	0.0	0.1	<0.1						
Oligochaeta	0.1	0.0	<0.1	0.0	0.1	<0.1	0.2	0.3	0.2	0.0	<0.1	<0.1
Ostracoda										<0.1	<0.1	<0.1
Hydracarina adults				0.1	0.1	0.1						
Oribatoidae adults							0.0	0.1	0.1			
Chironomidae larvae				0.0	0.1	<0.1	0.1	0.0	<0.1	0.0	0.1	<0.1
Diptera larvae	0.0	0.1	0.1							<0.1	0.0	<0.1
Psocoptera adults										<0.1	0.2	<0.1
TOTAL OTHERS	2.2	4.1	3.3	3.7	2.3	2.8	1.4	2.8	2.0			
TOTAL UNDAMAGED PER LITER	37.7	50.8	44.2	44.1	21.4	32.6	24.6	45.5	35.0	0.8	2.1	1.3
Standard deviation			±24.6			±13.4			±12.9			[a]
DAMAGED												
Diaptomus sp.										0.0	<0.1	<0.1
TOTAL DAMAGED PER LITER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
TOTAL UNDAMAGED AND DAMAGED PER LITER	37.7	50.8	44.2	44.1	21.4	32.6	24.6	45.5	35.0	0.8	2.1	1.3

[a] Standard deviation not calculated due to low zooplankton densities. Entire sample counted.

APPENDIX TABLE C.2-2

ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
24 MAY 1978

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED												
PROTOZOA												
Acineta sp.	0.5	0.7	0.6	1.5	0.9	1.2	0.5	0.2	0.3	0.0	<0.1	<0.1
Arcella spp.	0.5	1.0	0.7	0.9	0.6	0.8	0.8	1.8	1.3	0.1	0.1	0.1
Carchesium sp.	0.6	0.5	0.6	0.4	0.5	0.5	1.0	0.1	0.6			
Centropyxis spp.	2.7	9.1	5.9	6.7	3.1	4.9	4.6	9.0	6.8	0.1	0.1	0.1
Difflugia spp.	1.5	2.7	2.1	1.8	0.5	1.1	2.0	2.8	2.4	0.1	<0.1	<0.1
Epistylis sp.	0.1	0.0	<0.1	0.0	0.1	0.1						
Squalorophyrya sp.	0.1	0.0	<0.1									
Vorticella sp.	1.1	1.5	1.3	0.3	3.2	1.8	2.3	0.8	1.6			
Zoothamnium sp.	0.0	0.1	0.1				0.2	0.2	0.2			
TOTAL PROTOZOA	7.1	15.6	11.3	11.6	8.9	10.4	11.4	14.9	13.2	0.3	0.2	0.2
ROTIFERA												
Asplanchna sp.	0.1	0.0	<0.1	0.3	0.2	0.3	0.1	0.2	0.1	<0.1	0.0	<0.1
Brachionus spp.	0.1	0.0	<0.1	0.4	0.4	0.4	0.3	0.3	0.3	<0.1	<0.1	<0.1
B. angularis	0.1	0.5	0.3	0.6	0.2	0.4	0.1	0.4	0.2	0.0	<0.1	<0.1
B. bidentata	0.5	0.1	0.3	0.3	0.2	0.3	0.2	0.1	0.1			
B. calyciflorus	2.1	2.5	2.3	2.4	4.1	3.2	1.9	2.7	2.3			
B. quadridentata	0.8	1.3	1.0	2.1	1.1	1.6	1.6	0.5	1.1			
Filinia sp.	0.5	0.7	0.6	0.2	0.3	0.3	0.2	0.5	0.3			
Kellicottia longispina	1.2	1.0	1.1	1.7	1.0	1.4	1.0	0.7	0.9	<0.1	0.0	<0.1
Keratella cochlearis	1.4	13.2	7.3	10.4	1.8	6.1	1.7	9.5	5.6	0.2	<0.1	0.1
K. quadrata	0.7	1.8	1.2	0.7	1.1	0.9	1.1	0.8	1.0	<0.1	<0.1	<0.1
Monostyla bulla										<0.1	0.1	<0.1

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
ROTIFERA (continued)												
Monostyla lunaris										<0.1	<0.1	<0.1
Notholca sp.	0.3	1.0	0.7	1.9	0.5	1.2	0.4	0.8	0.6			
Platyias patulus	0.1	0.0	<0.1							<0.1	<0.1	<0.1
Polyarthra sp.	0.0	0.2	0.1	0.8	0.3	0.6	0.2	0.6	0.4			
Rotaria sp.										0.0	<0.1	<0.1
unidentified Bdelloidea				0.2	0.0	0.1						
unidentified Rotifera	1.6	2.6	2.1	2.2	1.8	2.0	2.6	2.4	2.5	0.4	0.4	0.4
TOTAL ROTIFERA	9.5	24.9	17.0	24.2	13.0	18.8	11.4	19.5	15.4	0.6	0.5	0.5
CLADOCERA												
Bosmina longirostris	0.1	0.0	<0.1	0.1	0.2	0.2						
Chydorus sphaericus										<0.1	0.1	<0.1
Daphnia sp.	0.0	0.1	0.1									
D. ambigua	0.0	0.1	0.1									
Eubosmina sp.	0.5	0.7	0.6	0.3	0.7	0.5	0.5	1.0	0.8	0.5	0.5	0.5
E. coregoni							0.1	0.0	<0.1			
Pleuroxus sp.										<0.1	0.0	<0.1
P. denticulatus										0.0	<0.1	<0.1
Scapholeberis kingi	0.1	0.0	<0.1									
immature Cladocera	0.2	0.1	0.1	0.1	0.3	0.2				<0.1	<0.1	<0.1
TOTAL CLADOCERA	0.9	1.0	0.9	0.5	1.2	0.9	0.6	1.0	0.8	0.5	0.6	0.5

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
COPEPODA												
Calanoida												
Diaptomus sp.							0.2	0.0	0.1			
D. pallidus	0.1	0.0	<0.1									
Cyclopoida												
Cyclops sp.							0.2	0.0	0.1			
C. bicuspidatus thomasi				0.1	0.1	0.1						
C. vernalis				0.1	0.1	0.1	0.1	0.1	0.1			
Macrocyclops albidus	0.1	0.0	0.1									
unidentified Cyclopoida	0.0	0.1	0.1									
Harpacticoida												
Attheyella illinoisensis				0.0	0.1	0.1						
unidentified Harpacticoida				0.1	0.0	0.1						
copepodites	2.9	2.3	2.6	3.2	3.5	3.4	2.6	2.8	2.7	0.1	0.1	0.1
nauplii	5.6	6.0	5.8	6.0	5.3	5.7	6.3	4.6	5.4	0.2	0.2	0.2
TOTAL COPEPODA	8.7	8.4	8.6	9.5	9.1	9.5	9.4	7.5	8.4	0.3	0.3	0.3
OTHERS												
Nematoda												
Criconema sp.	0.0	0.1	0.1							<0.1	0.0	<0.1
unidentified Nematoda	0.7	0.9	0.8	1.1	0.6	0.9	0.7	1.0	0.8	0.1	<0.1	<0.1
Ectoprocta statoblasts	0.3	0.2	0.2	0.1	0.3	0.2	0.2	0.1	0.2	<0.1	0.0	<0.1
Tardigrada	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	<0.1	0.0	<0.1
Oligochaeta	0.3	0.1	0.2	0.5	0.3	0.4	0.2	0.2	0.2	0.1	0.0	<0.1
Ostracoda							0.1	0.0	<0.1	0.4	0.3	0.3
Araneae										0.0	<0.1	<0.1

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
OTHERS (continued)												
Hydracarina immatures	0.0	0.1	0.1									
Oribatoidae adults										<0.1	0.0	<0.1
Chironomidae larvae				0.1	0.0	0.1	0.0	0.1	0.1	0.3	0.2	0.3
Chaoborus sp. larvae										<0.1	0.0	<0.1
Psocoptera adults										0.0	<0.1	<0.1
Thysanoptera adults										<0.1	0.0	<0.1
TOTAL OTHERS	1.6	1.6	1.6	2.0	1.4	1.8	1.5	1.5	1.5	0.9	0.5	0.6
TOTAL UNDAMAGED PER LITER	27.8	51.5	39.4	47.8	33.6	41.4	34.3	44.4	39.3	2.6	2.1	2.1
Standard deviation			±14.3			± 9.8			±15.5			±[a]
TOTAL DAMAGED PER LITER	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL UNDAMAGED AND DAMAGED PER LITER	27.8	51.5	39.4	47.8	33.6	41.4	34.3	44.4	39.3	2.6	2.1	2.1

[a] Standard deviation not calculated due to low zooplankton densities. Entire sample counted.

APPENDIX TABLE C.2-3

ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
17 AUGUST 1978

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED												
PROTOZOA												
Arcella spp.	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.0	<0.1	0.2	0.1	0.2
Centropyxis sp.	0.1	0.1	0.1	<0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Difflugia spp.	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.2	0.1	0.2
TOTAL PROTOZOA	0.1	0.2	0.2	<0.1	0.2	0.1	0.1	0.2	0.2	0.6	0.4	0.6
ROTIFERA												
Asplanchna sp.	0.1	<0.1	0.1	<0.1	0.0	<0.1						
Brachionus angularis	0.1	0.0	0.1	0.1	0.2	0.2	<0.1	0.2	0.1	<0.1	0.0	<0.1
B. bidentata	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1			
B. budapestinensis	0.0	0.1	0.1	0.2	2.3	1.3	0.1	2.5	1.3			
B. calyciflorus	1.8	1.8	1.8	1.2	1.7	1.5	1.9	2.1	2.0	<0.1	0.0	<0.1
B. caudatus	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.4	0.3			
B. havanaensis	0.9	0.2	0.6	0.3	1.3	0.8	0.2	0.9	0.6	<0.1	0.0	<0.1
B. quadridentata	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2			
Colurella sp.	0.3	0.1	0.2	0.1	0.3	0.2	0.2	1.1	0.7	0.2	1.0	0.6
Epiphanes sp.	0.1	0.1	0.1	<0.1	<0.1	<0.1	0.0	<0.1	<0.1			
Filinia sp.							0.0	<0.1	<0.1			
Gastropus sp.							0.0	0.1	0.1	0.6	0.0	0.3
Kellicottia bostoniensis	0.0	<0.1	<0.1									
Keratella spp.	<0.1	0.0	<0.1									

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
17 AUGUST 1978

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
ROTIFERA (continued)												
K. cochlearis	0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1			
K. quadrata	0.1	0.0	0.1									
K. valga	0.6	0.2	0.4	0.1	0.2	0.2	<0.1	0.2	0.1			
Lecane sp.	<0.1	<0.1	<0.1	0.0	<0.1	<0.1	<0.1	0.2	0.1			
L. luna	0.2	0.1	0.2	<0.1	0.0	<0.1				0.3	0.2	0.3
Platyias patulus	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	<0.1	<0.1	<0.1
P. quadricornis	0.0	<0.1	<0.1									
Polyarthra sp.	<0.1	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.0	<0.1
Trichocerca sp.	0.1	0.0	0.1				0.0	<0.1	<0.1	<0.1	<0.1	<0.1
Trichotria sp.	<0.1	0.0	<0.1									
unidentified Bdelloidea	<0.1	0.0	<0.1	0.0	<0.1	<0.1						
unidentified Rotifera	0.7	0.6	0.7	0.2	0.7	0.5	0.4	1.4	0.9	0.2	0.4	0.3
TOTAL ROTIFERA	5.5	3.6	5.0	2.5	7.4	5.3	3.2	9.6	6.7	1.3	1.6	1.5
CLADOCERA												
Bosmina longirostris	<0.1	0.0	<0.1	<0.1	0.0	<0.1	<0.1	0.0	<0.1	0.0	<0.1	<0.1
Diaphanosoma brachyurum				0.0	<0.1	<0.1				<0.1	0.0	<0.1
D. leuchtenbergianum	<0.1	0.0	<0.1									
immature Cladocera	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
TOTAL CLADOCERA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
17 AUGUST 1978

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
COPEPODA												
Calanoida												
Diaptomus sp.				0.0	<0.1	<0.1				<0.1	0.0	<0.1
D. sicilis							0.0	<0.1	<0.1			
Cyclopoida												
Cyclops vernalis							<0.1	0.0	<0.1			
Tropocyclops prasinus				<0.1	0.0	<0.1						
copepodites	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<0.1	0.1	0.1	0.1	0.1
nauplii	0.6	0.5	0.6	0.4	0.6	0.5	0.4	0.7	0.6	0.1	0.2	0.2
TOTAL COPEPODA	0.7	0.6	0.7	0.5	0.7	0.6	0.5	0.7	0.7	0.2	0.3	0.3
OTHERS												
unidentified Nematoda	0.0	<0.1	<0.1				0.0	<0.1	<0.1	<0.1	0.0	<0.1
Ectoprocta statoblasts	0.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.0	<0.1			
Tardigrada				<0.1	0.0	<0.1						
Oligochaeta										0.1	<0.1	0.1
Ostracoda	<0.1	0.0	<0.1									
Chironomidae larvae	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.3	0.2
Hemiptera immatures							<0.1	0.0	<0.1			
Hydropsychidae larvae	<0.1	0.1	0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.0	<0.1
Thysanoptera adults										0.0	<0.1	<0.1
TOTAL OTHERS	<0.1	0.2	0.2	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.3	0.3
TOTAL UNDAMAGED PER LITER	6.3	4.6	6.1	3.0	8.4	6.1	3.8	10.5	7.6	2.3	2.6	2.7
Standard deviation[a]												

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
17 AUGUST 1978

	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
DAMAGED												
Cladocera	0.1	0.1	0.1	0.1	0.2	0.2	0.3	<0.1	0.2	<0.1	0.0	<0.1
Calanoida				<0.1	0.0	<0.1						
TOTAL DAMAGED PER LITER	0.1	0.1	0.1	0.1	0.2	0.2	0.3	<0.1	0.2	<0.1	0.0	<0.1
TOTAL DAMAGED AND UNDAMAGED PER LITER	6.4	4.7	6.2	3.1	8.6	6.3	4.1	10.5	7.8	2.3	2.6	2.7

[a]Standard deviation not calculated due to low zooplankton densities. Entire sample counted.

APPENDIX TABLE C.2-4

ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED												
PROTOZOA												
Arcella sp.				0.0	0.2	0.1				1.1	2.4	1.8
Centropyxis sp.				0.2	0.0	0.1				7.7	7.3	7.5
Difflugia spp.	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.1	4.0	2.7	3.4
Epistylis sp.	8.3	25.4	16.9	6.8	20.5	13.7	10.5	7.6	9.1	0.2	0.0	0.1
Vorticella sp.	0.5	0.5	0.5							2.0	3.3	2.7
TOTAL PROTOZOA	9.0	26.1	17.6	7.2	20.9	14.1	10.7	7.6	9.2	15.0	15.7	15.5
ROTIFERA												
Asplanchna sp.	0.2	0.2	0.2	0.0	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Brachionus angularis	0.3	0.0	0.2	0.2	0.0	0.1	0.3	0.1	0.2	0.0	0.2	0.1
B. bidentata	0.2	0.6	0.4	0.2	0.2	0.2	0.3	0.2	0.3	0.0	0.4	0.2
B. budapestinensis							0.1	0.0	0.1	0.8	0.2	0.5
B. calyciflorus	23.6	22.2	22.9	22.9	32.5	27.7	18.1	15.3	16.7	0.8	0.6	0.7
B. quadridentata										0.0	0.2	0.1
Conochilus sp.	0.3	1.4	0.9	0.0	0.7	0.4	1.5	0.7	1.1			
Epiphanes sp.	0.3	0.0	0.2									
Filinia sp.										0.0	0.2	0.1
Kellicottia bostoniensis							0.0	0.1	0.1	0.0	0.2	0.1
Keratella cochlearis	9.1	29.7	19.4	7.5	31.6	19.6	18.2	3.2	10.7	0.2	0.4	0.3
K. quadrata							0.0	0.1	0.1			
K. valga	0.0	0.3	0.2	0.5	0.0	0.3	0.0	0.1	0.1			

APPENDIX TABLE C.2-4
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

	Station and Replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
ROTIFERA (continued)												
Lecane sp.	0.3	0.0	0.2	0.2	0.0	0.1	0.1	0.2	0.2	0.4	0.2	0.3
Notholca sp.							0.1	0.0	0.1			
Platyias patulus	0.2	0.2	0.2	0.3	0.2	0.3	0.1	0.1	0.1			
Polyarthra sp.	1.0	1.9	1.5	0.5	1.1	0.8	0.7	0.3	0.5	0.6	0.6	0.6
Trichocerca sp.	0.7	0.3	0.5									
Trichotria sp.										0.4	0.2	0.3
unidentified Rotifera	1.0	3.0	2.0	2.4	3.5	3.0	3.0	1.1	2.1	2.6	4.7	3.7
TOTAL ROTIFERA	37.2	59.8	48.8	34.7	70.0	52.6	42.7	21.7	32.6	6.0	8.3	7.2
CLADOCERA												
Alona sp.										0.2	0.0	0.1
Bosmina longirostris	26.6	21.9	24.3	32.5	64.3	48.4	33.1	23.1	28.1	0.8	1.3	1.1
immature Cladocera	1.3	1.6	1.5	3.4	4.3	3.9	3.4	2.4	2.9	0.2	0.2	0.2
TOTAL CLADOCERA	27.9	23.5	25.8	35.9	68.6	52.3	36.5	25.5	31.0	1.2	1.5	1.4
COPEPODA												
Calanoida												
Diaptomus sp.							0.0	0.1	0.1			
Cyclopoida												
Cyclops vernalis							0.1	0.2	0.2			
copepodites	0.8	0.0	0.4				0.4	0.4	0.4	0.6	0.4	0.5
nauplii	1.6	1.6	1.6	2.1	2.5	2.3	1.0	0.4	0.7	2.2	3.9	3.1
TOTAL COPEPODA	2.4	1.6	2.0	2.1	2.5	2.3	1.5	1.1	1.4	2.8	4.3	3.6

APPENDIX TABLE C.2-4
(continued)
ZOOPLANKTON COMPOSITION AND ABUNDANCE (no./liter)
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
UNDAMAGED (continued)												
OTHERS												
Nematoda							0.1	0.0	0.1	2.6	6.6	4.6
Tardigrada										0.4	0.0	0.2
Oligochaeta										1.1	0.0	0.6
Chironomidae larvae										1.3	0.2	0.8
TOTAL OTHERS	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	5.4	6.8	6.2
TOTAL UNDAMAGED PER LITER	76.5	111.0	94.2	79.9	162.0	121.3	91.5	55.9	74.3	30.4	36.6	33.9
Standard deviation			±20.5			±48.7			±21.1			±11.8
TOTAL DAMAGED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL UNDAMAGED AND DAMAGED PER LITER	76.5	111.0	94.2	79.9	162.0	121.3	91.5	55.9	74.3	30.4	36.6	33.9

APPENDIX TABLE C.2-5

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
21 MARCH 1978

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella spp.	3.8	3.8	3.5	7.9
Carchesium sp.	14.8	16.0	12.7	
Centropyxis spp.	40.4	32.9	36.7	11.4
Difflugia spp.	19.1	19.5	20.7	10.3
Vorticella sp.	8.7	11.3	14.2	
Zoothamnium sp.	0.5	0.4	0.7	1.0
TOTAL PROTOZOA	87.3	83.9	88.5	30.6
ROTIFERA				
Brachionus spp.				0.3
B. calyciflorus		0.3		
Keratella cochlearis	0.6	0.6	0.3	
K. quadrata			0.3	
Monostyla lunaris		0.3	0.1	
Notholca sp.		0.3	0.1	
Platyias patulus				0.3
Polyarthra sp.			0.2	
unidentified Bdelloidea		0.1		
unidentified Rotifera	3.7	4.2	3.6	7.5
TOTAL ROTIFERA	4.3	5.8	4.6	8.1
CLADOCERA				
Bosmina longirostris		0.2	0.1	0.3
Chydorus sphaericus			0.1	35.3
Eubosmina sp.				0.3
immature Cladocera				1.7
unidentified Cladocera				0.3
TOTAL CLADOCERA		0.2	0.2	37.9
COPEPODA				
Calanoida				
Diaptomus sp.				0.3
Cyclopoida				
Cyclops bicuspidatus thomasi	0.1		0.3	0.3
Eucyclops speratus				0.3
unidentified Cyclopoida				0.7
Harpacticoida				
Attheyella sp.				0.7
A. illinoisensis				1.4

APPENDIX TABLE C.2-5
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
21 MARCH 1978

Taxon	Station 1	3	5	6
COPEPODA (continued)				
copepodites	0.2	0.2	0.1	1.4
nauplii	0.8	1.0	0.5	9.9
TOTAL COPEPODA	1.1	1.2	0.9	15.0
OTHERS				
Nematoda				
Criconema sp.	0.4	0.3		
unidentified Nematoda	6.1	6.7	4.6	2.7
Ectoprocta statoblasts	0.4	1.3	0.3	
Tardigrada	0.2	0.1		
Oligochaeta	0.1	0.1	0.7	0.3
Ostracoda				1.7
Hydracarina adults		0.3		0.7
Oribatoidae adults			0.1	
Chironomidae larvae		0.1	0.1	2.7
Diptera larvae	0.1			
Psocoptera adults				0.3
TOTAL OTHERS	7.3	8.9	5.8	8.4

[a]Relative abundance represents the average undamaged organisms of replicates A and B.

APPENDIX TABLE C.2-6

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Station 1	3	5	6
PROTOZOA				
Acineta sp.	1.5	2.9	0.9	0.2
Arcella spp.	1.9	1.9	3.2	3.6
Carchesium sp.	1.4	1.1	1.4	
Centropyxis spp.	14.9	12.0	17.3	4.8
Difflugia spp.	5.3	2.8	6.1	1.7
Epistylis sp.	0.1	0.1		
Squalorophyrya sp.	0.1			
Vorticella sp.	3.2	4.3	4.0	
Zoothamnium sp.	0.1		0.5	
TOTAL PROTOZOA	28.5	25.1	33.4	10.3
ROTIFERA				
Asplanchna sp.	0.1	0.6	0.4	0.2
Brachionus spp.	0.1	1.0	0.8	1.1
B. angularis	0.7	1.0	0.6	0.2
B. bidentata	0.7	0.6	0.3	
B. calyciflorus	5.9	7.9	5.8	
B. quadridentata	2.6	3.9	2.7	
Filinia sp.	1.6	0.6	0.9	
Kellicottia longispina	2.9	3.3	2.2	0.2
Keratella cochlearis	18.5	14.9	14.3	5.5
K. quadrata	3.1	2.3	2.4	0.4
Monostyla bulla				1.5
M. lunaris				1.3
Notholca sp.	1.6	2.9	1.6	
Platyias patulus	0.1			0.4
Polyarthra sp.	0.3	1.4	1.1	
Rotaria sp.				0.2
unidentified Bdelloidea		0.3		
unidentified Rotifera	5.4	4.8	6.3	16.2
TOTAL ROTIFERA	43.6	45.5	39.4	27.2
CLADOCERA				
Bosmina longirostris	0.1	0.4		
Chydorus sphaericus				1.9
Daphnia sp.	0.1			
D. ambigua	0.1			
Eubosmina sp.	1.5	1.3	1.9	21.1
E. coregoni			0.1	

APPENDIX TABLE C.2-6
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Station 1	3	5	6
CLADOCERA (continued)				
Pleuroxus sp.				0.2
P. denticulatus				0.2
Scapholeberis kingi	0.1			
immature Cladocera	0.4	0.5		0.4
TOTAL CLADOCERA	2.3	2.2	2.0	23.8
COPEPODA				
Calanoida				
Diaptomus sp.			0.2	
D. pallidus	0.1			
Cyclopoida				
Cyclops sp.			0.2	
C. bicuspidatus thomasi		0.3		
C. vernalis		0.3	0.2	
Macrocyclops albidus	0.2			
unidentified Cyclopoida	0.1			
Harpacticoida				
Attheyella illinoisensis		0.1		
unidentified Harpacticoida		0.1		
copepodites	6.5	8.2	6.9	2.5
naupiii	14.7	13.9	13.8	8.4
TOTAL COPEPODA	21.6	22.9	21.3	10.9
OTHERS				
Nematoda				
Criconema sp.	0.1			0.4
unidentified Nematoda	2.1	2.2	2.2	1.3
Ectoprocta statoblasts	0.6	0.5	0.4	1.2
Tardigrada	0.6	0.5	0.5	0.2
Oligochaeta	0.5	1.0	0.6	1.1
Ostracoda			0.1	13.3
Araneae				0.2
Hydracarina immatures	0.1			
Oribatoidae adults				0.2
Chironomidae larvae		0.1	0.1	10.3
Chaoborus sp. larvae				0.2
Psocoptera adults				0.2
Thysanoptera adults				0.2
TOTAL OTHERS	4.0	4.3	3.9	27.8

[a]Relative abundance represents the average undamaged organisms of replicates A and B.

APPENDIX TABLE C.2-7

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
17 AUGUST 1978

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella spp.	1.6	<0.1	<0.1	7.4
Centropyxis sp.	1.6	1.6	1.3	7.4
Difflugia spp.	<0.1	<0.1	1.3	7.4
TOTAL PROTOZOA	3.2	1.6	2.6	22.2
ROTIFERA				
Asplanchna sp.	1.6	<0.1		
Brachionus angularis	1.6	3.3	1.3	<0.1
B. bidentata	<0.1	1.6	<0.1	
B. budapestinensis	1.6	21.4	17.2	
B. calyciflorus	29.6	24.6	26.4	<0.1
B. caudatus	3.3	3.3	3.9	
B. havanaensis	9.9	13.2	7.9	<0.1
B. quadridentata	1.6	1.6	2.6	
Colurella sp.	3.3	3.3	9.2	22.3
Epiphanes sp.	1.6	<0.1	<0.1	
Filinia sp.			<0.1	
Gastropus sp.			1.3	11.1
Kellicottia bostoniensis	<0.1			
Keratella spp.	<0.1			
K. cochlearis	1.6	1.6	1.3	
K. quadrata	1.6			
K. valga	6.7	3.3	1.3	
Lecane sp.	<0.1	<0.1	1.3	
L. luna	3.3	<0.1		11.1
Platyias patulus	1.6	1.6	1.3	<0.1
P. quadricornis	<0.1			
Polyarthra sp.	<0.1	<0.1	1.3	<0.1
Trichocerca sp.	1.6		<0.1	<0.1
Trichotria sp.	<0.1			
unidentified Bdelloidea	<0.1	<0.1		
unidentified Rotifera	11.6	8.2	11.9	11.1
TOTAL ROTIFERA	82.1	87.0	88.2	55.6
CLADOCERA				
Bosmina longirostris	<0.1	<0.1	<0.1	<0.1
Diaphanosoma leuchtenbergianum	<0.1			

APPENDIX TABLE C.2-7
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
17 AUGUST 1978

Taxon	Station 1	3	5	6
CLADOCERA (continued)				
D. brachyurum		<0.1		<0.1
immature Cladocera	<0.1	<0.1	<0.1	
TOTAL CLADOCERA	<0.1	<0.1	<0.1	<0.1
COPEPODA				
Calanoida				
Diaptomus sp.		<0.1		<0.1
D. sicilis			<0.1	
Cyclopoida				
Cyclops vernalis			<0.1	
Tropocyclops prasinus		<0.1		
copepodites	1.6	1.6	1.3	3.7
nauplii	9.9	8.2	7.9	7.4
TOTAL COPEPODA	11.5	9.8	9.2	11.1
OTHERS				
unidentified Nematoda	<0.1		<0.1	<0.1
Ectoprocta statoblasts	<0.1	<0.1	<0.1	
Tardigrada		<0.1		
Oligochaeta				3.7
Ostracoda	<0.1			
Chironomidae larvae	1.6	<0.1	<0.1	7.4
Hemiptera immatures			<0.1	
Hydropsychidae larvae	1.6	1.6	<0.1	<0.1
Thysanoptera adults				<0.1
TOTAL OTHERS	3.2	1.6	<0.1	11.1

[a]Relative abundance represents the average undamaged organisms of replicates A and B.

APPENDIX TABLE C.2-8

ZOOPLANKTON RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

Taxon	Station and Replicate 1	3	5	6
PROTOZOA				
Arcella sp.		0.1		5.3
Centropyxis sp.		0.1		22.0
Difflugia spp.	0.2	0.2	0.1	10.0
Epistylis sp.	17.9	11.3	12.2	0.3
Vorticella sp.	0.5			8.0
TOTAL PROTOZOA	18.6	11.7	12.3	45.6
ROTIFERA				
Asplanchna sp.	0.2	0.1	0.3	0.6
Brachionus angularis	0.2	0.1	0.3	0.3
B. bidentata	0.4	0.2	0.4	0.6
B. budapestinensis			0.1	1.5
B. calyciflorus	24.4	22.7	22.6	2.1
B. quadridentata				0.3
Conochilus sp.	1.0	0.3	1.5	
Epiphanes sp.	0.2			
Filinia sp.				0.3
Kellicottia bostoniensis			0.1	0.3
Keratella cochlearis	20.7	16.1	14.5	0.9
K. quadrata			0.1	
K. valga	0.2	0.3	0.1	
Lecane sp.	0.2	0.1	0.3	0.9
Notholca sp.			0.1	
Platyias patulus	0.2	0.3	0.1	
Polyarthra sp.	1.6	0.7	0.7	1.8
Trichocerca sp.	0.5			
Trichotria sp.				0.9
unidentified Rotifera	2.1	2.5	2.8	10.9
TOTAL ROTIFERA	51.9	43.4	44.0	21.4
CLADOCERA				
Alona sp.				0.3
Bosmina longirostris	25.8	39.8	37.9	3.2
immature Cladocera	1.6	3.2	3.9	0.6
TOTAL CLADOCERA	27.4	43.0	41.8	4.1

APPENDIX TABLE C.2-8
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

Taxon	Station and Replicate			
	1	3	5	6
COPEPODA				
Calanoida				
Diaptomus sp.			0.1	
Cyclopoida				
Cyclops vernalis			0.3	
copepodites	0.4		0.5	1.5
nauplii	1.7	1.9	0.9	9.1
TOTAL COPEPODA	2.1	1.9	1.8	10.6
OTHERS				
Nematoda			0.1	13.5
Tardigrada				0.6
Oligochaeta				1.8
Chironomidae larvae				2.4
TOTAL OTHERS			0.1	18.3

APPENDIX TABLE D-1

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals $x10^3/10cm^2$)
OHIO RIVER STATIONS 1, 3, AND 5 (ARTIFICAL SUBSTRATES)
MARBLE HILL PLANT SITE
22 MARCH 1978

Taxon	Station and Replicate											
	1				3				5			
	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA

All diatometers from Ohio River stations were lost due to extreme high water conditions.

APPENDIX TABLE D-2

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
26 JUNE 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA a	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	
BACILLARIOPHYTA												
Centrales												
Cyclotella glomerata	254.41	72.81	163.61	2.80	45.37	70.73	58.05	1.1				
C. kutzingiana V. *planetophora*	254.41	97.25	175.83	3.01	182.48	23.75	103.12	1.96	56.78	152.31	104.54	1.18
C. Meneghiniana	56.33	0.00	28.17	0.48	0.00	23.75	11.88	0.23	0.00	51.13	25.56	0.29
C. pseudostelligera	56.33	97.25	76.79	1.31	113.93	0.00	56.96	1.08	56.78	253.50	155.14	1.75
Melosira distans					22.68	46.98	34.83	0.66				
M. granulata	0.00	72.81	36.41	0.62	113.93	70.73	92.33	1.75	113.55	405.81	259.68	2.92
M. Varians	763.24	389.02	576.13	9.85	1003.66	824.44	914.05	17.36	1191.09	3094.16	2142.62	24.12
Stephanodiscus astrea	0.00	24.44	12.22	0.21								
Pennales												
Achnanthes minutissima	28.47	0.00	14.24	0.24	0.00	23.75	11.88	0.23	28.39	0.00	14.19	0.16
Amphora perpusilla	28.47	24.44	26.46	0.45	22.68	141.45	82.07	1.56	28.39	51.13	39.76	0.45
Cocconeis placentula V. *euglypta*	56.33	48.37	52.35	0.89								
Cymbella affinis					22.68	23.75	23.22	0.44				
Diatoma tenue V. *elongatum*	28.47	0.00	14.24	0.24	22.68	0.00	11.34	0.22				
Fragilaria vancheriae									28.39	101.19	64.79	0.73
Gomphonema angustatum	56.33	0.00	28.17	0.48	0.00	23.75	11.88	0.23	28.39	0.00	14.19	0.16
G. angustatum V. *citera*	28.47	0.00	14.24	0.24					28.39	0.00	14.19	0.16
G. parvulum	1243.60	2746.00	1994.80	34.09	1322.76	871.95	1097.35	20.84	2297.02	2181.35	2239.19	25.21
Gyrosigma obtusatum	0.00	24.44	12.22	0.21								
Meridian circulare					22.68	46.98	34.83	0.66				
Navicula cryptocephala	141.13	72.81	106.97	1.83	91.24	94.48	92.86	1.76	56.78	101.19	78.98	0.89
N. graciloides	2515.66	1239.34	1877.50	32.09	1665.04	2780.52	2222.78	42.22	1786.64	4108.15	2947.39	33.18
N. minima					22.68	0.00	11.34	0.22				
N. viridula V. *avenacea*	198.08	72.81	135.45	2.31	22.68	0.00	11.34	0.22	28.39	51.13	39.76	0.45
Nitzschia acicularis	28.47	0.00	14.24	0.24								
N. amphibia	28.47	97.25	62.86	1.07	68.56	0.00	34.28	0.65	85.16	0.00	42.58	0.48
N. gracilis	28.47	0.00	14.24	0.24								
N. palea	254.41	121.70	188.06	3.21	205.17	141.15	173.31	3.29	113.55	51.13	82.34	0.93
N. parvula	28.47	0.00	14.24	0.24	0.00	23.75	11.88	0.23				

APPENDIX TABLE D-2
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
26 JUNE 1978

Taxon	Station and replicate											
	1				3				5			
	A	B	x	RA a	A	B	x	RA	A	B	x	RA
N. tryblionella v. *debilis*									28.39	0.00	14.19	0.16
Rhoicosphenia curvata	84.80	0.00	42.40	0.72								
Surirella linearis					22.68	0.00	11.34	0.22				
Synedra delicatissima					0.00	23.75	11.88	0.23				
S. rumpens v. *familiaris*									0.00	51.13	25.56	0.29
S. rumpens v. *meneghiniana*	28.47	0.00	14.24	0.24	22.68	23.75	23.22	0.44	28.39	0.00	14.19	0.16
S. ulna					22.68	0.00	11.34	0.22	56.78	0.00	28.39	0.32
TOTAL BACILLARIOPHYTA	6191.29	5200.74	5696.08	97.31	5038.94	5279.41	5159.35	98.02	6041.25	10653.31	8347.23	93.99
CHLOROPHYTA												
Actinastrum Hantzschii									12.47	0.00	6.24	0.07
Ankistrodesmus falcatus	9.12	43.41	26.27	0.45	22.33	15.20	18.77	0.36	79.68	45.59	62.64	0.71
Chlamydomonas globosa	9.12	0.00	4.56	0.08								
Closterium moniliferum	0.00	8.68	4.34	0.07	8.90	0.00	4.45	0.08				
Coelastrum sp.	0.00	8.68	4.34	0.07								
Dictyosphaerium pulchellum									12.47	0.00	6.24	0.07
Kirchneriella obesa v. *aperta*									24.94	0.00	12.47	0.14
Micractinium pusillum									10.57	0.00	5.29	0.06
Pediastrum duplex v. *clathratum*									10.57	0.00	5.29	0.06
P. tetras v. *tetraodon*					0.00	7.60	3.80	0.07				
Scenedesmus abundans v. *brevicauda*									115.19	15.20	65.20	0.73
S. dimorphus	0.00	8.68	4.34	0.07	7.44	0.00	3.72	0.07	46.08	30.39	38.24	0.43
S. opliensis					7.44	0.00	3.72	0.07				
S. quadricauda					0.00	8.90	4.45	0.08	23.04	15.20	19.12	0.22
Scenedesmus sp.	0.00	8.68	4.34	0.07	25.23	7.60	16.42	0.31	140.12	75.98	108.05	1.22
Tetraedron caudatum v. *longispinum*					7.44	0.00	3.72	0.07				
T. minimum	9.12	0.00	4.56	0.08								
Tetrastrum heteracanthum									10.57	0.00	5.29	0.06
unidentified *coccoid* sp. (4-5μ diam.)	36.47	78.14	57.31	0.98	0.00	8.90	4.45	0.08	102.72	45.59	74.16	0.83
TOTAL CHLOROPHYTA	63.83	156.27	110.06	1.87	78.78	48.2	63.5	1.19	588.42	227.95	408.23	4.60

APPENDIX TABLE D-2
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
26 JUNE 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CYANOPHYTA												
Chroococcus sp.									0.00	15.20	7.60	0.09
Lyngbya sp. 2	0.00	3.48	1.74	0.03					40.17	13.68	26.93	0.30
Merismopedia tenuissima									12.47	0.00	6.24	0.07
Oscillatoria nigra					0.00	9.12	4.56	0.09	0.00	15.20	7.60	0.09
Oscillatoria sp. 1	20.97	20.84	20.91	0.36	4.76	8.62	6.69	0.13	5.29	37.99	21.64	0.24
Oscillatoria sp. 2	7.29	0.00	3.65	0.06					4.23	0.00	2.12	0.02
Oscillatoria sp. 3	3.65	16.50	10.08	0.17	0.00	53.42	26.71	0.51	32.26	0.00	16.13	0.18
Phormidium minnesotense									21.20	9.12	15.16	0.17
TOTAL CYANOPHYTA	31.91	40.82	36.38	0.62	4.76	71.16	37.96	0.73	115.62	91.19	103.42	1.16
EUGLENOPHYTA												
Euglena sp.	0.00	8.68	4.34	0.07								
Phacus acuminatus					7.44	0.00	3.72	0.07				
Trachelomonas sp.	0.00	8.68	4.34	0.07					12.47	0.00	6.24	0.07
Euglenoid sp.2									33.61	0.00	16.81	0.19
TOTAL EUGLENOPHYTA	0.00	17.36	8.68	0.14	7.44	0.00	3.72	0.07	46.08	0.00	23.05	0.26
TOTAL PERIPHYTON ± std. dev.	6287.03	5415.19	5851.20 ± 555.15		5129.92	5398.77	5264.53 ± 787.60		6791.37	10972.45	8881.93 ± 2637.4	
TOTAL SPECIES (s)			39				38				42	
DIVERSITY INDEX ($\bar{d}$)			2.8942				2.7340				2.7501	
EQUITABILITY (e)			0.27				0.24				0.22	

a Relative abundance as percentage of total periphyton

APPENDIX TABLE D-3

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^4/10 cm^2)
OHIO RIVER STATIONS 1, 3, AND 5 (artificial substrates)
MARBLE HILL PLANT SITE
16 AUGUST 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
BACILLARIOPHYTA												
Centrales												
Cyclotella glomerata	30.04	33.78	31.91	1.07	89.10	22.74	55.92	2.10	30.77	0.00	15.38	0.62
C. kutzingiana	63.42	7.11	35.27	1.19	31.98	0.00	15.99	0.60	22.67	0.00	11.33	0.49
C. Meneghiniana	63.42	122.66	93.04	3.13	189.62	68.22	128.92	4.84	22.67	7.79	15.23	0.66
C. pseudostelligera	13.35	87.11	50.23	1.69	0.00	45.48	22.74	0.85	6.48	7.79	7.13	0.31
C. stelligera	13.35	7.11	10.23	0.34	20.56	22.74	21.65	0.81				
Melosira ambigua					0.00	11.37	5.69	0.21				
M. granulata	13.35	0.00	6.68	0.22	9.14	11.37	10.25	0.39	45.34	64.28	54.81	2.39
M. varians	63.42	0.00	31.71	1.07	123.37	0.00	61.68	2.32	14.57	7.79	11.18	0.49
Microsiphona potamus	0.00	7.11	3.56	0.12	0.00	11.37	5.69	0.21				
Pennales												
Achnanthes exigua	0.00	7.11	3.56	0.12								
A. lanceolata					9.14	0.00	4.57	0.17	14.57	0.00	7.29	0.32
A. minutissima	30.04	0.00	15.02	0.50	9.14	11.37	10.25	0.39	0.00	7.79	3.90	0.17
Cocconeis placentula v. *euglypta*	2179.75	1205.40	1692.52	56.89	1203.98	1580.51	1392.24	52.30	1369.90	1749.18	1559.54	67.93
Cymbella minuta v. *silesiaca*									6.48	0.00	3.24	0.14
C. tumida	13.35	0.00	6.68	0.22								
Diatoma vulgare					9.14	0.00	4.57	0.17				
Gomphonema angustatum	13.35	0.00	6.68	0.22					6.48	0.00	3.24	0.14
G. gracile	0.00	7.11	3.56	0.12	9.14	0.00	4.57	0.17				
G. parvulum	313.78	140.44	227.11	7.63	246.74	159.19	202.96	7.62	38.86	74.02	56.44	2.46
Gyrosigma nodiferum	13.35	0.00	6.68	0.22								
G. obtusum					31.98	0.00	15.99	0.60				
Navicula cryptocephala	46.73	0.00	23.37	0.79								
N. gracioides	0.00	16.00	8.00	0.27	20.56	11.37	15.97	0.60				
N. minima					9.14	0.00	4.57	0.17				
N. minuscula	313.79	96.00	204.89	6.89	89.10	238.78	163.94	6.16	22.67	17.53	20.10	0.86
N. viridula v. *avonacea*	0.00	7.11	3.56	0.12								
Nitzschia amphibia					20.56	11.37	15.97	0.60				
N. communis	0.00	7.11	3.56	0.12	9.14	0.00	4.57	0.17				
N. communis v. *abbreviata*	13.35	0.00	6.68	0.22								
N. palea	96.80	7.11	51.96	1.75	66.25	56.85	61.55	2.31	6.48	0.00	3.24	0.14
Pinnularia brebissonii v. *diminuta*					0.00	11.37	5.69	0.21				
Surirella ovata					9.14	0.00	4.57	0.17				
Synedra rumpens v. *meneghiniana*					9.14	0.00	4.57	0.17				
S. ulna					9.14	0.00	4.57	0.17				
S. ulna v. *oxyrhunchus* f. *mediocontracta*					20.56	0.00	10.28	0.39				
TOTAL BACILLARIOPHYTA	3294.63	1758.17	2526.46	84.91	2245.76	2274.10	2259.93	84.87	1607.94	1936.17	1772.05	77.19

APPENDIX TABLE D-3
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3, AND 5 (artificial substrates)
MARBLE HILL PLANT SITE
16 AUGUST 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CHLOROPHYTA												
Characium ambiguum	21.04	45.59	33.32	1.12	15.20	10.13	12.67	0.48	82.49	280.84	181.67	7.91
Characium sp.	7.02	33.15	20.09	0.68	0.00	10.13	5.07	0.19	8.68	27.38	18.03	0.79
Chlamydomonas sp.	0.00	16.58	8.29	0.29								
Closterium sp.	0.00	4.15	2.08	0.07	0.00	5.07	2.54	0.10				
Oocystis pusilla					5.07	25.33	15.20	0.57				
Pediastrum obtusum	7.02	0.00	3.51	0.12								
Pseudulvella americana	0.00	4.15	2.08	0.07	5.07	0.00	2.54	0.10	4.34	4.68	4.51	0.20
Stigeoclonium sp.	7.02	3.73	5.38	0.18					13.46	0.00	6.73	0.29
Tetraedron caudatum	7.02	0.00	3.51	0.12								
TOTAL CHLOROPHYTA	49.12	107.35	78.26	2.65	25.34	50.66	38.02	1.44	108.97	312.90	210.94	9.19
CYANOPHYTA												
Chamaesiphon sp.					4.68	10.13	7.41	0.28	8.68	9.02	8.85	0.39
Lyngbya sp. 2	418.66	270.60	344.63	11.58	307.51	362.64	335.08	12.59	314.31	280.28	297.30	12.95
Oscillatoria sp. 1	6.31	2.90	4.61	0.15	0.00	9.12	4.56	0.17				
coccoid sp. 1 (colonies)	21.04	12.44	16.74	0.56	24.16	10.13	17.15	0.64	4.34	8.68	6.51	0.28
TOTAL CYANOPHYTA	446.01	285.94	365.98	12.29	336.35	392.02	364.20	13.68	327.33	297.98	312.66	13.62
EUGLENOPHYTA												
Euglena sp.	0.00	4.15	2.08	0.07								
TOTAL EUGLENOPHYTA	0.00	4.15	2.08	0.07								
PROTOZOA												
ciliated protozoan	0.00	4.15	2.08	0.07								
TOTAL PROTOZOA	0.00	4.15	2.08	0.07								
TOTAL PERIPHYTON ± std. dev.	3789.76	2159.76	2974.86±943.02		2607.45	2716.78	2662.15±348.46		2044.24	2547.05	2295.65±301.78	
TOTAL SPECIES (s)			36				36				21	
DIVERSITY INDEX ($\bar{d}$)			2.5176				2.7463				1.8021	
EQUITABILITY (e)			0.22				0.26				0.22	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-4

PERIPHYTON COMPOSITION AND ABUNDANCE (Individuals x 10^3/10 cm²)
OHIO RIVER STATIONS 1, 3, AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
14 NOVEMBER 1970

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
BACILLARIOPHYTA												
Centrales												
Cyclotella catenata	53.68	10.85	32.27	0.88	202.41	149.80	176.10	1.24	17.50	33.69	25.60	0.47
C. glomerata					62.28	0.00	31.14	0.22	17.50	19.25	18.38	0.34
C. kutzingiana v. *planetophora*									17.50	0.00	8.75	0.16
C. Meneghiniana	0.00	10.85	5.43	0.15	0.00	99.87	49.93	0.35	17.50	19.25	18.38	0.34
C. pseudostelligera	35.79	21.71	28.75	0.78	124.59	99.87	112.21	0.79	56.35	0.00	29.17	0.54
C. stelligera	17.89	0.00	8.95	0.24					17.50	0.00	8.75	0.16
Melosira ambigua					0.00	49.93	24.97	0.18				
M. granulata					124.56	0.00	62.28	0.44	40.84	52.95	46.90	0.87
M. varians	411.53	415.19	413.36	11.28	1230.01	1822.54	1526.27	10.74	834.34	428.40	631.37	11.67
Pennales												
Achnanthes minutissima									17.50	0.00	8.75	0.16
Amphipleura pellucida					0.00	49.93	24.97	0.18				
Amphora submontana					0.00	49.93	24.97	0.18				
Asterionella formosa	35.79	0.00	17.89	0.49	0.00	49.93	24.97	0.18				
Cocconeis placentula v. *euglypta*	0.00	10.85	5.43	0.15	0.00	149.80	74.90	0.53				
C. placentula v. *lineatus*					62.28	49.93	56.11	0.39	17.50	0.00	8.75	0.16
Cymbella affinis					0.00	49.93	24.97	0.18				
C. minuta v. *silesiaca*	0.00	10.85	5.43	0.15								
C. tumida	17.89	0.00	8.95	0.24	62.28	99.87	81.07	0.57	0.00	33.69	16.85	0.31
Diatoma vulgare	71.57	43.42	57.49	1.57					17.50	101.08	59.29	1.10
Fragilaria crotonensis									0.00	86.64	43.32	0.80
F. vaucheriae	0.00	21.71	10.85	0.30								
F. virescens	17.89	0.00	8.95	0.24								
Gomphonema angustatum	107.36	445.04	276.20	7.54	653.93	449.39	551.66	3.88	17.50	206.98	112.24	2.07
G. angustatum v. *citera*	53.68	0.00	26.84	0.73					0.00	33.69	16.85	0.31
G. gracile	17.89	0.00	8.95	0.24	62.28	0.00	31.14	0.22	0.00	33.69	16.85	0.31
G. olivaceum	1185.39	176.39	680.89	18.58	1292.29	861.34	1076.81	7.58	1131.91	154.03	642.97	11.88
G. parvulum	1060.14	290.36	675.25	18.43	5620.67	3432.86	4526.77	31.86	1306.95	1675.11	1491.03	27.56
Navicula biconica					62.28	0.00	31.14	0.22				
N. cryptocephala	0.00	51.56	25.78	0.70	264.69	0.00	132.34	0.93	0.00	33.69	16.85	0.31
N. crytocephala v. *veneta*					62.28	0.00	31.14	0.22	17.50	19.25	18.38	0.34
N. rhyncocephala					202.41	0.00	101.20	0.71				
N. schroeteri v. *escambia*	0.00	10.85	5.43	0.15					0.00	19.25	9.63	0.18
N. viridula v. *rostellata*	0.00	10.85	5.43	0.15					0.00	33.69	16.85	0.31
Nitzschia acicularis	17.89	0.00	8.95	0.24								
N. amphibia	0.00	10.85	5.43	0.15					0.00	19.25	9.63	0.18
N. communis v. *abbreviata*									0.00	19.25	9.63	0.18
N. graciloides	809.65	713.70	761.67	20.79	4203.83	4044.53	4124.18	29.02	1487.82	818.30	1153.06	21.31
N. linearis					0.00	49.93	24.97	0.18				
N. palea	35.79	51.56	43.67	1.19	389.24	0.00	194.62	1.37	40.84	33.69	37.27	0.69
N. paradoxa	0.00	10.85	5.43	0.15	62.28	199.73	131.00	0.92	17.50	52.95	35.23	0.65
N. tryblionella v. *victoriae*					62.28	49.93	56.11	0.39				
Peronia erinacea ?	89.46	62.41	75.94	2.07	326.96	49.93	188.45	1.33	81.68	33.69	57.69	1.07
Surirella ovata					62.28	49.93	56.11	0.39	116.69	19.25	67.97	1.26

APPENDIX TABLE D-4
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3, AND 5 (ARTIFICIAL SUBSTRATES)
14 NOVEMBER 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
BACILLARIOPHYTA (continued)												
Pennales (continued)												
Synedra delicatissima	17.89	10.85	14.37	0.39	62.28	49.93	56.11	0.39	58.35	33.69	46.02	0.85
S. fasciculata v. *truncata*	375.75	312.07	343.91	9.38	326.96	349.53	338.25	2.38	355.91	736.47	546.19	10.09
S. rumpens v. *familiaris*	0.00	10.85	5.43	0.15	0.00	99.87	49.93	0.35	58.35	67.39	62.87	1.16
S. ulna	17.89	10.85	14.37	0.39	0.00	49.93	24.97	0.18	40.84	33.69	37.27	0.69
S. ulna v. *amphirhynchus*	17.89	0.00	8.95	0.24								
TOTAL BACILLARIOPHYTA	4468.70	2724.47	3596.64	98.13	15585.32	12458.16	14021.76	98.69	5805.37	4851.95	5328.74	98.48
CHLOROPHYTA												
Ankistrodesmus falcatus	0.00	3.04	1.52	0.04								
Characium ambiguum	6.08	18.24	12.16	0.33								
Chlamydomonas sp.	6.08	3.04	4.56	0.12	19.54	0.00	9.77	0.07	9.12	0.00	4.56	0.08
Closterium moniliferum	0.00	3.04	1.52	0.04					9.12	9.12	9.12	0.17
Mougeotia sp.									27.35	0.00	13.68	0.25
Oocystis pusilla	0.00	6.08	3.04	0.08								
Scenedesmus dimorphus	6.08	0.00	3.04	0.08								
S. quadricauda	0.00	3.04	1.52	0.04								
Scenedesmus sp.	0.00	3.04	1.52	0.04					0.00	9.12	4.56	0.08
Tetrastrum heteracanthum					0.00	19.54	9.77	0.07				
TOTAL CHLOROPHYTA	18.24	39.52	28.88	0.77	19.54	19.54	19.54	0.14	45.59	18.24	31.92	0.58
CYANOPHYTA												
Oscillatoria tenuis					144.57	0.00	72.29	0.51	0.00	22.79	11.40	0.21
Oscillatoria sp. 1	17.63	16.72	17.18	0.47	107.45	82.05	94.75	0.67	31.00	17.33	24.17	0.45
Spirulina major	0.00	0.61	0.31	0.01	0.00	3.91	1.96	0.01	0.00	1.83	0.92	0.02
TOTAL CYANOPHYTA	17.63	17.33	17.49	0.48	252.02	85.96	169.00	1.19	31.00	41.95	36.49	0.68
EUGLENOPHYTA												
Trachelomonas sp.	6.08	3.04	4.56	0.12					0.00	9.12	4.56	0.08
TOTAL EUGLENOPHYTA	6.08	3.04	4.56	0.12					0.00	9.12	4.56	0.08
PROTOZOA												
Difflugia sp.									0.00	9.12	4.56	0.08
unidentified ciliated protozoa	0.00	3.04	1.52	0.04					9.12	0.00	4.56	0.08
TOTAL PROTOZOA	0.00	3.04	1.52	0.04					9.12	9.12	9.12	0.16
OTHERS												
unidentified phytoflagellate	18.24	12.16	15.20	0.41								
TOTAL OTHERS	18.24	12.16	15.20	0.41								

APPENDIX TABLE D-4
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (Individuals x $.0^{-10}$ cm^{-2})
OHIO RIVER STATIONS 1, 3, AND 5 (ARTIFICIAL SUBSTRATES)
14 NOVEMBER 1978

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
TOTAL PERIPHYTON (std. dev.)	4528.89	2799.56	3664.29		15856.98	12563.66	14210.30		5891.08	4930.38	5410.83	
TOTAL SPECIES (s)			44				38				43	
DIVERSITY INDEX ($\bar{d}$)			3.3439				3.0522				3.3148	
EQUITABILITY (e)			0.35				0.31				0.33	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-5

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10cm^2)
LITTLE SALUDA CREEK STATION 6 (UNGLAZED QUARRY TILE SUBSTRATE)
MARBLE HILL PLANT SITE
22 MARCH 1978

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[a]
BACILLARIOPHYTA				
Centrales				
Cyclotella pseudostelligera	4.45	0.00	2.23	0.22
Melosira granulata	4.45	0.00	2.23	0.22
Pennales				
Achnanthes deflexa	2.49	19.33	10.91	1.07
A. lanceolata	2.49	0.00	1.25	0.12
A. minutissima	164.35	599.02	381.69	37.37
Amphora perpusilla	13.37	44.17	28.77	2.82
Cocconeis pediculus	0.00	6.93	3.47	0.34
C. placentula v. *euglypta*	2.49	19.33	10.91	1.07
Cymbella affinis	2.49	24.85	13.67	1.34
Diatoma vulgare	0.00	6.93	3.47	0.34
Fragilaria gracillima	4.45	0.00	2.23	0.22
Gomphonema angustatum	121.29	81.44	101.37	9.93
G. angustatum v. *citera*	6.93	0.00	3.47	0.34
G. olivaceum	62.88	88.34	75.61	7.40
Meridion circulare	40.60	93.86	67.23	6.58
Navicula cryptocephala	0.00	12.42	6.21	0.61
N. graciloides	6.93	0.00	3.47	0.34
Nitzschia amphibia	4.45	31.75	18.10	1.77
N. hungarica	2.49	6.93	4.71	0.46
N. linearis	0.00	19.58	9.79	0.96
Rhoicosphenia curvata	4.45	19.33	11.89	1.16
Stauroneis smithii	0.00	6.93	3.47	0.34
Surirella ovata	42.57	282.98	162.78	15.94
Synedra ulna	2.49	19.33	10.91	1.07
TOTAL BACILLARIOPHYTA	496.11	1383.45	939.84	92.03
CHLOROPHYTA				
Stigeoclonium sp.	15.53	19.14	17.34	1.70
Unidentified coccoid sp. (6-7μ diameter)	1.24	3.14	2.19	0.21
TOTAL CHLOROPHYTA	16.77	22.28	19.53	1.91

APPENDIX TABLE D-5
(continued)

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x $10^3/10cm^2$)
LITTLE SALUDA CREEK STATION 6 (UNGLAZED QUARRY TILE SUBSTRATE)
MARBLE HILL PLANT SITE
22 MARCH 1978

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[a]
CYANOPHYTA				
Chroococcus sp.	1.24	0.00	0.62	0.06
Lyngbya Diguetii	6.58	66.50	36.54	3.58
Oscillatoria sp. 1	15.97	32.31	24.14	2.36
TOTAL CYANOPHYTA	23.79	98.81	61.30	6.00
EUGLENOPHYTA				
Trachelomonas sp.	1.15	0.00	0.58	0.06
TOTAL EUGLENOPHYTA	1.15	0.00	0.58	0.06
TOTAL PERIPHYTON ± std. dev.	537.82	1504.54	1021.25	±558.40
TOTAL SPECIES (s)			30	
DIVERSITY INDEX ($\bar{d}$)			3.2213	
EQUITABILITY (e)			0.44	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-6

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (UNGLAZED QUARRY TILE SUBSTRATE)
MARBLE HILL PLANT SITE
24 MAY 1978

Taxon	Replicate A	Replicate B	$\bar{x}$	RA [a]
BACILLARIOPHYTA				
Pennales				
Achnanthes lanceolata	31.39	0.00	15.70	0.17
A. linearis f. *curta*	31.39	0.00	15.70	0.17
A. minutissima	3971.06	2774.77	3372.92	36.26
Amphora perpusilla	31.39	120.64	76.02	0.82
Cymbella minuta v. *silesiaca*	0.00	60.47	30.24	0.33
C. prostrata v. *auerswaldii*	31.39	0.00	15.70	0.17
Diatoma vulgare	31.39	687.75	359.57	3.87
Gomphonema angustatum	369.45	5308.25	2838.85	30.52
G. angustatum v. *citera*	0.00	229.25	114.63	1.23
G. olivaceum	125.27	579.14	352.21	3.79
Fragilaria gracillima	0.00	60.47	30.24	0.33
Navicula cryptocephala	31.39	120.64	76.02	0.82
N. graciloides	0.00	60.47	30.24	0.33
N. minuscula	31.39	120.64	76.02	0.82
N. viridula v. *avenacea*	31.39	0.00	15.70	0.17
Nitzschia amphibia	526.12	120.64	323.38	3.48
N. dissipata	31.39	0.00	15.70	0.17
N. hungarica	31.39	0.00	15.70	0.17
N. linearis	31.39	0.00	15.70	0.17
N. palea	187.91	289.42	238.67	2.57
Surirella linearis	31.39	0.00	15.70	0.17
S. ovata	651.39	1616.48	1133.94	12.19
Synedra rumpens v. *familiaris*	62.64	60.47	61.56	0.66
TOTAL BACILLARIOPHYTA	6270.52	12209.50	9240.11	99.33
CYANOPHYTA				
Lyngbya Diguetii	20.83	13.54	17.19	0.18
Oscillatoria sp. 1	56.47	33.10	44.79	0.48
TOTAL CYANOPHYTA	77.30	46.64	61.98	0.67
TOTAL PERIPHYTON ± std. dev.	6347.82	12256.14	9302.09	±3417.27
TOTAL SPECIES (s)			25	
DIVERSITY INDEX ($\bar{d}$)			2.6426	
EQUITABILITY (e)			0.35	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-7

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (various substrates[a])
MARBLE HILL PLANT SITE
16 AUGUST 1978

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Centrales				
Cyclotella Meneghiniana	28.73	15.16	21.94	0.40
Pennales				
Achnanthes lanceolata	28.73	0.00	14.36	0.26
A. minutissima	280.08	125.07	202.58	3.68
Amphipleura pellucida	0.00	15.16	7.58	0.14
Amphora perpusilla	244.17	15.16	129.67	2.36
Cocconeis placentula V. *euglypta*	64.63	0.00	32.32	0.59
Cymbella affinis	0.00	125.07	62.54	1.14
C. minuta V. *silesiaca*	64.63	0.00	32.32	0.59
Gomphonema angustatum	28.73	0.00	14.36	0.26
G. angustatum V. *citera*	136.45	15.16	75.80	1.38
G. gracile	28.73	72.01	50.37	0.91
G. parvulum	64.63	178.13	121.38	2.20
Gyrosigma nodiferum	136.45	0.00	68.22	1.24
Navicula graciloides	64.63	87.17	75.90	1.38
N. schroeteri V. *escambia*	919.24	451.01	685.12	12.45
N. viridula V. *avenacea*	1479.40	53.06	766.23	13.92
N. viridula V. *rostellata*	136.45	0.00	68.22	1.24
Nitzschia amphibia	1587.12	845.17	1216.15	22.09
N. hungarica	315.99	15.16	165.57	3.01
N. palea	739.70	1569.07	1154.38	20.97
N. parvula	28.73	87.17	57.95	1.05
Pinnularia brebissonii V. *diminuta*	100.54	34.11	67.33	1.22
Rhoicosphenia curvata	28.73	0.00	14.36	0.26
Surirella ovata	524.25	34.11	279.18	5.07
Synedra ulna	0.00	15.16	7.58	0.14
S. ulna V. *spathulifera*	28.73	0.00	14.36	0.26
TOTAL BACILLARIOPHYTA	7059.47	3752.11	5405.77	98.21
CHLOROPHYTA				
Closterium sp.	0.00	8.48	4.24	0.08
TOTAL CHLOROPHYTA	0.00	8.48	4.24	0.08

APPENDIX TABLE D-7
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (various substrates[a])
MARBLE HILL PLANT SITE
16 AUGUST 1978

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CYANOPHYTA				
Lyngbya sp. 2	40.26	41.55	40.91	0.74
Oscillatoria sp. 1	26.66	39.85	33.26	0.60
TOTAL CYANOPHYTA	66.92	8.40	74.17	1.34
EUGLENOPHYTA				
Trachelomonas sp.	10.88	25.44	18.16	0.33
TOTAL EUGLENOPHYTA	10.88	25.44	18.16	0.33
PROTOZOA				
ciliated protozoan	5.44	0.00	2.72	0.05
TOTAL PROTOZOA	5.44	0.00	2.72	0.05
TOTAL PERIPHYTON ± std. dev.	7142.71	3867.43	5505.06 ± 1895.13	
TOTAL SPECIES (s)			31	
DIVERSITY INDEX ($\bar{d}$)			3.4999	
EQUITABILITY (e)			0.52	

[a]Replicate A was scraped from rock substrate and replicate B was scraped from unglazed quarry tile. Both substrates were in partial shade environments.

[b]Relative abundance as percentage of total periphyton.

ENDIX TABLE D-8

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals $\times 10^3/10\ cm^2$)
LITTLE SALUDA CREEK STATION 5 (NATURAL SUBSTRATES)
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

	Replicate			
Taxon	A	B	$\bar{x}$	RA

Samples contained exceptionally large quantities of organic materials and could not be analyzed due to insufficient addition of preservative.

APPENDIX TABLE D-9

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
22 MARCH 1978

	Station			
Replicate	1	3	5	6[a]
C	Ohio River stations samples were lost due to high water conditions.			0.4
D				2.3
E				
Mean (± std. dev.)				1.4±1.3

[a]Station 6 samples were scraped from unglazed quarry tiles in a partially shaded environment.

APPENDIX TABLE D-10

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
24 MAY 1978[a]

	Station			
Replicate	1	3	5	6[b]
C	1.4	1.1	4.2	3.9
D	2.3	3.3	3.8	5.0
E	1.2	3.0	1.8	7.7
Mean (± std. dev.)	1.6±0.9	2.5±1.2	3.3±1.3	3.9±2.8

[a]Ohio River samples were not available on the 24 May sampling date due to high water conditions. These data resulted from a subsequent sampling period (5-26 June).

[b]Station 6 samples were scraped from unglazed quarry tiles in a partially shaded environment.

APPENDIX TABLE D-11

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
16 AUGUST 1978

	Station			
Replicate	1	3	5	6[a]
C	2.0	1.4	1.3	30.8
D	2.3	1.4	1.1	50.5
E	2.1	1.2	1.5	-
Mean (± std. dev.)	2.1±0.2	1.3±0.1	1.3±0.2	40.7±13.9

[a]Replicate 6C was scraped from a rock and replicate 6D was scraped from unglazed quarry tile in a partially shaded environment. A third replicate was not collected.

APPENDIX TABLE D-12

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
14 NOVEMBER 1978

	Station			
Replicate	1	3	5	6[a]
C	2.8	3.3	1.6	
D	2.2	4.5	1.6	
E	1.5	4.8	1.7	
Mean (± std. dev.)	2.2±0.7	4.2±0.8	1.6±0.1	

[a]Station 6 samples insufficiently preserved for analysis.

APPENDIX TABLE E-1

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
MARCH 1978

Species	Number of Individuals (Biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
Branchiura sowerbyi	1	1	1.0	6	4	5.0
Limnodrilus hoffmeisteri	1	-	0.5	3	3	3.0
immature tubificids	-	-	-	7	8	7.5
ANNELIDA subtotal	2 (<0.001)	1 (<0.001)	1.5 (<0.001)	16 (0.003)	15 (0.003)	15.5 (0.003)
ARTHROPODA						
Insecta						
Trichoptera						
Hydropsyche orris	1	-	0.5	-	-	-
Potamyia flava	4	3	3.5	-	-	-
ARTHROPODA subtotal	5 (0.003)	3 (0.001)	4.0 (0.002)	-	-	-
Total Individuals	7	4	5.5	16	15	15.5
Total Biomass (g)	0.003	0.001	0.002	0.003	0.003	0.003
Density (No./m^2)			105			296
Biomass (g/m^2)			0.038			0.057
Index of Diversity			1.49			1.49
Equitability			0.78			1.18

APPENDIX TABLE E-2

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
MARCH 1978

Species	Number of Individuals (Biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
Branchiura sowerbyi	-	1	0.5	2	-	1.0
Limnodrilus hoffmeisteri	1	3	2.0	3	5	4.0
immature tubificids	-	-	-	11	17	14.0
ANNELIDA subtotal	1 (0.001)	4 (0.001)	2.5 (0.001)	16 (0.003)	22 (0.003)	19.0 (0.003)
ARTHROPODA						
Insecta						
Trichoptera						
Potamyia flava	1	-	0.5	-	-	-
ARTHROPODA subtotal	1 (0.003)	-	0.5 (0.002)	-	-	-
Total Individuals	2	4	3	16	22	19
Total Biomass (g)	0.004	0.001	0.003	0.003	0.003	0.003
Density (No./m^2)			57			363
Biomass (g/m^2)			0.057			0.057
Index of Diversity			1.79			1.02
Equitability			1.12			0.81

APPENDIX TABLE E-3

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
MARCH 1978

Species	Number of Individuals (Biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
Limnodrilus hoffmeisteri	1	8	4.5	5	7	6.0
immature tubificids	13	16	14.5	21	24	22.5
ANNELIDA subtotal	14 (0.003)	24 (0.014)	19.0 (0.009)	26 (0.005)	31 (0.006)	28.5 (0.006)
ARTHROPODA						
Insecta						
Diptera						
Polypedilum halterale	1	-	0.5	-	-	-
ARTHROPODA subtotal	1 (<0.001)	-	0.5 (<0.001)	-	-	-
Total Individuals	15	24	19.5	26	31	28.5
Total Biomass	0.003	0.014	0.009	0.005	0.006	0.006
Density (No./m^2)			373			545
Biomass (g/m^2)			0.172			0.115
Index of Diversity			0.94			0.74
Equitability			0.75			0.96

APPENDIX TABLE E-4

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	1	-	0.5	4	3	3.5
ANNELIDA subtotal	1 (0.003)	0 (0)	0.5 (0.001)	4 (<0.001)	3 (<0.001)	3.5 (<0.001)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	3	-	1.5	-	4	2.0
Insecta						
Diptera						
Polypedilum halterale	1	-	0.5	-	-	-
Trichoptera						
Hydropsyche orris	-	-	-	1	4	2.5
ARTHROPODA subtotal	4 (0.003)	0 (0)	2.0 (0.002)	1 (0.001)	8 (0.001)	4.5 (0.001)
Total individuals	5	0	2.5	5	11	8.0
Total biomass (g)	0.006	0.0	0.003	0.001	0.001	0.001
Density (no./m^2)			48			153
Biomass (g/m^2)			0.057			0.019
Index of diversity			1.37			1.55
Equitability			1.07			1.23

APPENDIX TABLE E-5

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	-	1	0.5
PLATYHELMINTHES subtotal	0 (0)	0 (0)	0 (0)	0 (0)	1 (<0.001)	0.5 (<0.001)
ANNELIDA						
Oligochaeta						
immature tubificids	2	-	-	2	5	3.5
ANNELIDA subtotal	2 (0.001)	-	1.0 (<0.001)	2 (0.002)	5 (0.002)	3.5 (0.002)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	-	1	0.5
MOLLUSCA subtotal	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.006)	0.5 (0.003)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	1	1	1.0	3	-	1.5
Lirceus fontinalis	-	-	-	1	-	0.5
Insecta						
Trichoptera						
Hydropsyche orris	-	-	-	15	19	17.0

APPENDIX TABLE E-5
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Insecta						
Ephemeroptera						
Stenonema interpunctatum	-	-	-	-	3	1.5
Odonata						
Macromia illinoisensis	-	1	0.5	-	2	1.0
ARTHROPODA subtotal	1 (<0.001)	2 (0.089)	1.5	19 (0.061)	24 (0.133)	21.5 (0.097)
Total individuals	3	2	2.5	21	31	26.0
Total biomass (g)	0.001	0.089	0.045	0.063	0.141	0.102
Density (no./m^2)			48			497
Biomass (g/m^2)			0.859			1.948
Index of diversity			1.52			1.77
Equitability			1.21			0.55

APPENDIX TABLE E-6

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	41	35	38.0	3	7	5.0
Tubifex tubifex	3	1	2.0	-	1	0.5
ANNELIDA subtotal	44 (0.034)	36 (0.009)	40.0 (0.023)	3 (0.001)	8 (0.003)	5.5 (0.002)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	-	1	0.5
Pelecypoda						
Sphaerium sp.	-	-	-	1	-	0.5
MOLLUSCA subtotal	0 (0)	0 (0)	0 (0)	1 (0.005)	1 (0.005)	1.0 (0.005)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	1	1	1.0
Insecta						
Diptera						
Chaoborus punctipennis	1	1	1.0	-	-	-
Eukiefferiella sp.	1	-	0.5	-	-	-
Polypedilum halterale	-	2	1.0	-	-	-
Tabanus sp.	-	1	0.5	-	-	-

APPENDIX TABLE E-6
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Insecta						
Trichoptera						
Hydropsyche orris	1	-	0.5	1	-	0.5
Ephemeroptera						
Hexagenia limbata	-	-	-	1	-	0.5
Odonata						
Macromia illinoisensis	1	-	0.5	-	-	-
ARTHROPODA subtotal	4 (0.002)	4 (0.015)	4.0 (0.009)	3 (0.002)	1 (<0.001)	2.0 (0.001)
Total individuals	48	40	44.0	7	10	8.5
Total biomass (g)	0.036	0.024	0.030	0.008	0.008	0.008
Density (no./m^2)			840			162
Biomass (g/m^2)			0.573			0.153
Index of diversity			0.93			2.02
Equitability			0.28			0.76

APPENDIX TABLE E-7

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	-	1	0.5	8	13	10.5
Limnodrilus hoffmeister	1	1	1.0	14	18	16.0
ANNELIDA subtotal	1 (0.003)	2 (0.004)	1.5 (0.004)	22 (0.016)	31 (0.024)	26.5 (0.020)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	-	1	0.5	-	-	-
MOLLUSCA subtotal	0	1 (0.001)	0.5 (<0.001)	0 (0)	0 (0)	0 (0)
Total individuals	1	3	2.0	22	31	26.5
Total biomass (g)	0.003	0.005	0.004	0.016	0.024	0.020
Density (no./m^2)	19	57	38	421	593	507
Biomass (g/m^2)	0.057	0.096	0.076	0.306	0.459	0.382
Index of diversity			1.50			0.97
Equitability			1.19			1.16

APPENDIX TABLE E-8

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	10	8	9.0	17	11	14.0
Branchiura sowerbyi	2	-	1.0	5	-	2.5
Limnodrilus hoffmeisteri	5	8	6.5	13	8	10.5
Naidium sp.	1	1	1.0	-	-	-
ANNELIDA subtotal	18 (0.016)	17 (0.014)	17.5 (0.015)	35 (0.028)	19 (0.014)	27 (0.021)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	-	1	0.5
MOLLUSCA subtotal	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.002)	0.5 (0.001)
ARTHROPODA						
Amphipoda						
Gammarus pseudolimnaeus	-	-	-	1	-	0.5
Insecta						
Diptera						
Ablabesmyia mallochi	-	1	0.5	-	-	-
Chaoborus punctipennis	-	-	-	-	3	1.5
Eukiefferiella sp.	-	-	-	-	3	1.5

APPENDIX TABLE E-8
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Diptera (continued)						
Polypedilum halterale	1	1	1	2	2	2.0
Procladius sp.	-	-	-	1	-	0.5
Ephemeroptera						
Stenonema interpunctatum	-	-	-	-	1	0.5
ARTHROPODA subtotal	1 (<0.001)	2 (<0.001)	1.5 (<0.001)	4 (0.001)	9 (0.001)	6.5 (0.001)
Total individuals	19	19	19	39	29	34
Total biomass (g)	0.017	0.014	0.016	0.029	0.017	0.023
Density (no./m^2)	363	363	363	746	554	650
Biomass (g/m^2)	0.325	0.268	0.306	0.554	0.325	0.440
Index of diversity			1.85			2.32
Equitability			0.78			0.68

APPENDIX TABLE E-9

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	-	5	2.5	4	6	5.0
Branchiura sowerbyi	1	-	0.5	-	-	-
Limnodrilus hoffmeisteri	7	3	5.0	6	5	5.5
ANNELIDA subtotal	8 (0.006)	8 (0.005)	8.0 (0.006)	10 (0.006)	11 (0.006)	10.5 (0.006)
ARTHROPODA						
Insecta						
Diptera						
Ablabesmyia mallochi	-	4	2.0	-	2	1.0
Phaenopsectra sp.	-	-	-	-	2	1.0
Polypedilum halterale	-	1	0.5	-	-	-
Procladius sp.	-	-	-	3	4	3.5
ARTHROPODA subtotal	0 (0)	5 (>0.001)	2.5 (>0.001)	3 (<0.001)	8 (0.001)	5.5 (<0.001)
Total individuals	8	13	10.5	13	19	16.0
Total biomass (g)	0.006	0.005	0.006	0.006	0.007	0.007
Density (No./m^2)	153	249	201	249	363	304
Biomass (g/m^2)	0.115	0.096	0.115	0.115	0.134	0.134
Index of diversity			1.88			2.03
Equitability			0.96			1.08

APPENDIX TABLE E-10

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 1
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{X}$	Replicate A	Replicate B	$\bar{X}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	-	11	5.5
PLATYHELMINTHES subtotal	0 (0)	0 (0)	0 (0)	0 (0)	11 (0.002)	5.5 (0.001)
ANNELIDA						
Hirudinia						
Helobdella fusca	-	-	-	4	-	2.0
Oligochaeta						
immature tubificids	20	-	10.0	-	31	15.5
Limnodrilus hoffmeisteri	3	-	1.5	-	6	3.0
Naidium sp.	1	-	0.5	-	-	-
Peloscolex sp.	-	-	-	-	4	2.0
ANNELIDA subtotal	24 (0.003)	0 (0)	12 (0.002)	4 (0.002)	41 (0.005)	22.5 (0.004)

APPENDIX TABLE E-10
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 1
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{X}$	Replicate A	Replicate B	$\bar{X}$
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	1	-	0.5
Pelecypoda						
Corbicula manilensis	1	2	1.5	4	4	4.0
Sphaerium sp.	-	-	-	-	6	3.0
MOLLUSCA subtotal	1 (0.026)	2 (0.021)	1.5 (0.024)	5 (0.080)	10 (0.007)	7.5 (0.044)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	1	1	1.0	7	4	5.5
Insecta						
Diptera						
Chironomus attenuatus	6	1	3.5	-	-	-
Coelotanypus concinnus	8	20	14.0	2	6	4.0
Cryptochironomus sp.	-	2	1.0	-	-	-
Phaenopsectra sp.	1	-	0.5	-	-	-

APPENDIX TABLE E-10
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 1
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{X}$	Replicate A	Replicate B	$\bar{X}$
Polypedilum halterale	-	-	-	-	1	0.5
Procladius sp.	-	-	-	-	7	3.5
Trichoptera						
Potamyia flava	-	-	-	1	-	0.5
Ephemeroptera						
Caenis sp.	-	-	-	1	-	0.5
Hexagenia limbata	1	-	0.5	-	-	-
ARTHROPODA subtotal	17 (0.002)	24 (0.002)	20.5 (0.002)	11 (0.002)	18 (0.005)	14.5 (0.004)
Total individuals	42	26	34.0	20	80	50.0
Total biomass (g)	0.031	0.023	0.028	0.084	0.019	0.052
Density (no./m^2)			650			956
Biomass (g/m^2)			0.535			0.994
Index of diversity			2.35			3.20
Equitability			0.69			0.93

APPENDIX TABLE E-11

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 3
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	5	-	2.5
PLATYHELMINTHES subtotal	0 (0)	0 (0)	0 (0)	5 (0.011)	0 (0)	2.5 (0.006)
ANNELIDA						
Oligochaeta						
immature tubificids	32	40	36.0	3	23	13.0
Peloscolex sp.	2	-	1.0	1	3	2.0
ANNELIDA subtotal	34 (0.003)	40 (0.004)	37 (0.004)	4 (<0.001)	26 (0.001)	15 (0.001)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	-	2	1.0

APPENDIX TABLE E-11
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 3
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Pelecypoda						
Corbicula manilensis	1	-	0.5	2	2	2.0
Lampsilis sp.	-	-	-	-	1	0.5
Megalonais gigantea	-	-	-	-	1	0.5
Sphaerium sp.	-	-	-	-	3	1.5
MOLLUSCA subtotal	1 (0.001)	0 (0)	0.5 (<0.001)	2 (0.002)	9 (0.009)	5.5 (0.006)
ARTHROPODA						
Acarina						
unidentified hydracarina	1	-	0.5	-	-	-
Crustacea						
Gammarus pseudolimnaeus	1	2	1.5	17	-	8.5
Insecta						
Diptera						
Chaoborus punctipennis	1	-	0.5	-	-	-
Coelotanypus concinnus	1	1	1.0	2	28	15.0
Cricotopus sp.	-	1	0.5	-	-	-
Cryptochironomus sp.	1	4	2.5	-	-	-
Dicrotendipes neomodestus	-	-	-	-	1	0.5
Polypedilum halterale	4	5	4.5	-	-	-

APPENDIX TABLE E-11
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 3
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Ephemeroptera						
Stenonema interpunctatum	-	-	-	2	-	1.0
Coleoptera						
unidentified	-	1	0.5	1	-	0.5
ARTHROPODA subtotal	9 (0.001)	14 (0.001)	11.5 (0.001)	22 (0.016)	29 (0.002)	25.5 (0.009)
Total individuals	43	54	48.5	33	64	48.5
Total biomass (g)	0.005	0.005	0.005	0.029	0.012	0.021
Density (no./m^2)			927			927
Biomass (g/m^2)			0.096			0.402
Index of diversity			1.54			2.73
Equitability			0.33			0.71

APPENDIX TABLE E-12

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 5
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	-	5	2.5
PLATYHELMINTHES subtotal	0 (0)	0 (0)	0 (0)	0 (0)	5 (0.001)	2.5 (<0.001)
ANNELIDA						
Oligochaeta						
immature tubificids	107	9	58.0	3	36	19.5
Limnodrilus hoffmeisteri	19	8	13.5	-	7	3.5
Peloscolex sp.	15	5	10.0	-	2	1.0
ANNELIDA subtotal	141 (0.009)	22 (0.003)	81.5 (0.006)	3 (<0.001)	45 (0.003)	24.0 (0.002)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	-	3	1.5	-	11	5.5
Sphaerium sp.	-	4	2.0	2	-	1.0
MOLLUSCA subtotal	0 (0)	7 (0.013)	3.5 (0.006)	2 (0.001)	11 (0.029)	6.5 (0.015)

APPENDIX TABLE E-12
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 5
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	1	18	9.5	2	11	6.5
Insecta						
Diptera						
Chironomus attenuatus	4	2	3.0	-	-	-
Coelotanypus concinnus	-	109	54.5	31	59	45.0
Cryptochironomus sp.	-	4	2.0	-	-	-
Dicrotendipes neomodestus	2	-	1.0	-	-	-
Polypedilum halterale	5	44	24.5	-	-	-
Procladius sp.	1	-	0.5	-	-	-
Stenochironomus sp.	4	1	2.5	-	-	-
Trichoptera						
Potamyia flava	-	-	-	-	1	0.5
Plecoptera						
Peltoperla sp.	1	-	0.5	-	-	-
Ephemeroptera						
Hexagenia limbata	-	-	-	-	2	1.0
ARTHROPODA subtotal	18 (0.001)	178 (0.010)	98.0 (0.006)	33 (0.001)	73 (0.009)	53.0 (0.005)

APPENDIX TABLE E-12
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 5
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	159	207	183.0	38	134	86.0
Total biomass (g)	0.010	0.026	0.018	0.002	0.042	0.022
Density (no./m^2)			3499			1644
Biomass (g/m^2)			0.344			0.421
Index of diversity			2.63			2.11
Equitability			0.61			0.57

APPENDIX TABLE E-13

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
MARCH 1978

Species	Number of Individuals (Biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	1	0.5	-	-	-
PLATYHELMINTHES subtotal	-	1 (0.007)	0.5 (0.004)	-	-	-
ANNELIDA						
Oligochaeta						
Limnodrilus maumeensis	-	-	-	2	-	1.0
immature tubificids	2	5	3.5	-	-	-
ANNELIDA subtotal	2 (<0.001)	5 (0.002)	3.5 (0.001)	2 (<0.001)	-	1.0 (<0.001)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	2	3	2.5	3	-	1.5
Insecta						
Diptera						
Cardiocladius sp.	1	-	0.5	-	-	-
Cricotopus sp.	2	-	1.0	1	1	1.0
Micropsectra sp.	2	-	1.0	2	-	1.0
Orthocladius sp.	1	-	0.5	-	-	-
Tipula sp.	1	-	0.5	-	-	-

APPENDIX TABLE E-13
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
MARCH 1978

Species	Number of Individuals (Biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (continued)						
Coleoptera						
Ectopria nervosa	-	-	-	-	1	0.5
Psephenus herricki	-	-	-	-	1	0.5
Collembola						
Isotomurus palustris	-	-	-	-	1	0.5
ARTHROPODA subtotal	9 (0.092)	3 (0.019)	6.0 (0.056)	6 (0.023)	4 (0.012)	5.0 (0.018)
Total Individuals	11	9	10	8	4	6
Total Biomass (g)	0.092	0.028	0.060	0.023	0.012	0.018
Density (No./m^2)			191			115
Biomass (g/m^2)			1.147			0.344
Index of Diversity			2.56			2.69
Equitability			1.01			1.27

APPENDIX TABLE E-14

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Pool Habitat			Riffle Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	6	10	8.0	28	12	20.0
PLATYHELMINTHES subtotal	6 (0.003)	10 (0.005)	8.0 (0.004)	28 (0.017)	12 (0.010)	20.0 (0.014)
ANNELIDA						
Oligochaeta						
immature tubificids	-	-	-	2	4	3.0
ANNELIDA subtotal	0 (0)	0 (0)	0 (0)	2 (<0.001)	4 (0.004)	3.0 (0.002)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	113	98	105.5	113	138	125.5
Insecta						
Diptera						
Chironomus attenuatus	8	5	6.5	1	-	0.5
Cryptochironomus fulvus	3	3	3.0	1	1	1.0
Dicrotendipes nervosus	5	-	2.5	2	-	1.0
Microtendipes sp.	-	-	-	1	-	0.5
Polypedilum halterale	-	-	-	-	2	1.0
Probezzia sp.	1	-	0.5	-	-	-
Tabanus sp.	-	-	-	1	-	0.5

APPENDIX TABLE E-14
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)					
	Pool Habitat			Riffle Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Insecta						
Diptera (continued)						
Tipula sp.	-	-	-	-	1	0.5
Plecoptera						
Isoperla clio	8	10	9.0	-	-	-
Ephemeroptera						
Baetis (intercalaris ?)	10	6	8.0	-	2	1.0
Stenonema interpunctatum	-	-	-	1	-	0.5
Coleoptera						
Ectopria nervosa	-	1	0.5	1	-	0.5
Hydroporus sp.	-	-	-	1	-	0.5
Psephenus herricki	2	3	2.5	5	4	4.5
Stenelmis (sexlineata ?)	-	3	1.5	-	-	-
ARTHROPODA subtotal	150 (0.074)	129 (0.054)	139.5 (0.062)	127 (0.038)	148 (0.223)	137.5 (0.131)
Total individuals	156	139	147.5	157	164	160.5
Total biomass (g)	0.077	0.059	0.068	0.055	0.237	0.146
Density (no./m^2)			1587			1727
Biomass (g/m^2)			0.732			1.571
Index of diversity			1.68			1.27
Equitability			0.37			0.18

APPENDIX TABLE E-15

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	13	1	7.0	3	8	5.5
ANNELIDA subtotal	13 (0.006)	1 (<0.001)	7.0 (0.003)	3 (0.001)	8 (0.003)	5.5 (0.002)
MOLLUSCA						
Gastropoda						
unidentified	-	-	-	1	-	0.5
MOLLUSCA subtotal	0 (0)	0 (0)	0 (0)	1 (0.002)	0 (0)	0.5 (0.001)
ARTHROPODA						
Isopoda						
Lirceus fontinalis	-	1	0.5	-	-	-
Insecta						
Diptera						
Cardiocladius sp.	17	1	9.0	1	-	0.5
Cricotopus sp.	1	-	0.5	-	1	0.5
Polypedilum halterale	4	4	4.0	-	-	-
Chrysops sp.	-	-	-	1	-	0.5
Tetanocera sp.	-	-	-	1	-	0.5
Ephemeroptera						
Stenonema interpunctatum	-	-	-	-	1	0.5

APPENDIX TABLE E-15
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
AUGUST 1978

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Coleoptera						
Dubiraphia sp.	2	-	1.0	-	-	-
Ectopria sp.	-	1	0.5	-	-	-
Stenelmis douglasensis	1	1	1.0	-	-	-
Rhizelmis sp.	-	-	-	-	1	0.5
ARTHROPODA subtotal	25 (0.003)	8 (0.001)	16.5 (0.002)	3 (0.002)	3 (0.001)	3 (0.002)
Total individuals	38	9	23.5	7	11	9.0
Total biomass (g)	0.009	0.001	0.005	0.005	0.004	0.005
Density (No./m^2)	409	97	253	75	118	97
Biomass (g/m^2)	0.097	0.011	0.054	0.054	0.043	0.054
Index of diversity			2.23			2.06
Equitability			0.79			0.69

APPENDIX TABLE E-16

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 6
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	2	-	1.0	-	-	-
PLATYHELMINTHES subtotal	2 (0.001)	0 (0)	1.0 (<0.001)	0 (0)	0 (0)	0 (0)
ANNELIDA						
Oligochaeta						
immature tubificids	23	4	13.5	6	7	6.5
ANNELIDA subtotal	23 (0.001)	4 (<0.001)	13.5 (<0.001)	6 (0.001)	7 (0.006)	6.5 (0.004)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	17	2	9.5	-	2	1.0

APPENDIX TABLE E-16
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 6
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Insecta						
Diptera						
Coelotanypus concinnus	6	1	3.5	2	4	3.0
Cricotopus sp.	17	1	9.0	-	1	0.5
Dicrotendipes neomodestus	6	5	5.5	1	2	1.5
Polypedilum halterale	-	6	3.0	1	1	1.0
Stenochironomus sp.	17	7	12.0	-	-	-
Simulium sp.	1	-	0.5	-	-	-
Tipula sp.	2	1	1.5	-	-	-
Trichoptera						
Cheumatopsyche sp.	1	-	0.5	-	-	-
Hydropsyche orris	4	3	3.5	-	-	-
Potamyia flava	1	2	1.5	-	-	-
Ephemeroptera						
Baetis sp.	1	-	0.5	-	-	-
Stenonema interpunctatum	1	-	0.5	-	1	0.5
ARTHROPODA subtotal	74 (0.073)	28 (0.034)	51.0 (0.054)	4 (<0.001)	11 (0.006)	7.5 (0.003)

APPENDIX TABLE E-16
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS AT STATION 6
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	99	32	51.0	10	18	14.0
Total biomass (g)	0.075	0.034	0.054	0.001	0.012	0.007
Density (no./m^2)			549			151
Biomass (g/m^2)			0.581			0.075
Index of diversity			3.23			2.22
Equitability			0.89			0.89

APPENDIX TABLE E-17

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND
BIOMASS (ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
MARCH 1978

	Number of Individuals (Biomass in grams)								
	Station 1			Station 3			Station 5		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$

Samplers were swept away by near-flood water conditions.
None were recovered.

APPENDIX TABLE E-18

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
MAY 1978

Species	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA									
Oligochaeta									
immature tubificids	5	4	4.5	1	2	1.5	1	-	0.5
ANNELIDA subtotal	5 (0.001)	4 (0.001)	4.5 (0.001)	1 (<0.001)	2 (<0.001)	1.5 (<0.001)	1 (<0.001)	0 (0)	0.5 (<0.001)
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	3	4	3.5	2	5	3.5	4	5	4.5
Insecta									
Diptera									
Chironomus attenuatus	-	-	-	-	-	-	2	-	1.0
Dicrotendipes nervosus	-	4	2.0	3	8	5.5	6	-	3.0
Eukiefferiella sp.	-	3	1.5	-	3	1.5	1	3	2.0
Microtendipes sp.	2	-	1.0	1	2	1.5	-	6	3.0
Polypedilum halterale	3	1	2.0	2	5	3.5	4	2	3.0
Trichoptera									
Hydropsyche orris	2	3	2.5	3	1	2.0	1	1	1.0
Ephemeroptera									
Baetis (intercalaris ?)	-	-	-	-	-	-	-	1	0.5
Stenonema interpunctatum	-	3	1.5	2	4	3.0	4	1	2.5
ARTHROPODA subtotal	10 (0.003)	18 (0.005)	14 (0.004)	12 (0.007)	28 (0.019)	20.0 (0.013)	22 (0.013)	19 (0.006)	20.5 (0.010)
Total individuals	15	22	18.5	13	30	21.5	23	19	21.0
Total biomass (g)	0.004	0.006	0.005	0.007	0.019	0.013	0.013	0.006	0.010
Density (no./m^2)			114			132			129
Biomass (g/m^2)			0.031			0.080			0.062
Index of diversity			2.85			2.84			3.04
Equitability			1.26			1.25			1.16

APPENDIX TABLE E-19

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
AUGUST 1978

	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA									
Amphipoda									
Gammarus pseudolimnaeus	1	-	0.5	-	-	-	-	-	-
Insecta									
Diptera									
Ablabesmyia mallochi	1	2	1.5	4	1	2.5	1	2	1.5
Chironomus attenuatus	1	-	0.5	-	-	-	-	-	-
Cricotopus sp.	1	-	0.5	-	-	-	-	-	-
Polypedilum halterale	17	11	14.0	12	15	13.5	24	18	21.0
Psectocladius sp.	-	1	0.5	-	-	-	-	-	-
Trichoptera									
Hydropsyche orris	63	49	56.0	59	47	53.0	51	38	44.5
Neureclipsis crepuscularis	1	1	1.0	-	-	-	-	-	-
Potamyia flava	48	67	57.5	52	63	57.5	51	77	64.0
Ephemeroptera									
Stenonema bipunctatum	31	43	37.0	36	28	32.0	63	41	52.0
S. heterotarsale	13	18	15.5	6	9	7.5	14	17	15.5
Stenonema sp.	3	3	3.0	-	1	0.5	3	1	2.0
ARTHROPODA subtotal	180 (0.241)	195 (0.258)	187.5 (0.248)	169 (0.236)	164 (0.229)	166.5 (0.233)	207 (0.241)	194 (0.250)	200.5 (0.246)
Total individuals	180	195	187.5	169	164	166.5	207	194	200.5
Total biomass (g)	0.241	0.258	0.248	0.236	0.229	0.233	0.241	0.250	0.246
Density (No./m²)	1107	1199	1153	1039	1009	1024	1275	1193	1233
Biomass (g/m²)	1.482	1.587	1.525	1.451	1.408	1.433	1.482	1.538	1.513
Index of diversity			2.37			2.12			2.26
Equitability			0.58			0.83			0.92

APPENDIX TABLE E-20

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
NOVEMBER 1978

Species	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA									
Oligochaeta									
immature tubificids	-	-	-	-	1	0.5	-	-	
ANNELIDA subtotal	0 (0)	0 (0)	0 (0)	0 (0)	1 (<0.001)	0.5 (<0.001)	0 (0)	0 (0)	0 (0)
MOLLUSCA									
Pelecypoda									
Sphaerium sp.	1	-	0.5	-	-	-	-	-	-
MOLLUSCA subtotal	1 (<0.001)	0 (0)	0.5 (<0.001)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	15	25	20.0	11	36	23.5	22	39	15.5
Insecta									
Diptera									
Cricotopus	4	3	3.5	6	7	6.5	12	-	6
Dicrotendipes neomodestus	2	4	3.0	9	4	6.5	1	1	1
Polypedilum halterale	1	4	2.5	-	-	-	-	-	-
Procladius sp.	1	-	0.5	-	2	1.0	2	1	1.5
Trichoptera									
Agraylea sp.	-	-	-	1	-	-	1	-	0.5
Hydropsyche orris	-	-	-	-	7	3.5	1	7	4.0
Neureclipsis crepuscularis	-	-	-	1	1	1.0	-	1	0.5
Potamyia flava	14	7	10.5	-	-	-	1	-	0.5
Plecoptera									
Peltoperla sp.	2	4	3.0	1	7	4.0	1	-	0.5
Ephemeroptera									
Stenonema interpunctatum	9	4	6.5	1	3	2.0	3	12	7.5
ARTHROPODA subtotal	48 (0.018)	51 (0.021)	49.5 (0.020)	30 (0.006)	67 (0.020)	48.5 (0.013)	44 (0.016)	61 (0.020)	52.5 (0.018)
Total individuals	49	51	50.0	30	68	49.0	44	61	52.5
Total biomass (g)	0.018	0.021	0.020	0.006	0.020	0.013	0.016	0.020	0.018
Density (no./m^2)			308			301			323
Biomass (g/m^2)			0.123			0.080			0.111
Index of diversity			2.49			2.40			2.01
Equitability			0.85			0.71			0.53

APPENDIX TABLE E-21

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK
STATION 6
MARBLE HILL PLANT SITE
MARCH 1978

	Number of Individuals (Biomass in grams)		
	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES			
Turbellaria			
Phagocata velata	1	-	0.5
PLATYHELMINTHES subtotal	1 (0.007)	-	0.5 (0.003)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	2	1	1.5
Insecta			
Ephemeroptera			
Baetis intercalaris	-	1	0.5
Diptera			
Cricotopus sp.	1	-	0.5
ARTHROPODA subtotal	3 (0.022)	2 (0.013)	2.5 (0.018)
Total Individuals	4	2	3
Total Biomass (g)	0.029	0.013	0.021
Density (No./m^2)			18
Biomass (g/m^2)			0.129
Index of Diversity			1.79
Equitability			1.12

APPENDIX TABLE E-22

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE MAY 1978

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES			
Turbellaria			
Phagocata velata	1	-	0.5
PLATYHELMINTHES subtotal	1 (0.001)	0	0.5 (<0.001)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	65	33	49.0
Insecta			
Diptera			
Cardiocladius sp.	-	1	0.5
Trichoptera			
Cyrnellus fraternus	-	1	0.5
ARTHROPODA subtotal	65 (0.139)	35 (0.076)	50.0 (0.108)
Total individuals	66	35	50.5
Total biomass (g)	0.140	0.076	0.108
Density (no./m^2)			311
Biomass (g/m^2)			0.664
Index of diversity			0.24
Equitability			0.22

APPENDIX TABLE E-23

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
AUGUST 1978

	Number of individuals (biomass in grams)		
Species	Replicate A	Replicate B	$\bar{x}$

No samples were recovered at Station 6 as they were all destroyed by construction activity.

APPENDIX TABLE E-24

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE NOVEMBER 1978

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
ARTHROPODA			
Crustacea			
Lirceus fontinalis	4	2	3.0
Insecta			
Diptera			
Coelotanypus concinnus	-	2	1.0
Dicrotendipes neomodestus	2	1	1.5
Stenochironomus sp.	-	1	0.5
Ephemeroptera			
Stenonema interpunctatum	-	1	0.5
Odonata			
Calopteryx sp.	2	-	1.0
ARTHROPODA subtotal	8 (0.006)	7 (0.020)	7.5 (0.013)
Total individuals	8	7	7.5
Total biomass (g)	0.006	0.020	0.013
Density (no./m^2)			46
Biomass (g/m^2)			0.080
Index of diversity			2.29
Equitability			1.09

APPENDIX TABLE E-25

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
22 MARCH 1978

		Station 1				Station 3				Station 5			
Depth	Species	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Oligochaeta												
	Limnodrilus hoffmeisteri	4	7	5.5	64.7	-	-	-	-	-	-	-	-
	immature tubificids	-	-	-	-	5	4	4.5	75.0	20	-	10.0	83.3
	Crustacea												
	Copepoda												
	Diaptomus pallidus	-	-	-	-	-	-	-	-	-	4	2.0	16.7
	Insecta												
	Diptera												
	Orthocladius sp.	-	-	-	-	3	-	1.5	25.0	-	-	-	-
	Polypedilum halterale	-	3	1.5	17.6	-	-	-	-	-	-	-	-
	Stratiomyia sp.	1	-	0.5	5.9	-	-	-	-	-	-	-	-
	Collembola												
	Isotomurus palustris	-	2	1.0	11.8	-	-	-	-	-	-	-	-
	Total individuals	5	12	8.5		8	4	6.0		20	4	12.0	
	Volume filtered (m^3)	28.5	*	28.5		25.4	*	25.4		14.6	*	14.6	
	Individuals/m^3	0.2		0.2		0.3		0.3		1.4		1.4	

*No measure of volume could be ascertained due to fouling of the current meters with floating debris.

APPENDIX TABLE E-25
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
22 MARCH 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Mid-depth	Oligochaeta												
	immature tubificids	4	-	2.0	28.6	4	12	8.0	36.4	4	4	4.0	66.7
	Branchiura sowerbyi	3	4	3.5	50.0	-	-	-	-	-	-	-	-
	Crustacea												
	Copepoda												
	Diaptomus pallidus	-	-	-	-	-	8	4.0	18.2	-	-	-	-
	Isopoda												
	Lirceus fontinalis	1	-	0.5	7.1	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Ablabesmyia rhamphe	2	-	1.0	14.3	-	-	-	-	-	-	-	-
	Cricotopus sp.	-	-	-	-	-	-	-	-	4	-	2.0	33.3
	Orthocladius sp.	-	-	-	-	10	-	5.0	22.7	-	-	-	-
	Polypedilum halterale	-	-	-	-	4	4	4.0	18.2	-	-	-	-
	Trichoptera												
	Potamyia flava	-	-	-	-	2	-	1.0	4.5	-	-	-	-
	Total individuals	10	4	7.0		20	24	22.0		8	4	6.0	
	Volume filtered (m^3)	26.8	24.3	25.6		20.2	18.7	19.5		18.6	25.4	22.0	
	Individuals/m^3	0.4	0.2	0.3		1.0	1.3	1.2		0.4	0.2	0.3	

APPENDIX TABLE E-25
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
22 MARCH 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Oligochaeta												
	immature tubificids	8	4	6.0	60.0	4	6	5.0	66.7	8	8	8.0	44.4
	Branchiura sowerbyi	-	8	4.0	40.0	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	4	-	2.0	11.1
	Cricotopus sp.	-	-	-	-	-	-	-	-	-	4	2.0	11.1
	Orthocladius sp.	-	-	-	-	-	-	-	-	-	4	2.0	11.1
	Pericoma sp.	-	-	-	-	-	1	0.5	26.7	-	-	-	-
	Collembola												
	Isotomurus palustris	-	-	-	-	-	-	-	-	4	-	2.0	11.1
	Trichoptera												
	Potamyia flava	-	-	-	-	4	-	2.0	26.7	4	-	2.0	11.1
	Total individuals	8	12	10.0		8	7	7.5		20	16	18.0	
	Volume filtered (m^3)	26.2	25.7	26.0		19.2	19.0	19.1		12.2	10.4	11.3	
	Individuals/m^3	0.3	0.5	0.4		0.4	0.4	0.4		1.6	1.5	1.6	

APPENDIX TABLE E-26

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
8 APRIL 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	None taken	-	-	-	-	-	-	-	-	-	-	-	-
	Total individuals	0	0	0		0	0	0		0	0	0	
	Volume filtered (m^3)	29.5	28.1	28.8		27.1	25.7	26.4		22.7	27.0	27.4	
	Individuals/m^3	0	0	0		0	0	0		0	0	0	
Mid-depth	Crustacea												
	Diaptomus pallidus	-	-	-	-	-	-	-	-	4	-	2	100.0
	Insecta												
	Trichoptera												
	Hydropsyche orris	-	8	4	100.0	-	4	2	100.0	-	-	-	-
	Total individuals	0	8	4		0	4	2		4	0	2	
	Volume filtered (m^3)	27.6	26.1	26.9		24.6	24.2	24.4		25.2	22	24.0	
	Individuals/m^3	0	0.3	0.2		0	0.2	0.1		0.2		0.1	

APPENDIX TABLE E-26
(continued)

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
8 APRIL 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	4	-	2	100.0
	Chironomus attenuatus	-	-	-	-	4	-	2	50.0	-	-	-	-
	Polypedilum halterale	4	-	2	50.0	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Baetis sp.	4	-	2	50.0	-	-	-	-	-	-	-	-
	Stenonema interpunctatum	-	-	-	-	4	-	2	50.0	-	-	-	-
	Total individuals	8	0	4		8	0	4		4	0	2	
	Volume filtered (m^3)	23.2	22.0	22.6		20.8	19.3	19.9		23.7	23.1	23.4	
	Individuals/m^3	0.3	0	0.2		0.4	0	0.2		0.2	0	0.1	

APPENDIX TABLE E-27

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
21 APRIL 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	None taken	-	-	-	-	-	-	-	-	-	-	-	-
	Total individuals	0	0	0		0	0	0		0	0	0	
	Volume filtered (m^3)	22.0	22.4	22.2		21.2	19.4	20.3		25.2	23.8	24.5	
	Individuals/m^3	0	0	0		0	0	0		0	0	0	
Mid-depth	Crustacea												
	Diaptomus pallidus	-	-	-	-	-	4	2.0	57.2	-	-	-	-
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	-	4	2.0	50.0
	Insecta												
	Diptera												
	Chaoborus punctipennis	3	-	1.5	100.0	-	-	-	-	-	-	-	-
	Trichoptera												
	Hydropsyche orris	-	-	-	-	3	-	1.5	42.8	-	4	2.0	50.0
	Total individuals	3	0	1.5		3	4	3.5		0	8	4.0	
	Volume filtered (m^3)	25.2	24..	25.0		23.1	23.1	23.1		26.0	24.6	25.3	
	Individuals/m^3	0.1	0	0.1		0.1	0.2	0.2		0	0.3	0.2	

APPENDIX TABLE E-27
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
21 APRIL 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Gammarus pseudolimnaeus	-	-	-	-	4	8	6.0	50.0	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	4	4	4.0	33.3	4	-	2.0	33.3
	Eukiefferiella sp.	-	-	-	-	-	-	-	-	4	-	2.0	33.3
	Polypedilum halterale	-	-	-	-	-	4	2.0	16.7	-	-	-	-
	Trichoptera												
	Hydropsyche orris	12	-	6.0	100.0	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenonema interpunctatum	-	-	-	-	4	-	-	-	-	4	2.0	33.3
	Total individuals	12	0	6.0		12	16	14.0		8	4	6.0	
	Volume filtered (m^3)	23.7	22.6	23.1		18.6	16.7	17.7		25.3	23.3	24.3	
	Individuals/m^3	0.5	0	0.3		0.6	1.0	0.8		0.3	0.2	0.3	

APPENDIX TABLE E-28

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
5 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	-	-	-	-	-	-	-	-	4	-	2.0	20.0
	Crustacea												
	Cladocera												
	Daphnia sp.	4	-	2.0	40.0	-	-	-	-	-	-	-	-
	Copepoda												
	Cyclops bicuspidatus thomasi	2	2	2.0	40.0	-	-	-	-	4	6	5.0	50.0
	Insecta												
	Diptera												
	Chaoborus punctipennis	2	-	1.0	20.0	8	-	4.0	66.7	-	-	-	-
	Polypedilum halterale	-	-	-	-	-	4	2.0	33.3	-	2	1.0	10.0
	Ephemeroptera												
	Hydropsyche orris	-	-	-	-	-	-	-	-	4	-	2.0	20.0
	Total individuals	8	2	5.0		8	4	6.0		12	8	10.0	
	Volume filtered (m^3)	20.3	19.6	20.0		21.9	21.4	21.7		20.7	20.7	20.7	
	Individuals/m^3	0.4	0.1	0.3		0.4	0.2	0.3		0.6	0.4	0.5	

APPENDIX TABLE E-28
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
5 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Mid-depth	Crustacea												
	Cladocera												
	Chydorus sp.	-	-	-	-	-	8	4.0	7.3	-	-	-	-
	Daphnia sp.	-	-	-	-	20	68	44.0	80.7	64	-	32.0	69.6
	Copepoda												
	Cyclops bicuspidatus thomasi	4	-	2.0	100.0	10	-	5.0	9.2	16	5	10.5	22.8
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	4	-	2.0	4.3
	Chironomus attenuatus	-	-	-	-	3	-	1.5	2.8	-	-	-	-
	Cryptochironomus fulvus	-	-	-	-	-	-	-	-	-	3	1.5	3.3
	Total individuals	4	0	2.0		33	76	54.5		84	8	46.0	
	Volume filtered (m^3)	22.9	22.0	22.5		18.7	18.0	18.4		19.1	19.6	19.4	
	Individuals/m^3	0.2	0	0.1		1.8	4.2	3.0		4.4	0.4	2.4	

APPENDIX TABLE E-28
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
5 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Cladocera												
	Daphnia sp.	-	-	-	-	-	4	2.0	20.0	-	-	-	-
	Copepoda												
	Cyclops bicuspidatus thomasi	-	-	-	-	8	-	4.0	40.0	12	4	8.0	80.0
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	4	-	2.0	20.0
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	8	-	4.0	40.0	-	-	-	-
	Total individuals	0	0	0		16	4	10.0		16	4	10.0	
	Volume filtered (m^3)	20.7	19.6	20.1		19.3	18.3	18.8		21.2	20.6	20.9	
	Individuals/m^3	0	0	0		0.8	0.2	0.5		0.8	0.2	0.5	

APPENDIX TABLE E-29

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
17 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Oligochaeta												
	immature tubificids	-	-	-	-	4	4	4.0	18.2	-	-	-	-
	Crustacea												
	Cladocera												
	Daphnia sp.	4	0	2.0	10.0	8	-	4.0	18.2	4	4	4.0	28.4
	Copepoda												
	Cyclops bicuspidatus thomasi	16	12	14.0	70.0	12	12	12.0	54.5	-	-	-	-
	Amphipoda												
	Gammarus pseudolimnaeus	4	-	2.0	10.0	-	-	-	-	4	-	2.0	14.2
	Insecta												
	Diptera												
	Chaoborus punctipennis	4	-	2.0	10.0	4	-	2.0	9.1	8	-	4.0	28.4
	Chironomus attenuatus	-	-	-	-	-	-	-	-	-	4	2.0	14.2
	Ephemeroptera												
	Baetis sp.	-	-	-	-	-	-	-	-	4	-	2.0	14.2
	Total individuals	28	12	20.0		28	16	22.0		20	8	14.0	
	Volume filtered (m^3)	25.6	24.7	25.2		29.5	28.9	29.2		27.5	26.7	27.1	
	Individuals/m^3	1.1	0.5	0.8		0.9	0.6	0.8		0.7	0.3	0.5	

APPENDIX TABLE E-29
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
17 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Mid-depth	Oligochaeta												
	immature tubificids	4	-	2.0	14.2	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera												
	Daphnia sp.	-	-	-	-	4	8	6.0	50.0	-	-	-	-
	Copepoda												
	Cyclops bicuspidatus thomasi	8	4	6.0	42.6	4	-	2.0	16.7	4	4	4.0	66.7
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	4	2.0	16.7	-	-	-	
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	4	2.0	14.2	4	-	2.0	16.7	-	4	2.0	33.3
	Trichoptera												
	Cheumatopsyche sp.	-	8	4.0	28.4	-	-	-	-	-	-	-	
	Total individuals	12	16	14.0		12	12	12.0		4	8	6.0	
	Volume filtered (m^3)	24.7	23.4	24.1		28.8	27.7	28.3		27.1	25.8	26.5	
	Individuals/m^3	0.5	0.7	0.6		0.4	0.4	0.4		0.1	0.3	0.2	

APPENDIX TABLE E-29
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
17 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Cladocera												
	Daphnia sp.	-	-	-	-	4	4	4.0	66.7	4	-	2.0	25.0
	Copepoda												
	Cyclops bicuspidatus thomasi	4	4	4.0	80.0	-	-	-	-	4	-	2.0	25.0
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	4	2.0	33.3	-	8	4.0	50.0
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	2	1.0	20.0	-	-	-	-	-	-	-	-
	Total individuals	4	6	5.0		4	8	6.0		8	8	8.0	
	Volume filtered (m^3)	23.2	21.9	22.6		24.7	23.6	24.2		24.1	23.1	23.6	
	Individuals/m^3	0.2	0.3	0.3		0.2	0.3	0.3		0.3	0.3	0.3	

APPENDIX TABLE E-30

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
30 MAY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Crustacea												
	Daphnia sp.	4	-	2.0	100.0	-	-	-	-	-	-	-	-
	Gammarus pseudolinnaeus	-	-	-	-	-	-	-	-	4	-	2.0	100.0
	Insecta												
	Ephemeroptera												
	Callibaetis sp.	-	-	-	-	4	-	2.0	100.0	-	-	-	-
	Total individuals	4	0	2.0		4	0	2.0		4	0	2.0	
	Volume filtered (m^3)	22.2	21.0	21.6		20.7	19.8	20.2		22.8	21.8	22.3	
	Individuals/m^3	0.2	0	0.1		0.2	0	0.1		0.2	0	0.1	
Mid-depth	Crustacea												
	Daphnia sp.	-	-	-	-	-	-	-	-	4	-	2.0	16.7
	Gammarus pseudolinnaeus	20	-	10.0	100.0	-	4	2.0	100.0	8	12	10.0	83.3
	Total individuals	20	0	10.0		0	4	2.0		12	12	12.0	
	Volume filtered (m^3)	21.0	18.9	19.9		20.8	19.7	20.2		18.7	17.8	18.2	
	Individuals/m^3	1.0	0	0.5		0	0.2	0.1		0.6	0.7	0.6	
Bottom	Crustacea												
	Gammarus pseudolinnaeus	-	16	8.0	100.0	8	8	8.0	100.0	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus sp.	-	-	-	-	-	-	-	-	4	-	2.0	100.0
	Total individuals	0	16	8.0		8	8	8.0		4	0	2.0	
	Volume filtered (m^3)	19.4	18.3	18.8		21.3	20.1	20.7		19.7	18.8	19.2	
	Individuals/m^3	0	0.9	0.4		0.4	0.4	0.4		0.2	0	0.1	

APPENDIX TABLE E-31

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
6 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Crustacea												
	Cladocera	284	164	224.0	94.1	68	24	46.0	79.3	24	280	152.0	96.2
	Copepoda												
	Cyclops bicuspidatus thomasi	20	8	14.0	5.9	24	-	12.0	20.7	4	8	6.0	4.8
	Total Individuals	304	172	238.0		92	24	58.0		28	288	158.0	
	Volume filtered	27.5	26.4	27.0		25.7	24.7	25.2		25.2	24.0	24.6	
	Individuals/m^3	11.1	6.5	8.8		3.6	1.0	2.3		1.1	12.0	6.6	
Mid-depth	Hydrozoa												
	Hydra sp.	-	4	2.0	1.3	-	-	-	-	-	-	-	-
	Oligochaeta												
	immature tubificids	4	-	2.0	1.3	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera	168	104	136.0	88.3	176	120	148.0	84.1	124	84	104.0	88.1
	Copepoda												
	Cyclops bicuspidatus thomasi	20	8	14.0	9.1	36	20	28.0	15.9	24	4	14.0	11.9
	Total Individuals	192	116	154.0		212	140	176		148	88	118.0	
	Volume filtered	25.4	24.2	24.8		22.9	22.0	22.5		27.6	25.9	26.8	
	Individuals/m^3	7.5	4.8	6.2		9.2	6.4	7.8		5.4	3.4	4.4	

APPENDIX TABLE E-31
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
6 June 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Cladocera	440	460	450.0	91.5	264	448	356	91.3	140	108	124.0	93.9
	Copepoda												
	Cyclops bicuspidatus thomasi	56	24	40.0	8.1	52	12	32.0	8.2	8	8	8.0	6.1
	Insecta												
	Diptera												
	Dicrotendipes sp.	4	-	2.0	0.4	-	4	2.0	0.5	-	-	-	-
	Total Individuals	500	484	492.0		316	464	390.0		148	116	132.0	
	Volume filtered	23.9	22.7	23.3		23.4	22.4	22.9		24.0	22.6	23.3	
	Individuals/m3	20.9	21.3	21.1		13.5	20.7	17.1		6.2	15.1	5.7	

APPENDIX TABLE E-32

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
13 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	-	12	6.0	60.0	-	-	-	-	4	-	2.0	25.0
	Crustacea												
	Cladocera	8	-	4.0	40.0	40	60	50.0	92.6	-	12	6.0	75.0
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	4	-	2.0	3.7	-	-	-	-
	Insecta												
	Trichoptera												
	Cyrnellus fraternus	-	-	-	-	-	4	2.0	3.7	-	-	-	-
	Total individuals	8	12	10.0		44	64	54.0		4	12	8.0	
	Volume filtered (m^3)	26.4	25.2	25.8		27.6	26.5	26.1		29.2	25.9	27.6	
	Individuals/m^3	0.3	0.5	0.4		1.6	2.4	1.9		0.1	0.5	0.3	
Mid-depth	Hydrozoa												
	Hydra sp.	-	-	-	-	12	-	6.0	94.7	12	8	10.0	9.3
	Crustacea												
	Cladocera	188	108	148.0	97.4	140	76	108.0	5.3	92	104	98.0	90.7
	Copepoda	4	-	2.0	1.3	-	-	-	-	-	-	-	-
	Amphipoda												
	Gammarus pseudolimnaeus	4	4	4.0	1.3	-	-	-	-	-	-	-	-
	Total individuals	196	112	154.0		152	76	114.0		104	112	108.0	
	Volume filtered (m^3)	25.2	24.4	24.8		24.6	23.7	24.2		25.1	24.4	24.8	
	Individuals/m^3	7.8	4.6	6.2		6.2	3.2	4.7		4.1	4.6	4.4	

APPENDIX TABLE E-32
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
13 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra sp.	16	12	14.0	8.5	8	12	10.0	6.1	8	4	6.0	2.9
	Crustacea												
	Cladocera	156	130	143.0	86.7	142	160	151.0	91.5	244	160	202.0	97.1
	Copepoda	-	8	4.0	2.4	-	4	2.0	1.2	-	-	-	-
	Insecta												
	Ephemeroptera												
	Baetis sp.	-	4	2.0	1.2	-	-	-	-	-	-	-	-
	Trichoptera												
	Cyrnellus fraternus	4	-	2.0	1.2	4	-	2.0	1.2	-	-	-	-
	Total individuals	176	154	165.0		154	176	165.0		252	164	208.0	
	Volume filtered (m^3)	22.6	21.6	22.1		23.2	22.2	22.7		22.9	21.8	22.4	
	Individuals/m^3	7.8	7.1	7.5		6.5	7.9	7.2		11.0	7.5	9.3	

APPENDIX TABLE E-33

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
19 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	-	-	-	-	4	-	2.0	1.3	-	-	-	-
	Crustacea												
	Cladocera	284	124	204.0	99.0	148	144	146.0	94.8	276	196	236.0	95.2
	Copepoda	-	-	-	-	-	-	-	-	4	-	2.0	0.8
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	12	-	6.0	3.9	12	4	8.0	3.2
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	4	-	2.0	0.8
	Tanypus sp.	4	-	2.0	1.0	-	-	-	-	-	-	-	-
	Total individuals	288	124	206.0		164	144	154.0		296	200	248.0	
	Volume filtered (m^3)	22.2	21.5	21.9		20.5	19.5	20.0		21.7	20.7	21.2	
	Individuals/m^3	12.9	5.8	9.4		8.0	7.4	7.7		13.6	9.7	11.9	
Mid-depth	Hydrozoa												
	Hydra sp.	32	8	20.0	2.1	4	20	12.0	1.6	8	12	10.0	1.6
	Crustacea												
	Cladocera	736	1148	942.0	97.5	804	688	746.0	97.4	452	792	622.0	96.0
	Copepoda	-	4	2.0	0.2	8	4	6.0	0.8	4	8	6.0	0.9
	Amphipoda												
	Gammarus pseudolimnaeus	-	4	2.0	0.2	4	-	2.0	0.2	12	-	6.0	0.9
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	-	4	2.0	0.3
	Tanypus sp.	-	-	-	-	-	-	-	-	-	4	2.0	0.3
	Total individuals	768	1164	966.0		820	712	766.0		476	820	648.0	
	Volume filtered (m^3)	18.6	17.6	18.1		21.0	19.9	20.5		20.5	19.4	20.0	
	Individuals/m^3	41.2	66.1	53.7		39.1	35.8	37.5		23.2	42.3	32.8	

APPENDIX TABLE E-33
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
19 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra sp.	12	12	12.0	0.8	40	12	26.0	1.3	28	20	24.0	1.0
	Crustacea												
	Cladocera	1220	1800	1510.0	98.9	2120	1942	2031.0	97.5	2456	2080	2268.0	95.4
	Copepoda	-	4	2.0	0.1	4	16	10.0	0.5	104	64	84.0	3.5
	Amphipoda												
	Gammarus pseudolimnaeus	-	4	2.0	0.1	24	8	16.0	0.7	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	4	-	2.0	0.1
	Tanypus sp.	-	4	2.0	0.1	-	-	-	-	-	-	-	-
	Total individuals	1232	1824	1528.0		2188	1978	2083.0		2592	2164	2378.0	
	Volume filtered (m^3)	19.5	18.4	19.0		18.6	17.7	18.2		18.2	17.1	17.7	
	Individuals/m^3	63.2	99.0	81.1		117.4	112.0	114.7		142.6	126.3	134.5	

APPENDIX TABLE E-34

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
26 JUNE 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	-	4	2.0	14.3	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera	8	16	12.0	85.7	156	172	164.0	100.0	88	104	96.0	
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	4	-	2.0	
	Total individuals	8	20	14.0		156	172	164.0		92	104	98.0	
	Volume filtered (m^3)	22.7	22.0	22.4		21.3	20.2	20.8		21.4	20.2	20.8	
	Individuals/m^3	0.4	0.9	0.7		7.3	8.5	7.9		4.3	5.2	4.8	
Mid-depth	Hydrozoa												
	Hydra sp.	16	16	16.0	5.8	12	12	12.0	2.7	4	8	6.0	0.5
	Crustacea												
	Cladocera	296	216	256.0	93.5	520	356	438.0	97.3	1052	1316	1184.0	99.3
	Copepoda	-	4	2.0	0.7	-	-	-	-	-	-	-	-
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	4	-	2.0	0.2
	Total individuals	312	236	274.0		532	368	450.0		1060	1324	1192.0	
	Volume filtered (m^3)	20.7	19.9	20.3		19.9	18.7	19.3		22.3	21.0	21.7	
	Individuals/m^3	15.1	11.9	13.5		26.7	19.7	23.2		47.6	63.0	55.3	

APPENDIX TABLE E-34
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
26 JUNE 1978

		Station 1				Station 3				Station 5			
Depth	Species	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra sp.	32	12	22.0	1.9	12	12	12.0	1.3	8	8	8.0	0.4
	Crustacea												
	Cladocera	1264	1008	1136.0	97.4	928	948	938.0	98.1	2200	1828	2014.0	99.5
	Copepoda	12	-	6.0	0.5	-	-	-	-	-	-	-	-
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	8	-	4.0	0.4	4	-	2.0	0.1
	Insecta												
	Diptera												
	Chironomus attenuatus	-	-	-	-	-	4	2.0	0.2	-	-	-	-
	Trichoptera	-	4	2.0	0.2	-	-	-	-	-	-	-	-
	Total individuals	1308	1024	1166.0		948	964	956.0		2212	1836	2024.0	
	Volume filtered (m^3)	22.4	21.5	22.0		24.9	23.6	24.3		19.6	18.4	19.0	
	Individuals/m^3	58.5	47.7	53.1		38.0	40.8	39.4		113.0	99.8	106.4	

APPENDIX TABLE E-35

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
6 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	108	68	88.0	89.8	104	72	88.0	89.8	124	104	114.0	100.0
	Crustacea												
	Cladocera	12	4	8.0	8.2	-	4	2.0	2.0	-	-	-	-
	Copepoda	-	-	-	-	-	8	4.0	4.1	-	-	-	-
	Insecta												
	Diptera												
	Chironomus sp.	-	4	2.0	2.0	4	-	2.0	2.0	-	-	-	-
	Parachironomus sp.	-	-	-	-	4	-	2.0	2.0	-	-	-	-
	Total individuals	120	76	98.0		112	84	98.0		124	104	114.0	
	Volume filtered (m^3)	18.8	16.9	17.9		19.4	18.2	18.8		18.3	17.1	17.7	
	Individuals/m^3	6.4	4.5	5.5		5.8	4.8	5.3		6.8	6.1	6.5	
Mid-depth	Hydrozoa												
	Hydra sp.	92	144	118.0	98.3	144	76	110.0	96.5	128	56	112.0	96.6
	Crustacea												
	Cladocera	4	-	2.0	1.7	-	-	-	-	8	-	4.0	3.4
	Copepoda	-	-	-	-	-	4	2.0	1.8	-	-	-	-
	Insecta												
	Trichoptera												
	Hydropsyche orris	-	-	-	-	-	4	2.0	1.8	-	-	-	-
	Total individuals	96	144	120.0		144	84	114.0		136	56	116.0	
	Volume filtered (m^3)	21.3	20.3	20.8		20.0	17.6	18.8		23.4	14.2	18.8	
	Individuals/m^3	4.5	7.1	5.8		7.2	4.8	6.0		5.8	3.9	4.9	

APPENDIX TABLE E-35
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
6 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra sp.	156	160	158.0	95.2	176	96	136.0	95.8	156	140	148.0	89.2
	Crustacea												
	Cladocera	8	-	4.0	2.4	-	4	2.0	1.4	20	16	18.0	10.8
	Insecta												
	Diptera												
	Bezzia sp.	-	-	-	-	4	-	2.0	1.4	-	-	-	-
	Trichoptera												
	Hydropsyche orris	-	8	4.0	2.4	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Hexagenia limbata	-	-	-	-	-	4	2.0	1.4	-	-	-	-
	Total individuals	164	168	166.0		180	104	142.0		176	156	166.0	
	Volume filtered (m^3)	18.5	18.2	18.4		15.3	15.6	15.5		18.9	17.4	18.2	
	Individuals/m^3	8.9	9.2	9.1		11.8	6.7	9.3		9.3	9.0	9.2	

APPENDIX TABLE E-36

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
13 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	6	3	4.5	60.0	6	2	4.0	50.0	-	2	1.0	33.3
	Crustacea												
	Cladocera	4	2	3.0	40.0	4	3	3.5	43.8	2	-	1.0	33.3
	Insecta												
	Diptera												
	Parachironomus sp.	-	-	-	-	-	-	-	-	-	1	0.5	16.7
	Ephemeroptera												
	Stenonema interpunctatum	-	-	-	-	1	-	0.5	6.2	-	1	0.5	16.7
	Total individuals	10	5	7.5		11	5	8.0		2	4	3.0	
	Volume filtered (m^3)	20.9	20.1	20.5		19.1	16.7	17.9		19.0	14.7	16.9	
	Individuals/m^3	0.5	0.2	0.4		0.6	0.3	0.5		0.1	0.3	0.2	
Mid-depth	Hydrozoa												
	Hydra sp.	11	7	9.0	56.3	4	4	4.0	47.0	1	2	1.5	42.9
	Crustacea												
	Cladocera	9	3	6.0	37.5	6	-	3.0	35.3	-	2	1.0	28.6
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	1	0.5	5.9	-	-	-	-
	Insecta												
	Diptera												
	Parachironomus sp.	-	-	-	-	-	-	-	-	1	-	0.5	14.3
	Tanypus sp.	1	-	0.5	3.1	-	-	-	-	-	-	-	-
	Trichoptera												
	Neureclipsis crepuscularis	-	1	0.5	3.1	1	1	1.0	11.8	-	-	-	-
	Ephemeroptera												
	Stenonema interpunctatum	-	-	-	-	-	-	-	-	1	-	0.5	14.3

APPENDIX TABLE E-36
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
13 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Mid-depth (continued)	Total individuals	21	11	16.0		11	6	8.5		3	4	3.5	
	Volume filtered (m^3)	19.3	18.5	18.9		19.1	19.7	19.4		19.2	17.4	18.3	
	Individuals/m^3	1.1	0.6	0.9		0.6	0.3	0.5		0.2	0.2	0.2	
Bottom	Hydrozoa												
	Hydra sp.	11	3	7.0	63.6	2	2	2.0	28.6	3	11	7.0	25.9
	Crustacea												
	Cladocera	4	1	2.5	22.7	6	1	3.5	50.0	4	5	4.5	16.7
	Copepoda	1	-	0.5	4.5	-	-	-	-	-	-	-	-
	Gastropoda												
	Physa sp.	-	-	-	-	-	-	-	-	1	-	0.5	1.9
	Insecta												
	Diptera												
	Parachironomus sp.	-	-	-	-	-	-	-	-	9	14	11.5	42.6
	Trichoptera												
	Neureclipsis crepuscularis	1	-	0.5	4.5	3	-	1.5	21.4	-	-	-	-
	Ephemeroptera												
	Stenonema interpunctatum	-	1	0.5	4.5	-	-	-	-	2	5	3.5	12.9
	Total individuals	17	5	11.0		11	3	7.0		19	35	27.0	
	Volume filtered (m^3)	18.8	18.3	18.6		19.2	18.6	18.9		19.5	20.0	19.8	
	Individuals/m^3	0.9	0.3	0.6		0.6	0.2	0.4		1.0	1.7	1.4	

APPENDIX TABLE E-37

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
20 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	1	-	0.5	33.3	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera	-	-	-	-	5	-	2.5	50.0	98	8	53.0	100.0
	Insecta												
	Diptera												
	Dicrotendipes modestus	1	1	1.0	66.7	-	-	-	-	-	-	-	-
	Polypedilum halterale	-	-	-	-	1	4	2.5	50.0	-	-	-	-
	Total individuals	2	1	1.5		6	4	5.0		98	8	53.0	
	Volume filtered (m^3)	16.6	15.9	16.3		15.5	13.2	14.4		15.5	16.7	16.1	
	Individuals/m^3	0.1	0.1	0.1		0.4	0.3	0.4		6.3	0.5	3.4	
Mid-depth	Crustacea												
	Cladocera	-	-	-	-	-	-	-	-	8	5	6.5	86.7
	Insecta												
	Diptera												
	Polypedilum halterale	1	2	1.5	100.0	-	-	-	-	-	-	-	-
	Trichoptera												
	Neureclipsis crepuscularis	-	-	-	-	2	-	1.0	100.0	-	2	1.0	13.3
	Total individuals	1	2	1.5		2	0	1.0		8	7	7.5	
	Volume filtered (m^3)	16.6	16.9	16.8		16.8	16.1	16.5		18.2	16.8	17.5	
	Individuals/m^3	0.1	0.1	0.1		0.1	0.0	0.1		0.4	0.4	0.4	

APPENDIX TABLE E-37
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
20 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Cladocera	3	7	5.0	100.0	9	5	7.0	70.0	72	24	48.0	100.0
	Insecta												
	Diptera												
	Polypedilum halterale	-	-	-	-	4	2	3.0	30.0	-	-	-	-
	Total individuals	3	7	5.0		13	7	10.0		72	24	48.0	
	Volume filtered (m^3)	12.7	11.6	12.2		14.6	14.7	14.7		15.5	15.0	15.3	
	Individuals/m^3	0.2	0.6	0.4		0.9	0.5	0.7		4.7	1.6	3.2	

APPENDIX TABLE E-38

DRIFT MACROVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
27 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	-	2	1.0	1.1	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera	59	59	59.0	66.3	23	19	21.0	73.7	3	5	4.0	30.8
	Copepoda	29	28	28.5	32.0	9	6	7.5	26.3	5	12	8.5	65.4
	Insecta												
	Diptera												
	Polypedilum halterale	-	-	-	-	-	-	-	-	1	-	0.5	3.8
	Ephemeroptera												
	Caenis sp.	1	-	0.5	0.6	-	-	-	-	-	-	-	-
	Total individuals	89	89	89		32	25	28.5		10	16	13	
	Volume filtered (m^3)	16.4	16.7	16.6		15.7	16.1	15.9		13.2	13.5	13.4	
	Individuals/m^3	5.4	5.3	5.4		2.0	1.6	1.8		0.8	1.2	1.0	
Mid-depth	Hydrozoa												
	Hydra sp.	-	-	-	-	1	-	0.5	3.6		-	-	-
	Crustacea												
	Cladocera	20	18	19.0	65.5	10	4	7.0	50.0	21	38	29.5	79.7
	Copepoda	6	9	7.5	25.9	6	6	6.0	42.8	5	9	7.0	18.9
	Insecta												
	Diptera												
	Orthocladius sp.	-	3	1.5	5.2	-	-	-	-	-	-	-	-
	Polypedilum halterale	-	-	-	-	-	1	0.5	3.6	-	-	-	-
	Procladius sp.	-	-	-	-	-	-	-	-	1	-	0.5	1.4
	Ephemeroptera												
	Caenis sp.	1	1	1.0	3.4	-	-	-	-	-	-	-	-
	Total individuals	27	31	29.0		17	11	14.0		27	47	37.0	
	Volume filtered (m^3)	15.6	16.6	16.1		17.3	17.0	17.2		15.3	13.8	14.6	
	Individuals/m^3	1.7	1.9	1.8		1.0	0.6	0.8		1.8	3.4	2.6	

APPENDIX TABLE E-38
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
27 JULY 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Crustacea												
	Cladocera	9	15	12.0	54.5	15	19	17.0	20.2	7	13	10.0	40.8
	Copepoda	7	5	6.0	27.3	67	65	66.0	78.6	25	2	13.5	55.1
	Ostracoda	-	-	-	-	2	-	1.0	1.2	-	-	-	-
	Insecta												
	Diptera												
	Cricotopus sp.	1	-	0.5	2.3	-	-	-	-	-	-	-	-
	Orthocladius sp.	3	1	2.0	9.1	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Caenis sp.	1	2	1.5	6.8	-	-	-	-	2	-	1.0	4.1
	Total individuals	21	23	22.0		84	84	84.0		34	15	24.5	
	Volume filtered (m^3)	12.4	13.3	12.9		15.8	15.3	15.6		18.9	20.1	19.5	
	Individuals/m^3	1.7	1.7	1.7		5.3	5.5	5.4		1.8	0.7	1.3	

APPENDIX TABLE E-39

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
3 AUGUST 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	4	10	7.0	18.7	-	17	8.5	51.5	3	3	3.0	60.0
	Crustacea												
	Cladocera	15	7	11.0	29.3	8	6	7.0	42.4	1	3	2.0	40.0
	Copepoda	29	10	19.5	52.0	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Orthocladius sp.	-	-	-	-	2	-	1.0	6.1	-	-	-	-
	Total individuals	48	27	37.5		10	23	16.5		4	6	5.0	
	Volume filtered (m^3)	15.9	17.0	16.5		16.5	15.8	16.2		16.5	16.5	16.5	
	Individuals/m^3	3.0	1.6	2.3		0.6	1.5	1.1		0.2	0.4	0.3	
Mid-depth	Hydrozoa												
	Hydra sp.	24	17	20.5	21.5	25	25	25.0	26.8	22	19	20.5	30.1
	Crustacea												
	Cladocera	63	81	72.0	75.4	56	72	64.0	68.4	44	45	44.5	65.4
	Copepoda	3	2	2.5	2.6	1	6	3.5	3.8	2	2	2.0	2.9
	Insecta												
	Diptera												
	Orthocladius sp.	-	-	-	-	2	-	1.0	1.0	2	-	1.0	1.5
	Ephemeroptera												
	Caenis sp.	-	1	0.5	0.5	-	-	-	-	-	-	-	-
	Total individuals	90	101	95.5		84	103	93.5		70	66	68.0	
	Volume filtered (m^3)	16.5	15.6	16.2		15.8	16.8	16.3		14.2	14.1	14.2	
	Individuals/m^3	5.5	6.4	6.0		5.3	6.1	5.7		4.9	4.7	4.8	

APPENDIX TABLE E-39
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
3 AUGUST 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra Sp.	-	36	18.0	13.9	13	20	16.5	16.6	24	35	29.5	25.9
	Crustacea												
	Cladocera	112	79	95.5	73.7	95	57	76.0	76.4	81	77	79.0	69.3
	Copepoda	-	3	1.5	1.2	3	3	3.0	3.0	3	5	4.0	3.5
	Amphipoda												
	Gammarus pseudolimnaeus	-	-	-	-	-	1	0.5	0.5	-	-	-	-
	Insecta												
	Diptera												
	Orthocladius Sp.	2	2	2.0	1.5	3	3	3.0	3.0	2	1	1.5	1.3
	Polypedilum halterale	-	-	-	-	1	-	0.5	0.5	-	-	-	-
	Ephemeroptera												
	Caenis Sp.	-	1	0.5	0.4	-	-	-	-	-	-	-	-
	Total individuals	138	121	129.5		115	84	99.5		110	118	114.0	
	Volume filtered (m^3)	15.3	15.6	15.5		12.9	12.0	12.5		18.4	17.8	18.1	
	Individuals/m^3	9.0	7.7	8.4		8.9	7.0	8.0		6.0	6.6	6.3	

APPENDIX TABLE E-40

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
10 AUGUST 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	27	27	27.0	94.7	29	2	15.5	93.9	12	14	13.0	74.2
	Oligochaeta												
	Tubificidae	-	-	-	-	-	-	-	-	1	-	0.5	2.9
	Crustacea												
	Cladocera	1	-	0.5	1.8	1	1	1.0	6.1	-	6	3.0	17.1
	Acarina												
	Hydrachna sp.	1	-	0.5	1.8	-	-	-	-	-	-	-	-
	Insecta												
	Trichoptera												
	Hydropsyche orris	-	-	-	-	-	-	-	-	1	-	0.5	2.9
	Ephemeroptera												
	Stenonema interpunctatum	1	-	0.5	1.8	-	-	-	-	1	-	0.5	2.9
	Total individuals	30	27	28.5		30	3	16.5		15	20	17.5	
	Volume filtered (m^3)	20.6	18.1	19.4		16.8	15.6	16.2		16.8	16.9	16.9	
	Individuals/m^3	1.4	1.4	1.4		1.8	0.2	1.0		0.9	1.2	1.1	
Mid-depth	Hydrozoa												
	Hydra sp.	35	11	23.0	94.0	27	27	27.0	90.0	22	30	26.0	70.2
	Crustacea												
	Cladocera	1	-	0.5	2.0	1	3	2.0	6.7	5	15	10.0	27.0
	Acarina												
	Hydrachna sp.	-	-	-	-	-	2	1.0	3.3	-	-	-	-

APPENDIX TABLE F-40
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
10 AUGUST 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Mid-depth (continued)	Insecta												
	Diptera												
	Ablabesmyia rhamphe	1	-	0.5	2.0	-	-	-	-	-	1	0.5	1.4
	Polypedilum halterale	-	-	-	-	-	-	-	-	-	-	-	-
	Trichoptera												
	Potamyia flava	1	-	0.5	2.0	-	-	-	-	-	-	-	-
	Coleoptera												
	Helodidae	-	-	-	-	-	-	-	-	1	-	0.5	1.4
	Total individuals	38	11	24.5		28	32	30.0		28	46	37.0	
	Volume filtered (m^3)	18.9	18.9	18.9		15.6	17.3	16.5		17.7	17.3	17.5	
	Individuals/m^3	2.0	0.6	1.3		1.8	1.8	1.8		1.6	2.7	2.2	
Bottom	Hydrozoa												
	Hydra sp.	47	28	37.5	96.2	11	9	10.0	71.4	24	30	27.0	44.6
	Crustacea												
	Cladocera	2	-	1.0	2.5	2	4	3.0	21.4	34	28	31.0	51.1
	Insecta												
	Diptera												
	Ablabesmyia rhamphe	-	-	-	-	1	-	0.5	3.6	-	-	-	-
	Bezzia sp.	-	-	-	-	1	-	0.5	3.6	-	-	-	-
	Polypedilum halterale	-	-	-	-	-	-	-		2	-	1.0	1.7
	Tanypus sp.	-	1	0.5	1.3	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenonema interpunctatum	-	-	-	-	-	-	-	-	2	-	1.0	1.7
	Trichoptera												
	Potamyia flava	-	-	-	-	-	-	-	-	-	1	0.5	0.9

APPENDIX TABLE E-40
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
10 AUGUST 1978

		Station 1				Station 3				Station 5			
Depth	Species	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom (continued)	Total individuals	49	29	39.0		15	13	14.0		62	59	60.5	
	Volume filtered (m^3)	18.4	19.1	18.8		17.9	17.9	17.9		14.3	12.2	13.3	
	Individuals/m^3	2.6	1.5	2.1		0.8	0.7	0.8		4.3	4.8	4.6	

APPENDIX TABLE E-41

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
16 AUGUST 1978

		Station 1				Station 3				Station 5			
Depth	Species	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Hydrozoa												
	Hydra sp.	1	-	0.5	25.0	-	-	-	-	-	1	0.5	10.0
	Crustacea												
	Cladocera	-	2	1.0	50.0	1	10	5.5	78.6	3	5	4.0	80.0
	Insecta												
	Trichoptera												
	Potamyia flava	-	1	0.5	25.0	2	1	1.5	21.4	1	-	0.5	10.0
	Total individuals	1	3	2.0		3	11	7.0		4	6	5.0	
	Volume filtered (m^3)	13.7	14.5	14.1		16.4	14.6	15.5		16.1	15.2	15.7	
	Individuals/m^3	0.1	0.2	0.2		0.2	0.8	0.5		0.2	0.4	0.3	
Mid-depth	Hydrozoa												
	Hydra sp.	1	-	0.5	4.8	-	-	-	-	-	-	-	-
	Crustacea												
	Cladocera	4	15	9.5	90.4	9	3	6.0	75.0	9	25	18.0	100.0
	Insecta												
	Diptera												
	Polypedilum halterale	-	-	-	-	-	1	0.5	6.2	-	-	-	-
	Trichoptera												
	Potamyia flava	1	-	0.5	4.8	-	3	1.5	18.8	-	-	-	-
	Total individuals	6	15	10.5		9	7	8.0		9	25	18.0	
	Volume filtered (m^3)	16.0	15.8	15.9		14.5	16.2	15.4		15.0	14.9	15.0	
	Individuals/m^3	0.4	1.0	0.7		0.6	0.4	0.5		0.6	1.7	1.2	

APPENDIX TABLE E-41
(continued)
DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
16 AUGUST 1978

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Bottom	Hydrozoa												
	Hydra sp.	4	4	4.0	47.1	1	1	1.0	11.1	-	-	-	-
	Crustacea												
	Cladocera	2	7	4.5	52.9	9	5	7.0	77.9	3	11	7.0	82.4
	Insecta												
	Diptera												
	Polypedilum halterale	-	-	-	-	-	1	0.5	5.5	-	-	-	-
	Trichoptera												
	Potamyia flava	-	-	-	-	1	-	0.5	5.5	1	2	1.5	17.6
	Total individuals	6	11	8.5		11	7	9.0		4	13	8.5	
	Volume filtered (m^3)	15.5	14.5	15.0		15.4	15.2	15.3		17.0	15.9	16.5	
	Individuals/m^3	0.4	0.8	0.6		0.7	0.5	0.6		0.2	0.8	0.5	

APPENDIX TABLE E-42

OCCURRENCE OF MACROINVERTEBRATE SPECIES IN LARVAL FISH TRAPS
MARBLE HILL PLANT SITE
1978

Species	Number of organisms/Sampling date																	
	22 Mar	8 Apr	21 Apr	5 May	17 May	30 May	6 Jun	13 Jun	19 Jun	26 Jun	6 Jul	13 Jul	20 Jul	27 Jul	3 Aug	10 Aug	16 Aug	
PLATYHELMINTHES																		
Turbellaria																		
Phagocata velata	-	-	1	-	-	-	-	1	-	-	1	-	-	-	-	-	-	
ANNELIDA																		
Oligochaeta																		
immature tubificids	-	-	-	-	-	-	-	-	2	6	-	3	-	-	-	-	-	
ARTHROPODA																		
Crustacea																		
ostracods																		
Daphnia sp.	-	3	5	7	-	-	-	-	-	-	-	-	-	-	-	-	-	
copepods																		
Diaptomus sp.	-	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	
isopods																		
Lirceus fontinalis	2	5	3	2	4	2	4	1	1	2	3	1	1	-	-	-	-	
amphipods																		
Synurella dentata	-	-	1	-	-	-	2	1	-	-	-	2	1	-	-	-	-	
crayfish																		
Orconectes sp.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Insecta																		
Diptera																		
Cardiocladius sp.	-	-	1	-	-	3	-	1	-	-	2	2	-	-	1	-	-	
Cryptochironomus fulvus	-	-	-	1	-	-	-	-	1	-	-	-	1	1	1	-	-	
Dicrotendipes modestus	-	-	1	2	1	-	3	-	1	2	1	3	1	-	-	1	-	
Eukiefferiella sp.	-	-	1	1	-	1	-	-	-	-	-	-	-	1	-	1	-	
Polypedilum halterale	-	-	-	-	-	-	-	-	1	1	-	-	-	2	-	1	4	
Trichoptera																		
Cheumatopsyche sp.	-	-	-	-	-	-	-	-	-	-	-	1	-	1	3	1	-	
Hydropsyche sp.	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	1	1	
Ephemeroptera																		
Baetis intercalaris	-	-	-	-	1	-	-	-	-	-	-	2	1	1	-	-	-	
Heterocleon sp.	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	
Stenonema interpunctatum	-	-	-	1	-	-	-	-	-	-	1	-	1	1	-	-	1	
Coleoptera																		
Dubiraphia sp.	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
Psephenus herricki	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	-	1	
Collembola																		
Isotomurus palustris	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	-	
TOTALS	3	11	14	17	8	6	9	4	6	12	8	15	9	12	8	5	7	

APPENDIX TABLE F-1A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
21-22 MARCH 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1A	nothing collected	-	-	-
1B	nothing collected	-	-	-
3A	sauger	350	365	0.85
	Individuals/replicate	1		
3B	nothing collected	-	-	-
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	channel catfish	294	250	0.98
	Individuals/replicate	1		

APPENDIX TABLE F-1B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
22-23 MARCH 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (K)
1A	none collected	-	-	-
1B	none collected	-	-	-
3A	none collected	-	-	-
3B	longnose gar	540	310	0.20
	Individuals/replicate	1		
5A	none collected[a]	-	-	-
5B	longnose gar	489	250	0.21
	Individuals/replicate	1		
14A	none collected[a]	-	-	-
14B	sauger	405	550	0.83
		365	400	0.82
	Individuals/replicate	2		

[a]Net was partially torn away by drifting trees.

APPENDIX TABLE F-2A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
23-24 MAY 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (K)
1A	longnose gar	535	350	0.23
	channel catfish	414	720	1.01
	freshwater drum	230	205	1.68
	Individuals/replicate	3		
1B	channel catfish	376	590	1.11
	Individuals/replicate	1		
3A	longnose gar	641	630	0.24
	Individuals/replicate	1		
3B	none collected[a]	-	-	-
5A	flathead catfish	415	890	1.25
	freshwater drum	230	230	1.89
	Individuals/replicate	2		
5B	sauger	260	160	0.91
	Individuals/replicate	1		
14A	channel catfish	476	1270	1.18
		282	200	0.89
	longnose gar	523	310	0.22
		552	390	0.23
	freshwater drum	225	215	1.89
		340	510	1.30
		192	105	1.48
	Individuals/replicate	7		
14B	none collected	-	-	-

[a]Net partially torn away by drifting trees.

APPENDIX TABLE F-2B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
24-25 MAY 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (K)
1A	none collected	-	-	-
1B	none collected	-	-	-
3A	none collected	-	-	-
3B	longnose gar	696	790	0.23
	Individuals/replicate	1		
5A	sauger	474	900	0.85
	longnose gar	718	1020	0.28
	flathead catfish	481	1170	1.05
	rock bass	148	100	3.08
	Individuals/replicate	4		
5B	channel catfish	244	122	0.84
	freshwater drum	235	220	1.70
	Individuals/replicate	2		
14A	freshwater drum	320	410	1.25
	longnose gar	580	475	0.24
	Individuals/replicate	2		
14B	buffalo	350[a]	-	-
	flathead catfish	345	340	0.83
		316	300	0.95
	freshwater drum	208	140	1.56
		257	255	1.50
		281	380	1.71
	Individuals/replicate	6		

[a]Escaped before weighing.

APPENDIX TABLE F-3A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
17-18 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1A	longnose gar	832	1450	0.25
	flathead catfish	395	630	1.02
	sauger	413	570	0.81
	white bass	262	260	1.44
		300	330	1.22
	gizzard shad	278	190	0.88
		187	80	1.22
		198	110	1.42
		178	80	1.42
	white crappie	211	140	1.49
	largemouth bass	221	170	1.57
	highfin carpsucker	192	90	1.27
	golden redhorse	385	420	0.74
		283	360	1.59
	Individuals/replicate	14		
1B	carp	259	620	3.57
	gizzard shad	239	130	0.95
	Individuals/replicate	2		
3A	longnose gar	905	1850	0.25
	river carpsucker	438	920	1.09
	carp	380	700	1.28
		410	1040	1.51
	white bass	300	390	1.44
	mooneye	348	410	0.97
	highfin carpsucker	189	90	1.33
	largemouth bass	196	110	1.46
		203	120	1.43
	Individuals/replicate	9		
3B	longnose gar	1330	7300	0.31
		823	1530	0.27
	freshwater drum	405	860	1.29
	largemouth bass	210	140	1.51

APPENDIX TABLE F-3A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
17-18 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
3B (cont.)	white bass	253	210	1.30
		282	350	1.56
	carp	402	960	1.48
	mooneye	345	410	1.00
	highfin carpsucker	235	210	1.60
		178	80	1.42
	gizzard shad	297	260	0.99
	river carpsucker	409	750	1.10
	Individuals/replicate	12		
5A	longnose gar	560	370	0.21
	flathead catfish	410	620	0.90
		338	380	0.98
		408	780	1.15
	channel catfish	406	600	0.90
		350	370	0.86
	largemouth bass	236	170	1.29
	white bass	264	260	1.41
		223	150	1.35
		343	590	1.46
	freshwater drum	360	610	1.31
	carp	380	700	1.28
	highfin carpsucker	190	100	1.46
	gizzard shad	294	250	0.98
	Individuals/replicate	14		
5B	longnose gar	930	1880	0.23
		795	1440	0.29
	carp	435	1070	1.30
		404	890	1.35
		236	220	1.67
	white bass	247	210	1.39
	flathead catfish	403	770	1.18
	channel datfish	480	780	0.71
	freshwater drum	440	1080	1.27
	gizzard shad	276	200	0.95
		205	80	0.93
	Individuals/replicate	11		

APPENDIX TABLE F-3A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
17-18 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
14A	longnose gar	580	460	0.24
		1080	4000	0.32
		635	520	0.20
	channel catfish	400	590	0.92
		395	600	0.97
		367	440	0.89
		365	580	1.19
		372	430	0.84
	flathead catfish	415	770	1.08
	largemouth bass	300	420	1.56
		315	415	1.33
		243	280	1.95
	mooneye	390	690	1.16
	gizzard shad	243	140	0.98
		205	90	1.04
		200	70	0.87
		194	70	0.96
		196	60	0.80
	highfin carpsucker	162	50	1.18
	Individuals/replicate	19		
14B	yellow bullhead	575	2050	1.08
		480	1100	0.99
	flathead catfish	420	750	1.01
	freshwater drum	350	700	1.63
	carp	425	1000	1.30
	Individuals/replicate	5		

APPENDIX TABLE F-3B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
18-19 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1A	river carpsucker	420	900	1.21
	largemouth bass	267	300	1.58
	white bass	212	180	1.89
		243	210	1.46
	gizzard shad	178	60	1.06
	longnose gar	750	1150	0.27
	Individuals/replicate	6		
1B	smallmouth bass	285	320	1.38
	Individuals/replicate	1		
3A	flathead catfish	370	500	0.99
	largemouth bass	173	100	1.93
	gizzard shad	262	180	1.00
	Individuals/replicate	3		
3B	mooneye	415	900	1.26
	largemouth bass	240	150	1.09
		225	110	0.97
		200	100	1.25
	channel catfish	220	110	1.03
	longnose gar	610	500	0.22
	Individuals/replicate	6		
5A	carp	445	1300	1.48
	white bass	345	620	1.51
		275	310	1.49
		270	280	1.42
	largemouth bass	215	200	2.01
	highfin carpsucker	200	110	1.37
		165	90	2.00
	gizzard shad	255	170	1.03
	mooneye	373	560	1.08
	quillback	385	740	1.30
	longnose gar	895	1750	0.24
	Individuals/replicate	11		

APPENDIX TABLE F-3B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
18-19 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
5B	flathead catfish	530	1700	1.14
		350	500	1.17
	channel catfish	395	500	0.81
		340	400	1.02
	largemouth bass	263	300	1.65
		290	400	1.64
	white bass	350	600	1.40
	gizzard shad	330	450	1.25
	river carpsucker	425	950	1.24
	longnose gar	1190	5000	0.30
	Individuals/replicate	10		
14A	carp	410	1900	2.76
	channel catfish	465	1000	0.99
	longnose gar	910	2000	0.27
		600	500	0.23
		600	500	0.23
	gizzard shad	200	110	1.37
		200	110	1.37
		200	110	1.37
		190	100	1.46
		185	100	1.58
	smallmouth bass	235	200	1.54
	Individuals/replicate	11		
14B	carp	465	1500	1.49
	white bass	240	200	1.45
	largemouth bass	270	250	1.27
	freshwater drum	320	400	1.22
		340	510	1.30
	channel catfish	390	600	1.01
		355	580	1.30
	sauger	240	300	2.17
	Individuals/replicate	8		

APPENDIX TABLE F-4A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
15-16 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1A	flathead catfish	528	1810	1.23
		438	870	1.04
	channel catfish	425	700	0.91
		466	1020	1.01
		410	630	0.91
		372	440	0.85
		433	770	0.95
		470	1000	0.96
	golden redhorse	382	700	1.26
		433	980	1.21
		455	1130	1.20
		440	1120	1.31
	sauger	408	640	0.94
		400	650	1.02
		474	900	0.85
		422	670	0.89
		382	490	0.88
	white bass	257	210	1.24
		279	290	1.34
		252	180	1.12
	largemouth bass	265	230	1.24
	gizzard shad	241	110	0.79
		274	190	0.92
		277	220	1.04
		265	170	0.91
		257	180	1.06
		257	185	1.09
	river carpsucker	418	910	1.25
		436	1110	1.34
	Individuals/replicate	29		
1B	channel catfish	502	1100	0.87
		410	720	1.04
		517	1350	0.98
		403	590	0.90
		444	730	0.83
		388	390	0.65
		367	410	0.83
		392	530	0.88
		397	530	0.85

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
15-16 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1B (cont.)	gizzard shad	337	490	1.28
		329	390	1.10
	goldeye	235	90	0.69
	golden redhorse	330	390	1.09
	Individuals/replicate	13		
3A	mooneye	610	381	0.17
	goldeye	580	340	0.17
	black crappie	235	110	0.85
	sauger	310	180	0.60
	gizzard shad	252	130	0.81
		266	230	1.22
	Individuals/replicate	6		
3B	gizzard shad	350	270	0.63
		250	180	1.15
		375	210	0.40
		275	220	1.06
	sauger	280	180	0.82
		400	610	0.95
		435	820	1.00
	flathead catfish	420	800	1.08
	goldeye	590	385	0.19
		355	420	0.94
	largemouth bass	300	420	1.56
		320	590	1.80
	Individuals/replicate	12		
5A	channel catfish	422	700	0.93
		500	1360	1.09
		372	520	1.01
		440	700	0.82
		386	590	1.03
		392	510	0.85
		455	820	0.87
		250	120	0.77

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
15-16 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
5A (cont.)	carp	414	1020	1.44
	golden redhorse	410	850	1.23
	goldeye	400	780	1.22
	gizzard shad	330	490	1.36
		278	280	1.30
		277	290	1.36
		270	280	1.42
		242	190	1.34
		270	260	1.32
	mooneye	227	160	1.37
	sauger	393	610	1.00
	highfin carpsucker	245	270	1.84
	Individuals/replicate	20		
5B	gizzard shad	318	460	1.43
		345	500	1.22
		257	220	1.30
		308	390	1.33
		272	310	1.54
		260	270	1.54
		245	220	1.50
	mooneye	260	160	0.91
		340	370	0.94
		286	310	1.33
		246	170	1.14
	channel catfish	465	970	0.96
		402	880	1.35
		425	640	0.83
		372	420	0.82
		382	480	0.86
		412	620	0.89
		292	205	0.82
		405	630	0.95
	sauger	416	710	0.99
		412	610	0.87
	carp	482	1880	1.68
	golden redhorse	332	470	1.28
	Individuals/replicate	23		

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
15-16 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
14A	channel catfish	491	295	0.25
		493	1050	0.88
		423	770	1.02
		408	540	0.80
		298	240	0.91
	sauger	252	115	0.72
		308	290	0.99
		422	810	1.08
	freshwater drum	280	310	1.41
	gizzard shad	243	220	1.53
	bluegill	152	80	2.28
	golden redhorse	409	830	1.21
	Individuals/replicate	12		
14B	channel catfish	273	190	0.93
		280	195	0.89
	carp	333	820	2.22
	freshwater drum	308	835	2.86
	gizzard shad	271	290	1.46
		275	280	1.35
		271	230	1.16
		242	205	1.45
		260	260	1.48
	sauger	466	1015	1.00
	white bass	262	240	1.33
	river carpsucker	163	75	1.73
	Individuals/replicate	12		

APPENDIX TABLE F-4B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
16-17 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
1A	gizzard shad	314	390	1.26
	channel catfish	450	860	0.94
	golden redhorse	410	880	1.28
	Individuals/replicate	3		
1B	sauger	479	1190	1.08
	flathead catfish	423	790	1.04
	golden redhorse	417	870	1.20
		335	410	1.09
	mooneye	260	190	1.08
	Individuals/replicate	5		
3A	gizzard shad	393	300	0.49
	river carpsucker	243	210	1.46
	Individuals/replicate	2		
3B	sauger	402	630	0.97
		330	230	0.64
		266	100	0.53
	golden redhorse	207	50	0.56
	Individuals/replicate	4		
5A	channel catfish	249	90	0.58
		457	910	0.95
		509	1300	0.99
	sauger	305	190	0.67
		245	100	0.68
	gizzard shad	322	370	1.11
		302	300	1.09
		270	210	1.07
		262	180	1.00
		296	290	1.12
	Individuals/replicate	10		

APPENDIX TABLE F-4B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
16-17 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(k)
5B	gizzard shad	300	340	1.26
		305	300	1.06
		247	130	0.86
		295	295	1.15
		295	310	1.21
		290	290	1.19
	mooneye	276	210	1.00
		210	90	0.97
	channel catfish	385	510	0.89
		415	720	1.01
	sauger	395	610	0.99
		325	290	0.84
	carp	445	1310	1.49
		410	900	1.31
	white bass	203	90	1.08
	golden redhorse	325	325	0.95
		370	610	1.20
	Individuals/replicate	17		
14A	gizzard shad	280	270	1.23
		325	400	1.17
	channel catfish	460	880	0.90
	freshwater drum	425	950	1.24
	flathead catfish	480	1500	1.36
	golden redhorse	410	890	1.29
	Individuals/replicate	6		
14B	sauger	300	210	0.78
	gizzard shad	290	290	1.19
		278	210	0.98
		300	230	0.85
	mooneye	285	540	2.33
	channel catfish	530	1850	1.24
	Individuals/replicate	6		

APPENDIX TABLE F-5

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
21 MARCH 1978

Station and Replicate	Species	Total length (mm)	Weight (g)	Condition factor (K)
1A	none collected	-	-	-
1B	none collected	-	-	-
3A	none collected	-	-	-
3B	none collected	-	-	-
5A	none collected	-	-	-
5B	none collected	-	-	-
14A	none collected	-	-	-
14B	none collected	-	-	-

APPENDIX TABLE F-6

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5, AND 14
MARBLE HILL PLANT SITE
23 MAY 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (K)
1A	none collected	-	-	-
1B	none collected	-	-	-
3A	none collected	-	-	-
3B	river carpsucker	381	660	1.19
	channel catfish	132	25	1.09
		156	30	0.79
	emerald shiner	66	3	0.35
5A	white bass	262	240	1.33
5B	sauger	167	50	1.07
14A	none collected	-	-	-
14B	none collected	-	-	-

APPENDIX TABLE F-7

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
17 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(K)
1A	gizzard shad	87	10	1.52
1B	gizzard shad	230	140	1.15
		201	125	1.54
		160	55	1.34
		190	95	1.39
		60	3	1.39
		73	5	1.29
		71	5	1.40
		64	4	1.53
3A	gizzard shad	150	30	0.89
		82	10	1.81
		76	6	1.37
3B	nothing collected			
5A	gizzard shad	221	110	1.02
		200	90	1.12
		189	80	1.18
		183	80	1.31
		87	10	1.52
		90	10	1.37
		86	10	1.57
		65	5	1.82
	emerald shiner	68	4	1.27
5B	gizzard shad	97	13	1.42
		80	10	1.95
		73	6	1.54
		70	6	1.75
		82	6	1.09
		68	5	1.59
		72	5	1.34
	emerald shiner (13)	45-60	25	-

APPENDIX TABLE F-7
(continued)
RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
17 AUGUST 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(K)
14A	gizzard shad	202	100	1.21
		250	180	1.15
		210	120	1.30
		65	5	1.82
	emerald shiner (71)	35-70	120	-
14B	gizzard shad	180	90	1.54
		111	40	2.92
		89	10	1.42
		72	5	1.34
		66	5	1.74
	emerald shiner (36)	52-60	80	-
	green sunfish	134	20	0.83

APPENDIX TABLE F-8

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
14 NOVEMBER 1978

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor(K)
1A	gizzard shad	119	40	2.37
1B	gizzard shad	241	110	0.79
	emerald shiner	40	<1	-
		50	<1	-
3A	gizzard shad	93	25	3.11
		116	35	2.24
	emerald shiner	<50	-	-
3B	gizzard shad	131	50	2.22
		123	40	2.15
	emerald shiner	<50	-	-
	freshwater drum	92	10	1.28
5A	sauger	280	180	0.82
	gizzard shad	251	230	1.45
	emerald shiner (8)	<50	-	-
5B	freshwater drum	110	50	3.76
	gizzard shad	140	40	1.46
		133	35	1.49
		250	245	1.57
14A	gizzard shad	242	205	1.45
	white bass	260	240	1.37
14B	gizzard shad	271	290	1.46
		293	300	1.19

APPENDIX TABLE F-9

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
21 MARCH 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	stoneroller	2	46-59	2.4
	mimic shiner	1	57	2.2
	shiner	1	40	0.7
	blacknose dace	11	32-58	15.5
	white sucker	2	86-90	24.6
	fantail darter	5	46-69	12.5
B	blacknose dace	9	36-57	13.6
	creek chub	2	47-52	3.6
	white sucker	1	79	7.5
	green sunfish	1	64	6.7
	Total	35		89.3
	Mean of replicates	17.5		44.65

APPENDIX TABLE F-10

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
23 MAY 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	creek chub	1	198	113.6
B	creek chub	1	125	27.4
	blacknose dace	1	54	2.1
	Total	3		143.1
	Mean of replicates	1.5		71.55

APPENDIX TABLE F-11

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
3 AUGUST 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	fantail darter	4	ca. 49-59	-
	sunfish (*Lepomis* sp)	4	32-40	-
	green sunfish	1	84	-
	creek chub	3	47-64	-
		3	75-92	-
	stoneroller	3	67-87	-
		31	40-58	-
	blacknose dace	8	47-62	-
	shiner (*Notropis* sp.)	4	32-43	-
	minnow	5	45-60	-
B	blacknose dace	3	54-60	7.6
	creek chub	4	59-69	13.5
	stoneroller	5	49-62	11.5
	shiner (*Notropis* sp.)	2	32-34	0.7
	fantail darter	1	53	2.3
	Total	81		
	Mean of replicates	40.5		

APPENDIX TABLE F-12

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
21 NOVEMBER 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	emerald shiner	46	35-72	52
	creek chub	1	45	1
B	emerald shiner	42	36-73	50
	rosyface shiner	1	40	1
	blacknose dace	1	67	4
	Total	91		
	Mean of replicates	45.5		

APPENDIX TABLE F-13

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
21 MARCH 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	blacknose dace	4	51-60	7.8
	creek chub	1	122	27.4
	redhorse	1	59	3.0
B	striped shiner	1	60	2.3
	blacknose dace	2	48-58	3.6
	creek chub	1	71	4.9
	fantail darter	1	61	3.3
	Total	11		52.3
	Mean of replicates	5.5		26.15

APPENDIX TABLE F-14

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
23 MAY 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	black bullhead	2	107-115	41.9
B	none collected	-	-	-
	Total	2		41.9
	Mean of replicates	1		20.95

APPENDIX TABLE F-15

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
3 AUGUST 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	bluegill	3	39-42	3.2
	creek chub	2	46-51	2.8
	striped shiner	5	35-44	2.9
B	creek chub	3	62-71	11.1
	bluegill	1	34	0.7
	stoneroller	1	51	1.4
	Total	15		22.1
	Mean of replicates	7.5		11.05

APPENDIX TABLE F-16

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
21 NOVEMBER 1978

Replicate	Species	Number of individuals	Range of total lengths(mm)	Total weight(g)
A	emerald shiner	292	35-87	478
	bluegill	1	55	3
B	emerald shiner	96	35-73	103
	bluegill	1	61	4
	Total	390		588
	Mean of replicates	195		294

APPENDIX TABLE G-1

RESULTS OF FIRST FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
22 MARCH 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-2

RESULTS OF SECOND FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
8 APRIL 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-3

RESULTS OF THIRD FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
21 APRIL 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	WALLEYE & SAUGER	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-4

RESULTS OF FOURTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
5 MAY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	SUCKERS	0.00	0.20	0.10	0.35	0.14	0.24	0.24	0.40	0.32
	WALLEYE & SAUGER	0.00	0.00	0.00	0.00	0.05	0.02	0.05	0.00	0.02
	TOTAL LARVAE	0.00	0.20	0.10	0.35	0.18	0.27	0.29	0.40	0.35
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	SUCKERS	0.23	0.23	0.23	0.64	0.22	0.43	0.36	0.44	0.40
	WALLEYE & SAUGER	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.23	0.28	0.25	0.64	0.22	0.43	0.36	0.44	0.40
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	SUCKERS	0.01	0.24	0.12	0.56	0.42	0.49	0.47	0.34	0.41
	WALLEYE & SAUGER	0.00	0.14	0.07	0.15	0.05	0.10	0.05	0.00	0.02
	TOTAL LARVAE	0.01	0.39	0.20	0.72	0.47	0.59	0.52	0.34	0.43
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	MINNOWS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	SUCKERS	0.64	0.65	0.64	0.98	0.00	0.49	0.33	0.46	0.40

APPENDIX TABLE G-4
(continued)
RESULTS OF FOURTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
5 MAY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	WALLEYE & SAUGER	0.04	0.04	0.04	0.04	0.00	0.02	0.00	0.00	0.00
	EGGS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	TOTAL LARVAE	0.68	0.69	0.68	1.06	0.00	0.53	0.33	0.46	0.40
	TOTAL EGGS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00

APPENDIX TABLE C-5

RESULTS OF FIFTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
17 MAY 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM $\bar{X}$
1	MINNOWS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	SUCKERS	0.66	0.65	0.66	0.61	0.34	0.47	3.04	0.96	1.00
	WALLEYE & SAUGER	0.04	0.16	0.10	0.00	0.13	0.06	0.04	0.05	0.04
	TOTAL LARVAE	0.70	0.81	0.76	0.65	0.47	0.56	1.08	1.00	1.04
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	GOLDEYE	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	1.02	0.59	0.80	0.83	0.90	0.87	0.89	0.64	0.76
	YELLOW PERCH	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	WALLEYE & SAUGER	0.54	0.38	0.46	0.14	0.04	0.09	0.00	0.08	0.04
	TOTAL LARVAE	1.59	1.01	1.30	0.97	0.94	0.96	0.89	0.72	0.81
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	SUCKERS	0.69	1.05	0.87	0.96	1.08	1.02	1.49	0.65	1.07
	WALLEYE & SAUGER	0.51	0.53	0.52	0.11	0.12	0.11	0.08	0.04	0.06
	DAMAGED LARVAE	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.24	1.58	1.41	1.07	1.20	1.13	1.57	0.69	1.13
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-5
(continued)
RESULTS OF FIFTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
17 MAY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	GOLDEYE	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
	SUCKERS	0.94	0.78	0.86	0.74	1.26	1.00	0.90	1.02	0.96
	YELLOW PERCH	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	WALLEYE & SAUGER	0.55	0.47	0.51	0.00	0.16	0.08	0.08	0.04	0.06
	TOTAL LARVAE	1.51	1.25	1.38	0.74	1.46	1.10	0.98	1.06	1.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-6

RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
30 MAY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	CARP	0.14	0.10	0.12	0.00	0.16	0.08	0.05	0.00	0.03
	SUCKERS	0.09	0.38	0.24	0.35	0.11	0.23	0.10	0.16	0.13
	WALLEYE & SAUGER	0.05	0.00	0.02	0.15	0.00	0.07	0.00	0.00	0.00
	TOTAL LARVAE	0.27	0.48	0.37	0.50	0.26	0.38	0.15	0.16	0.16
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	CARP	0.00	0.05	0.03	0.00	0.15	0.08	0.09	0.00	0.05
	SUCKERS	0.05	0.00	0.02	0.14	0.10	0.12	0.23	0.15	0.19
	TOTAL LARVAE	0.05	0.05	0.05	0.14	0.25	0.20	0.33	0.15	0.24
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	CARP	0.09	0.00	0.04	0.11	0.06	0.08	0.05	0.11	0.08
	SUCKERS	0.83	0.46	0.64	0.37	0.62	0.50	0.30	0.27	0.28
	WHITE BASS	0.09	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.03
	WALLEYE & SAUGER	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	TOTAL LARVAE	1.01	0.46	0.73	0.48	0.73	0.61	0.41	0.37	0.39
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	CARP	0.20	0.05	0.13	0.11	0.06	0.08	0.07	0.07	0.07

APPENDIX TABLE G-6
(continued)
RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
30 MAY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	SUCKERS	0.36	0.16	0.26	0.42	0.46	0.44	0.26	0.50	0.38
	WHITE BASS	0.05	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	SUNFISHES	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	WALLEYE & SAUGER	0.00	0.00	0.00	0.11	0.06	0.08	0.07	0.07	0.07
	EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07
	TOTAL LARVAE	0.61	0.27	0.44	0.64	0.57	0.60	0.39	0.64	0.52
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07

APPENDIX TABLE G-7

RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
6 JUNE 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	HERRINGS	0.00	0.00	0.00	0.08	0.00	0.04	0.00	0.00	0.00
	GIZZARD SHAD	0.00	0.08	0.04	0.00	0.12	0.06	0.13	0.00	0.06
	MINNOWS	0.29	0.30	0.30	0.12	0.17	0.14	0.21	0.00	0.10
	CARP	0.04	0.04	0.04	0.08	0.04	0.06	0.33	0.40	0.36
	SUCKERS	0.15	0.11	0.13	0.08	0.00	0.04	0.21	0.00	0.10
	TEMPERATE BASSES	0.15	0.08	0.11	0.04	0.04	0.04	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.16	0.12	0.14	0.17	0.26	0.22
	DAMAGED LARVAE	0.00	0.00	0.00	0.08	0.00	0.04	0.17	0.04	0.11
	EGGS	0.22	0.15	0.18	0.20	0.25	0.22	0.38	0.44	0.41
	TOTAL LARVAE	0.91	0.61	0.76	0.63	0.62	0.62	1.21	0.70	0.96
	TOTAL EGGS	0.22	0.15	0.18	0.20	0.25	0.22	0.38	0.44	0.41
3	GIZZARD SHAD	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	1.05	0.28	0.67	0.17	0.18	0.18	0.04	0.04	0.04
	CARP	0.00	0.00	0.00	0.04	0.09	0.07	0.09	0.04	0.07
	SUCKERS	0.12	0.04	0.08	0.04	0.00	0.02	0.00	0.00	0.00
	TEMPERATE BASSES	0.08	0.04	0.06	0.04	0.00	0.02	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	DAMAGED LARVAE	0.00	0.00	0.00	0.17	0.00	0.09	0.00	0.04	0.02
	EGGS	0.04	0.04	0.04	0.17	0.14	0.16	0.00	0.09	0.04

APPENDIX TABLE G-7
(continued)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
6 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE $\bar{X}$
3	TOTAL LARVAE	1.25	0.40	0.83	0.48	0.27	0.38	0.13	0.18	0.15
	TOTAL EGGS	0.04	0.04	0.04	0.17	0.14	0.16	0.00	0.09	0.04
5	GIZZARD SHAD	0.00	0.25	0.12	0.00	0.04	0.02	0.00	0.00	0.00
	MINNOWS	0.67	0.58	0.63	0.04	0.19	0.11	0.04	0.13	0.09
	CARP	0.04	0.00	0.02	0.04	0.08	0.06	0.08	0.27	0.17
	SHINERS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	TEMPERATE BASSES	0.04	0.04	0.04	0.04	0.15	0.10	0.00	0.00	0.00
	SUNFISHES	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	DAMAGED LARVAE	0.04	0.00	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	EGGS	0.04	0.04	0.04	0.07	0.08	0.07	0.21	0.13	0.17
	TOTAL LARVAE	0.79	0.92	0.85	0.18	0.46	0.32	0.17	0.44	0.30
	TOTAL EGGS	0.04	0.04	0.04	0.07	0.08	0.07	0.21	0.13	0.17
14	GIZZARD SHAD	0.09	0.04	0.06	0.18	0.10	0.14	0.14	0.00	0.07
	MINNOWS	0.13	0.18	0.15	0.18	0.00	0.09	0.05	0.25	0.15
	CARP	0.00	0.00	0.00	0.09	0.10	0.09	0.09	0.15	0.12
	SUCKERS	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.00	0.00

APPENDIX TABLE G-7
(continued)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
6 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE $\bar{X}$
14	TEMPERATE BASSES	0.04	0.04	0.04	0.00	0.05	0.02	0.00	0.00	0.00
	YELLOW PERCH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.02
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.05	0.02	0.00	0.05	0.02
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00	0.00
	EGGS	0.17	0.13	0.15	0.18	0.19	0.19	0.14	0.10	0.12
	TOTAL LARVAE	0.26	0.26	0.26	0.50	0.43	0.47	0.28	0.50	0.39
	TOTAL EGGS	0.17	0.13	0.15	0.18	0.19	0.19	0.14	0.10	0.12

APPENDIX TABLE G-8

RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JUNE 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	GIZZARD SHAD	0.19	0.24	0.21	0.08	0.04	0.06	0.04	0.05	0.05
	MINNOWS	0.00	0.04	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.08	0.20	0.14	0.13	0.05	0.09
	SUCKERS	0.08	0.04	0.06	0.00	0.00	0.00	0.00	0.00	0.00
	TEMPERATE BASSES	0.08	0.12	0.10	0.00	0.00	0.00	0.00	0.05	0.02
	FRESHWATER DRUM	0.00	0.00	0.00	0.04	0.08	0.06	0.13	0.14	0.14
	DAMAGED LARVAE	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.04	0.04	0.04	0.20	0.08	0.14	0.49	0.32	0.41
	TOTAL LARVAE	0.38	0.44	0.41	0.24	0.33	0.28	0.31	0.28	0.29
	TOTAL EGGS	0.04	0.04	0.04	0.20	0.08	0.14	0.49	0.32	0.41
3	GIZZARD SHAD	0.11	0.19	0.15	0.16	0.04	0.10	0.00	0.04	0.02
	MINNOWS	0.04	0.00	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.00	0.04	0.02	0.12	0.08	0.10	0.43	0.09	0.26
	SUCKERS	0.04	0.04	0.04	0.00	0.00	0.00	0.04	0.04	0.04
	TEMPERATE BASSES	0.25	0.04	0.15	0.00	0.08	0.04	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.24	0.21	0.23	0.04	0.09	0.07
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	EGGS	0.07	0.00	0.04	0.08	0.17	0.12	0.09	0.13	0.11
	TOTAL LARVAE	0.43	0.30	0.37	0.57	0.42	0.50	0.52	0.31	0.42

APPENDIX TABLE G-8
(continued)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JUNE 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.07	0.00	0.04	0.08	0.17	0.12	0.09	0.13	0.11
5	GIZZARD SHAD	0.03	0.35	0.19	0.16	0.08	0.12	0.09	0.05	0.07
	MINNOWS	0.03	0.04	0.04	0.00	0.00	0.00	0.04	0.00	0.02
	CARP	0.10	0.00	0.05	0.04	0.37	0.20	0.09	0.14	0.11
	SUCKERS	0.10	0.04	0.07	0.04	0.00	0.02	0.00	0.00	0.00
	TEMPERATE BASSES	0.10	0.04	0.07	0.04	0.04	0.04	0.04	0.00	0.02
	FRESHWATER DRUM	0.00	0.00	0.00	0.08	0.08	0.08	0.04	0.14	0.09
	EGGS	0.00	0.00	0.00	0.08	0.00	0.04	0.00	0.05	0.02
	TOTAL LARVAE	0.38	0.46	0.42	0.36	0.57	0.47	0.31	0.32	0.31
	TOTAL EGGS	0.00	0.00	0.00	0.08	0.00	0.04	0.00	0.05	0.02
14	GIZZARD SHAD	0.55	0.73	0.64	0.20	0.37	0.29	0.09	0.09	0.09
	MINNOWS	0.04	0.00	0.02	0.00	0.04	0.02	0.00	0.00	0.00
	CARP	0.07	0.08	0.08	0.31	0.08	0.20	0.47	0.45	0.46
	SUCKERS	0.29	0.04	0.17	0.00	0.04	0.02	0.00	0.04	0.02
	TEMPERATE BASSES	0.33	0.42	0.38	0.08	0.00	0.04	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.12	0.08	0.10	0.09	0.09	0.09
	EGGS	0.00	0.04	0.02	0.08	0.04	0.06	0.00	0.00	0.00

APPENDIX TABLE G-8
(continued)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JUNE 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	TOTAL LARVAE	1.29	1.26	1.27	0.71	0.62	0.66	0.64	0.67	0.66
	TOTAL EGGS	0.00	0.04	0.02	0.08	0.04	0.06	0.00	0.00	0.00

APPENDIX TABLE G-9

RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
19 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM $\bar{X}$
1	GIZZARD SHAD	0.09	0.14	0.11	0.11	0.23	0.17	0.00	0.00	0.00
	MINNOWS	0.00	0.05	0.02	0.00	0.06	0.03	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.05	0.10
	WHITE BASS	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.05	0.02	0.54	0.40	0.47	0.00	0.22	0.11
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	EGGS	0.13	0.00	0.07	0.64	0.57	0.61	0.87	0.65	0.76
	TOTAL LARVAE	0.09	0.23	0.16	0.64	0.74	0.69	0.21	0.27	0.24
	TOTAL EGGS	0.13	0.00	0.07	0.64	0.57	0.61	0.87	0.65	0.76
3	GIZZARD SHAD	0.24	0.20	0.22	0.19	0.25	0.22	0.16	0.00	0.08
	MINNOWS	0.10	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.29	0.05	0.17	0.24	0.00	0.12	0.11	0.23	0.17
	SUCKERS	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.11	0.06
	WHITE BASS	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	FRESHWATER DRUM	0.00	0.00	0.00	0.19	0.86	0.52	0.32	0.62	0.47
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.11
	EGGS	0.24	0.15	0.20	0.29	0.25	0.27	0.48	0.57	0.52
	TOTAL LARVAE	0.68	0.26	0.47	0.62	1.11	0.86	0.86	0.96	0.91
	TOTAL EGGS	0.24	0.15	0.20	0.29	0.25	0.27	0.48	0.57	0.52

APPENDIX TABLE G-9
(continued)
RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
19 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM $\bar{X}$
5	GIZZARD SHAD	0.41	0.48	0.45	0.05	0.10	0.08	0.06	0.00	0.03
	MINNOWS	0.09	0.00	0.05	0.00	0.05	0.03	0.06	0.00	0.03
	CARP	0.14	0.34	0.24	0.15	0.36	0.25	0.22	0.18	0.20
	SUCKERS	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	WHITE BASS	0.00	0.00	0.00	0.05	0.10	0.08	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.10	0.52	0.31	0.33	0.35	0.34
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.12	0.09
	EGGS	0.32	0.14	0.23	0.10	0.26	0.18	0.33	0.41	0.37
	TOTAL LARVAE	0.69	0.87	0.78	0.34	1.13	0.74	0.72	0.64	0.68
	TOTAL EGGS	0.32	0.14	0.23	0.10	0.26	0.18	0.33	0.41	0.37
14	HERRINGS	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.00	0.00
	GIZZARD SHAD	0.16	0.21	0.18	0.49	0.37	0.43	0.27	0.00	0.13
	MINNOWS	0.04	0.13	0.08	0.25	0.00	0.12	0.00	0.00	0.00
	CARP	0.04	0.00	0.02	0.15	0.26	0.20	0.11	0.17	0.14
	SHINERS	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	WHITE BASS	0.08	0.00	0.04	0.05	0.10	0.08	0.05	0.06	0.05
	FRESHWATER DRUM	0.00	0.04	0.02	0.30	0.68	0.49	0.69	0.96	0.82
	DAMAGED LARVAE	0.00	0.00	0.00	0.10	0.00	0.05	0.16	0.00	0.08
	EGGS	0.08	0.17	0.12	0.15	0.21	0.18	0.16	0.23	0.19

APPENDIX TABLE G-9
(continued)
RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
19 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM $\bar{X}$
14	TOTAL LARVAE	0.32	0.38	0.35	1.38	1.41	1.40	1.33	1.18	1.26
	TOTAL EGGS	0.08	0.17	0.12	0.15	0.21	0.18	0.16	0.23	0.19

APPENDIX TABLE G-10

RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
26 JUNE 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	GIZZARD SHAD	0.40	0.27	0.33	0.05	0.05	0.05	0.09	0.05	0.07
	MINNOWS	0.09	0.23	0.16	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.29	0.05	0.17	0.36	0.05	0.20
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.02
	EGGS	0.04	0.00	0.02	0.05	0.05	0.05	0.00	0.00	0.00
	TOTAL LARVAE	0.48	0.50	0.49	0.34	0.10	0.22	0.45	0.14	0.29
	TOTAL EGGS	0.04	0.00	0.02	0.05	0.05	0.05	0.00	0.00	0.00
3	GIZZARD SHAD	0.28	0.25	0.26	0.00	0.16	0.08	0.00	0.04	0.02
	CARP	0.05	0.05	0.05	0.05	0.11	0.08	0.08	0.00	0.04
	FRESHWATER DRUM	0.00	0.00	0.00	0.05	0.11	0.08	0.12	0.08	0.10
	EGGS	0.00	0.05	0.02	0.10	0.00	0.05	0.00	0.04	0.02
	TOTAL LARVAE	0.33	0.30	0.31	0.10	0.37	0.24	0.20	0.13	0.16
	TOTAL EGGS	0.00	0.05	0.02	0.10	0.00	0.05	0.00	0.04	0.02
5	LONGNOSE GAR	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	GIZZARD SHAD	0.37	0.35	0.36	0.09	0.05	0.07	0.00	0.05	0.03
	MINNOWS	0.09	0.00	0.05	0.00	0.00	0.00	0.05	0.00	0.03
	CARP	0.00	0.00	0.00	0.00	0.10	0.05	0.10	0.22	0.16
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03

APPENDIX TABLE G-10
(continued)
RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
26 JUNE 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE $\bar{X}$
5	WHITE CRAPPIE	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.09	0.00	0.04	0.00	0.00	0.00
	EGGS	0.00	0.00	0.00	0.00	0.05	0.02	0.05	0.05	0.05
	TOTAL LARVAE	0.51	0.40	0.46	0.18	0.14	0.16	0.15	0.33	0.24
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.05	0.02	0.05	0.05	0.05
14	GIZZARD SHAD	0.95	0.34	0.64	0.10	0.31	0.21	0.05	0.05	0.05
	MINNOWS	0.05	0.05	0.05	0.00	0.00	0.00	0.05	0.05	0.05
	CARP	0.05	0.05	0.05	0.00	0.05	0.03	0.00	0.05	0.02
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.02
	FRESHWATER DRUM	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.05	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.24	0.15	0.19	0.05	0.10	0.08	0.14	0.00	0.07
	TOTAL LARVAE	1.09	0.49	0.79	0.15	0.37	0.26	0.09	0.20	0.14
	TOTAL EGGS	0.24	0.15	0.19	0.05	0.10	0.08	0.14	0.00	0.07

APPENDIX TABLE G-11

RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
6 JULY 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE $\bar{X}$
1	GIZZARD SHAD	0.16	0.12	0.14	0.19	0.05	0.12	0.05	0.00	0.03
	MINNOWS	0.00	0.24	0.12	0.09	0.00	0.05	0.16	0.11	0.14
	CARP	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.05
	TOTAL LARVAE	0.16	0.35	0.26	0.28	0.05	0.17	0.32	0.11	0.22
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	GIZZARD SHAD	0.05	0.11	0.08	0.00	0.17	0.09	0.07	0.00	0.03
	MINNOWS	0.05	0.16	0.11	0.05	0.06	0.05	0.07	0.00	0.03
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.00	0.00
	TOTAL LARVAE	0.10	0.27	0.19	0.10	0.23	0.16	0.13	0.01	0.07
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	GIZZARD SHAD	0.16	0.29	0.23	0.00	0.00	0.00	0.05	0.06	0.05
	MINNOWS	0.00	0.06	0.03	0.00	0.00	0.00	0.05	0.06	0.05
	CARP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.03
	SUCKERS	0.00	0.06	0.03	0.00	0.00	0.00	0.11	0.11	0.11
	FRESHWATER DRUM	0.00	0.00	0.00	0.04	0.07	0.06	0.00	0.00	0.00
	TOTAL LARVAE	0.16	0.41	0.29	0.04	0.07	0.06	0.21	0.28	0.25

APPENDIX TABLE G-11
(continued)
RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
6 JULY 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM $\bar{X}$
5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	GIZZARD SHAD	0.05	0.22	0.14	0.00	0.00	0.00	0.06	0.06	0.06
	MINNOWS	0.00	0.06	0.03	0.06	0.00	0.03	0.06	0.17	0.11
	TOTAL LARVAE	0.05	0.28	0.16	0.06	0.00	0.03	0.11	0.23	0.17
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-12

RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JULY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.14	0.25	0.20	0.00	0.11	0.05	0.11	0.11	0.11
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.14	0.25	0.20	0.00	0.11	0.05	0.11	0.11	0.11
3	MINNOWS	0.05	0.12	0.09	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.05	0.00	0.03	0.10	0.00	0.05
	FRESHWATER DRUM	0.00	0.06	0.03	0.00	0.05	0.03	0.00	0.05	0.03
	EGGS	0.16	0.06	0.11	0.00	0.10	0.05	0.00	0.00	0.00
	TOTAL LARVAE	0.05	0.18	0.12	0.05	0.05	0.05	0.10	0.05	0.08
	TOTAL EGGS	0.16	0.06	0.11	0.00	0.10	0.05	0.00	0.00	0.00
5	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	EGGS	0.02	0.00	0.01	0.05	0.06	0.05	0.15	0.00	0.08
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	TOTAL EGGS	0.02	0.00	0.01	0.05	0.06	0.05	0.15	0.00	0.08
14	GIZZARD SHAD	0.05	0.30	0.18	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.00	0.00

APPENDIX TABLE G-12
(continued)
RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JULY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	DAMAGED LARVAE	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.10	0.06	0.08	0.05	0.00	0.03	0.00	0.00	0.00
	TOTAL LARVAE	0.05	0.36	0.21	0.05	0.00	0.03	0.00	0.00	0.00
	TOTAL EGGS	0.10	0.06	0.08	0.05	0.00	0.03	0.00	0.00	0.00

APPENDIX TABLE G-13

RESULTS OF THIRTEENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
13 JULY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04
	EGGS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.04
	TOTAL EGGS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
3	MINNOWS	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	MINNOWS	0.13	0.00	0.06	0.06	0.00	0.03	0.00	0.00	0.00
	FRESHWATER DRUM	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.19	0.00	0.10	0.06	0.00	0.03	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	MINNOWS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.17
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.17
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-14

RESULTS OF FOURTEENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
27 JULY 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.00	0.00	0.00	0.06	0.00	0.03	0.20	0.20	0.20
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.06	0.00	0.03	0.20	0.20	0.20
5	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.07	0.04	0.00	0.00	0.00
	EGGS	0.15	0.00	0.08	0.07	0.00	0.03	0.00	0.05	0.02
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.07	0.04	0.00	0.00	0.00
	TOTAL EGGS	0.15	0.00	0.08	0.07	0.00	0.03	0.00	0.05	0.02
14	LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.07	0.00	0.04	0.00	0.00	0.00	0.07	0.00	0.03
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.07	0.00	0.04	0.00	0.00	0.00	0.07	0.00	0.03

APPENDIX TABLE G-15

RESULTS OF FIFTEENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
3 AUGUST 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	FRESHWATER DRUM	0.06	0.00	0.03	0.00	0.13	0.06	0.00	0.06	0.03
	TOTAL LARVAE	0.06	0.00	0.03	0.00	0.13	0.06	0.00	0.06	0.03
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	FRESHWATER DRUM	0.00	0.00	0.00	0.19	0.30	0.24	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.19	0.30	0.24	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	FRESHWATER DRUM	0.00	0.00	0.00	0.21	0.50	0.35	0.22	0.11	0.17
	EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
	TOTAL LARVAE	0.00	0.00	0.00	0.21	0.50	0.35	0.22	0.11	0.17
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03
14	GIZZARD SHAD	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.12	0.06	0.09	0.30	0.54	0.42	0.06	0.12	0.09
	TOTAL LARVAE	0.18	0.06	0.12	0.30	0.54	0.42	0.06	0.12	0.09
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-16

RESULTS OF SIXTEENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
10 AUGUST 1978

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	MINNOWS	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	FRESHWATER DRUM	0.00	0.00	0.00	0.06	0.06	0.06	0.17	0.06	0.11
	TOTAL LARVAE	0.00	0.00	0.00	0.06	0.06	0.06	0.17	0.06	0.11
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	SHINERS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.03
	TOTAL LARVAE	0.00	0.12	0.06	0.00	0.00	0.00	0.07	0.00	0.03
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-17

RESULTS OF SEVENTEENTH FISH EGGS AND LARVAE COLLECTION (no./m^3)
MARBLE HILL PLANT SITE
16 AUGUST 1978

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE $\bar{X}$	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE $\bar{X}$	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE $\bar{X}$
1	LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EGGS	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
3	NO LARVAE & EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.03
	TOTAL LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.03
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	SUCKERS	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-18

RESULTS OF THE LARVAL FISH TRAP STUDY AT LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
22 MARCH-17 AUGUST 1978

Date	Taxa	Number collected	
		Eggs and larvae	Juvenile and adult
22 March	-		
8 April	-		
21 April	creek chub		1
6 May	blacknose dace		1
17 May	emerald shiner		5
	creek chub		2
	stoneroller		1
	common shiner		1
	spotfin shiner		1
	white sucker		1
31 May	creek chub		13
	blacknose dace		5
	stoneroller		4
	green sunfish		4
	emerald shiner		1
7 June	creek chub		11
	blacknose dace		5
	stoneroller		3
	white sucker		1
	green sunfish		1
	darter	1	
	eggs	4	
14 June	creek chub		1
	common shiner		1
20 June	emerald shiner		1
27 June	stoneroller		2
	rainbow darter		1
13 July	creek chub		20
	sucker		1
	bluegill		1
	darter		1
20 July	creek chub		10
	emerald shiner		2
	bluegill		2
27 July	creek chub		7
	taillight shiner		1
	rainbow darter		1
3 August	emerald shiner		73
	river shiner		2
	taillight shiner		1
	creek chub		1
10 August	shiner		1637
	emerald shiner		4
	sunfish		4
17 August	bluegill		50
	emerald shiner		7
	stoneroller		1
	creek chub		1
	sand shiner		1

APPENDIX TABLE H-1

RESULTS OF RABBIT SURVEY[a]
MARBLE HILL PLANT SITE
MAY 1978

Date	Mile point of sighting	Total counted	Weather Data			
			Time	Wind direction and speed (mph)	Rain	Temperature (°F)
22 May	-	-	6:00 pm	SE - 4	None	78
23 May	-	0	6:00 am	SE - 5	Heavy rain	62
			6:00 pm	calm	intermittent showers	80
24 May[b]	4.6	1	6:00 am	S - 4	Overcast w/fog	64
			6:00 pm	S - 3	None	83
25 May	4.4		6:00 am	SW - 3	None	64
	3.9		6:00 pm	W - 5	None	85
	3.5	3				

[a]Survey was conducted beginning 20 minutes before sunrise and lasted until approximately 20 minutes after sunrise.

[b]Route was covered in opposite direction from 1st & 3rd days. Mile point has been adjusted to conform with other sightings.

APPENDIX TABLE H-2

RESULTS OF SQUIRREL SURVEY
MARBLE HILL PLANT SITE
MARCH 1978

Observation number	Squirrels observed	Species	Distance to observed squirrel (ft)
		1st day - 21 March 1978	
1	0	-	-
2	0	-	-
3	0	-	-
4	0	-	-
5	0	-	-
		2nd day - 22 March 1978	
6	0	-	-
7	0	-	-
8	0	-	-
9	0	-	-
10	1	Eastern fox squirrel	291

Total observed 1 Mean distance 291

Area observed (acres) 3.05
Squirrels/acre 0.35

APPENDIX TABLE H-3

RESULTS OF SQUIRREL SURVEY
MARBLE HILL PLANT
NOVEMBER 1978

Observation number	Squirrels observed	Species	Distance to observed squirrel (ft)
		1st day - 14 November 1978	
1	0	-	-
2	0	-	-
3	0	-	-
4	0	-	-
5	0	-	-
		2nd day - 15 November 1978	
6	0	-	-
7	0	-	-
8	0	-	-
9	0	-	-
10	0	-	-

Total observed 0 Mean distance -

Area observed (acres) -
Squirrels/acre -