CONSTRUCTION PHASE

ECOLOGICAL MONITORING PROGRAM

MARBLE HILL

NUCLEAR GENERATING STATION

UNITS 1 AND 2

FINAL REPORT

FEBRUARY - NOVEMBER 1980

APPENDIX: VOLUME 2

FEBRUARY 1981

APPLIED BIOLOGY, INC.

ATLANTA, GEORGIA

APPENDIX TABLES

APPENDIX TABLES
(continued)

APPENDIX TABLE A-1

WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE
1980

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	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	HNO_3 to <pH2	7 days	0.01 mg/l	Atomic absorption spectrometric method	148
Sodium	HNO_3 to <pH2	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

APPENDIX TABLE A-1
(continued)
WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE
1980

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[c]	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

APPENDIX TABLE A-1
(continued)
WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE
198

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]Filtered in the field.

APPENDIX TABLE A-2

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

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	0.51	0.33	0.18	0.71	0.01
1B	0.46	0.34	0.03	0.79	0.02
Avg.	0.49	0.34	0.11	0.75	0.02
3A	0.63	0.48	0.24	0.81	0.04
3B	0.70	0.56	0.23	1.16	0.02
Avg.	0.67	0.52	0.24	0.99	0.03
5A	0.54	0.35	0.21	0.67	0.08
5B	-[a]	0.45	0.02	0.72	0.04
Avg.	0.54	0.40	0.12	0.70	0.06
6A	0.13	0.52	0.04	0.09	0.01
6B	0.14	0.34	0.01	0.06	<0.01
Avg.	0.14	0.43	0.03	0.08	0.01

[a]Sample flask broken in transport.

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	12.0	5.85	74.7	5.6	0.004
1B	14.0	5.87	86.7	5.3	0.002
Avg.	13.0	5.86	80.7	5.5	0.003
3A	13.0	6.19	92.6	4.7	0.004
3B	12.0	6.63	94.6	5.5	0.002
Avg.	12.5	6.41	93.6	5.1	0.003
5A	16.0	6.16	80.1	6.1	0.003
5B	13.0	6.19	69.8	4.9	0.007
Avg.	14.5	6.18	75.0	5.5	0.005
6A	12.0	6.94	64.2	4.7	0.002
6B	16.0	7.23	68.6	4.6	0.006
Avg.	14.0	7.09	66.4	4.7	0.004

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	13.7	4.0	7.5
1B	2.1	4.3	8.5
Avg.	7.9	4.2	8.0
3A	7.9	3.8	8.0
3B	9.0	2.4	7.7
Avg.	8.9	3.1	7.9
5A	13.7	3.5	8.9
5B	23.0	3.4	8.7
Avg.	18.4	3.5	8.8
6A	4.4	2.1	4.3
6B	6.7	1.5	3.6
Avg.	5.6	1.8	4.0

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	-[a]	-[a]	-[a]
1B	27.45	10.65	10.25
Avg.	27.45	10.65	10.25
3A	25.25	10.50	9.45
3B	27.25	11.00	9.95
Avg.	26.25	10.80	9.70
5A	25.70	10.50	9.65
5B	25.10	10.25	9.95
Avg.	25.40	10.38	9.80
6A	49.80	30.30	8.10
6B	47.95	29.45	7.30
Avg.	48.88	29.88	7.70

[a]Sample flask broken in transport.

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	173	310
1B	182	202
Avg.	178	256
3A	151	372
3B	165	240
Avg.	158	306
5A	175	247
5B	176	253
Avg.	176	250
6A	361	6
6B	334	45
Avg.	348	26
8A	463	12
8B	473	18
Avg.	468	15

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	60.0	<0.01	<0.01
1B	56.7	<0.01	<0.01
Avg.	58.4	<0.01	<0.01
3A	56.7	<0.01	<0.01
3B	58.3	<0.01	<0.01
Avg.	57.5	<0.01	<0.01
5A	53.3	<0.01	<0.01
5B	56.7	<0.01	<0.01
Avg.	55.0	<0.01	<0.01
6A	193.3	<0.01	<0.01
6B	193.3	<0.01	<0.01
Avg.	193.3	<0.01	<0.01

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
3 MARCH 1980

Station	Dissolved oxygen (ppm)	Percent saturation	pH	Specific conductance (μmho/cm)
1	13.0	106	6.1	177
3	14.0	115	6.1	177
5	14.0	115	6.0	180
6	16.0	157	6.6	390

APPENDIX TABLE A-3

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

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	0.52	0.21	0.06	0.25	0.02
1B	0.22	0.26	0.11	0.25	0.02
Avg.	0.37	0.24	0.09	0.25	0.02
3A	0.28	0.28	0.13	0.27	0.02
3B	0.49	0.23	0.21	0.21	0.01
Avg.	0.39	0.26	0.17	0.24	0.02
5A	0.46	0.29	0.11	0.32	0.03
5B	0.33	0.25	0.10	0.23	0.02
Avg.	0.40	0.27	0.11	0.28	0.03
6A	0.30	0.25	0.04	0.04	0.01
6B	0.52	0.24	0.07	0.05	0.01
Avg.	0.41	0.25	0.06	0.05	0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	18.0	4.71	20.4	6.2	0.023
1B	18.0	5.17	20.8	9.0	0.016
Avg.	18.0	4.94	20.6	7.6	0.020
3A	18.0	5.21	20.3	8.0	0.023
3B	18.0	5.17	19.6	8.0	0.007
Avg.	18.0	5.19	20.0	8.0	0.015
5A	18.0	5.64	21.1	6.2	0.024
5B	18.0	5.64	19.8	7.3	<0.002
Avg.	18.0	5.64	20.5	6.8	0.012
6A	30.0	6.54	17.6	5.0	0.005
6B	30.0	6.83	17.8	7.7	<0.002
Avg.	30.0	6.69	17.7	6.4	0.003

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	21.1	2.3	4.8
1B	28.1	1.5	4.7
Avg.	25.1	1.9	4.8
3A	19.9	2.3	4.6
3B	16.4	2.5	5.0
Avg.	18.2	2.4	4.8
5A	14.0	2.1	3.8
5B	21.1	1.9	3.7
Avg.	18.1	2.0	3.8
6A	27.0	1.0	1.6
6B	14.6	<1.0	2.0
Avg.	20.8	1.0	1.8

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	34.55	11.90	12.83
1B	34.35	11.68	12.91
Avg.	34.45	11.79	12.87
3A	35.53	12.43	13.14
3B	35.08	11.93	12.83
Avg.	35.31	12.18	12.99
5A	33.48	11.70	12.21
5B	34.35	12.28	12.49
Avg.	33.92	11.99	12.35
6A	62.85	28.58	11.06
6B	59.80	27.73	9.26
Avg.	61.33	28.16	10.16

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	227	44
1B	229	69
Avg.	228	57
3A	234	43
3B	225	50
Avg.	230	47
5A	225	56
5B	222	60
Avg.	224	58
6A	400	13
6B	397	18
Avg.	399	16
8A[a]	-	-
8B[a]	-	-
Avg.	-	-

[a]No water in stream.

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	66.6	<0.01	<0.01
1B	65.0	<0.01	<0.01
Avg.	65.8	<0.01	<0.01
3A	63.3	<0.01	<0.01
3B	66.7	<0.01	<0.01
Avg.	65.0	<0.01	<0.01
5A	73.3	<0.01	<0.01
5B	61.7	<0.01	<0.01
Avg.	67.5	<0.01	<0.01
6A	213.3	<0.01	<0.01
6B	213.3	<0.01	<0.01
Avg.	213.3	<0.01	<0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station	Dissolved oxygen (ppm)	Percent saturation	pH	Specific conductance (µmho/cm)
1	7.2	79	7.3	360
3	7.4	80	7.3	375
5	7.1	79	7.3	325
6	10.8	106	8.0	460

APPENDIX TABLE A-4

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

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	0.48	0.22	0.18	0.48	0.03
1B	0.44	0.27	0.09	0.49	0.03
Avg.	0.46	0.25	0.14	0.49	0.03
3A	0.31	0.31	0.05	0.53	0.03
3B	0.38	0.24	0.06	0.48	0.03
Avg.	0.35	0.28	0.06	0.51	0.03
5A	0.57	0.24	0.11	0.50	0.04
5B	0.50	0.32	0.17	0.48	0.03
Avg.	0.54	0.28	0.14	0.49	0.04
6A	0.18	0.37	0.09	0.24	0.01
6B	0.15	0.21	0.14	0.23	0.01
Avg.	0.17	0.29	0.12	0.24	0.01

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	20.0	3.70	38.0	<5.0	0.002
1B	21.0	4.68	39.6	<5.0	0.004
Avg.	20.5	4.19	38.8	<5.0	0.003
3A	20.0	4.64	40.4	<5.0	0.003
3B	20.0	3.58	38.2	<5.0	0.006
Avg.	20.0	4.11	39.3	<5.0	0.005
5A	20.0	3.38	41.7	<5.0	0.005
5B	21.0	5.34	38.5	<5.0	0.002
Avg.	20.5	4.36	40.1	<5.0	0.004
6A	112.0	5.25	44.7	<5.0	0.002
6B	112.0	6.83	42.4	<5.0	0.004
Avg.	112.0	6.04	43.6	<5.0	0.003

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	32.2	1.6	6.0
1B	36.8	1.7	6.1
Avg.	34.5	1.7	6.1
3A	36.8	2.1	5.7
3B	29.9	3.0	5.6
Avg.	33.4	2.6	5.7
5A	36.8	2.5	5.6
5B	46.0	3.8	5.8
Avg.	41.4	3.2	5.7
6A	34.5	1.2	2.9
6B	29.9	1.4	4.2
Avg.	32.2	1.3	3.6

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	32.34	12.50	7.88
1B	33.05	12.28	6.54
Avg.	32.70	12.39	7.21
3A	33.34	12.75	8.57
3B	32.25	12.35	6.79
Avg.	32.80	12.55	7.68
5A	32.23	12.60	8.57
5B	33.35	13.18	7.30
Avg.	32.79	12.89	7.94
6A	79.50	41.63	26.60
6B	75.80	41.52	26.70
Avg.	77.70	41.58	26.70

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	197	157
1B	271	184
Avg.	234	171
3A	261	193
3B	261	163
Avg.	261	178
5A	246	146
5B	254	167
Avg.	250	157
6A	668	93
6B	660	83
Avg.	664	88
8A[a]	-	-
8B	-	-
Avg.	-	-

[a]No water in stream.

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	72.3	<0.01	<0.01
1B	72.3	<0.01	<0.01
Avg.	72.3	<0.01	<0.01
3A	71.8	<0.01	<0.01
3B	72.5	<0.01	<0.01
Avg.	72.2	<0.01	<0.01
5A	71.8	<0.01	<0.01
5B	72.0	<0.01	<0.01
Avg.	71.9	<0.01	<0.01
6A	201.3	<0.01	<0.01
6B	198.8	<0.01	<0.01
Avg.	200.1	<0.01	<0.01

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station	Dissolved oxygen (ppm)	Percent saturation	pH	Specific conductance (µmho/cm)
1	6.2	76.5	7.1	388
3	6.0	74.0	7.1	387
5	6.5	80.2	7.1	386
6	7.4	80.4	7.6	910

APPENDIX TABLE A-5

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

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	0.22	0.92	0.23	0.15	0.05
1B	0.24	0.82	0.23	0.14	0.05
Avg.	0.23	0.87	0.23	0.15	0.05
3A	0.36	0.46	0.22	0.16	0.05
3B	0.32	0.82	0.21	0.15	0.05
Avg.	0.34	0.64	0.22	0.16	0.05
5A	0.34	1.42	0.21	0.14	0.04
5B	0.32	0.55	0.24	0.17	0.05
Avg.	0.33	0.99	0.23	0.16	0.05
6A	0.34	0.14	0.13	0.02	0.02
6B	0.32	0.78	0.12	0.02	0.01
Avg.	0.33	0.46	0.13	0.02	0.02

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	33.0	2.65	82.9	<5.0	0.008
1B	31.5	2.61	85.1	<5.0	0.026
Avg.	32.3	2.63	84.0	<5.0	0.017
3A	31.0	2.74	87.3	<5.0	0.007
3B	32.0	2.87	85.8	<5.0	0.012
Avg.	31.5	2.81	86.6	<5.0	0.010
5A	31.0	2.69	87.0	<5.0	0.005
5B	31.0	3.16	87.3	<5.0	0.005
Avg.	31.0	2.93	87.2	<5.0	0.005
6A	120.0	6.03	84.0	<5.0	0.012
6B	121.0	6.08	85.5	<5.0	0.005
Avg.	120.5	6.06	84.8	<5.0	0.009

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	16.6	4.1	5.2
1B	16.6	3.7	3.8
Avg.	16.6	3.9	4.5
3A	10.4	4.3	4.4
3B	6.6	3.2	4.5
Avg.	8.5	3.8	4.5
5A	2.9	7.6	3.7
5B	4.1	4.6	4.1
Avg.	3.5	6.1	3.9
6A	5.4	2.8	3.3
6B	6.6	2.4	6.5
Avg.	6.0	2.6	4.9

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	41.18	16.02	29.13
1B	42.08	15.47	28.45
Avg.	41.63	15.75	28.79
3A	41.03	15.62	29.13
3B	42.53	16.47	28.98
Avg.	41.78	16.05	29.06
5A	40.88	15.95	31.52
5B	40.95	15.65	29.95
Avg.	40.92	15.80	30.74
6A	99.05	43.92	41.53
6B	99.40	43.62	43.71
Avg.	99.23	43.77	42.62

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	306	26
1B	286	14
Avg.	296	20
3A	264	16
3B	270	28
Avg.	267	22
5A	260	26
5B	298	22
Avg.	279	24
6A	620	10
6B	602	4
Avg.	611	7

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	80.0	<0.01	<0.01
1B	90.0	<0.01	<0.01
Avg.	85.0	<0.01	<0.01
3A	68.3	<0.01	<0.01
3B	86.7	<0.01	<0.01
Avg.	77.5	<0.01	<0.01
5A	85.0	<0.01	<0.01
5B	85.0	<0.01	<0.01
Avg.	85.0	<0.01	<0.01
6A	205.0	<0.01	<0.01
6B	206.7	<0.01	<0.01
Avg.	205.9	<0.01	<0.01

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station	Dissolved oxygen (ppm)	Percent saturation	pH	Specific conductance (µmho)
1	9.8	94	7.0	380
3	9.8	94	7.0	375
5	9.8	94	7.0	390
6	8.7	76	6.9	790

APPENDIX TABLE A-6

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
3 MARCH 1980

Parameter	Station 1	3	5	6	8
Temperature (°C)	7	7	7	15	-[a]
Current velocity (cm/sec)	66	55	73	53	-[a]
Secchi depth (cm)	12	12	14	bottom visible	-[a]
Water depth (m)	5.2	5.2	6.1	0.2	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	9.1

[a]Not required.

APPENDIX TABLE A-7

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
29 MAY 1980

Parameter	Station 1	3	5	6	8
Temperature (°C)	20.5	20.0	21.0	15.0	-[a]
Current velocity (cm/sec)	48	48	48	<10	-[a]
Secchi depth (cm)	30	30	30	bottom visible	-[a]
Water depth (m)	5.5	5.5	5.2	0.5	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	-[b]

[a]Not required.

[b]No water in stream.

APPENDIX TABLE A-8

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT
14 AUGUST 1980

Parameter	Station 1	3	5	6	8
Temperature (°C)	27.0	27.0	27.0	19.9	-[a]
Current velocity (cm/sec)	95	95	95	<10	-[a]
Secchi depth (cm)	15	15	15	bottom visible	-[a]
Water depth (m)	4.8	5.1	5.3	0.5	-[a]
Turbidity (JTU)	-[a]	-[a]	-[a]	-[a]	-[b]

[a]Not required.

[b]No water in stream.

APPENDIX TABLE A-9

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Parameter	Station 1	3	5	6	8
Temperature (°C)	14.0	14.0	14.0	9.3	-[a]
Current velocity (cm/sec)	13	15	15	<10	-[a]
Secchi depth (cm)	80	80	80	bottom visible	-[a]
Water depth (m)	4.7	4.1	5.0	0.5	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	-[b]

[a]Not required.

[b]No water in stream.

APPENDIX TABLE B-1

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
27 MARCH 1980

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	40,000	4,200	2,300	1.83
1B	54,000	5,600	2,900	1.93
Avg.	47,000	4,900	2,600	1.88
3A	63,000	4,100	870	4.71
3B	68,000	4,600	740	6.21
Avg.	66,000	4,400	800	5.46
6A	5,700	<20	20	<1.00
6B	4,700	<20	20	<1.00
Avg.	5,200	<20	20	<1.00
8A	2,400	<20	<20	<1.00
8B	3,100	<20	<20	<1.00
Avg.	2,800	<20	<20	<1.00

APPENDIX TABLE B-2

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
29 MAY 1980

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	36,000	470	70	6.71
1B	45,000	480	60	8.00
Avg.	40,500	475	65	7.35
3A	56,000	500	60	8.00
3B	53,000	550	100	5.50
Avg.	54,500	525	80	6.75
6A	11,000	20	420	0.05
6B	16,000	20	490	0.04
Avg.	13,500	20	460	0.04
8A	30,000	<20	110	<0.18
8B	22,000	<20	100	<0.20
Avg.	26,000	<20	105	<0.19

APPENDIX TABLE B-3

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
14 AUGUST 1980

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	>80,000	13,000	2,100	6.19
1B	>80,000	15,000	2,400	6.25
Avg.	>80,000	14,000	2,250	6.22
3A	>80,000	4,000	3,000	1.33
3B	>80,000	8,000	2,800	2.85
Avg.	>80,000	6,000	2,900	2.09
6A	>80,000	1,100	8,300	0.13
6B	>80,000	1,100	6,600	0.17
Avg.	>80,000	1,100	7,450	0.15
8A[a]	-	-	-	-
8B	-	-	-	-
Avg.	-	-	-	-

[a]No water in stream.

APPENDIX TABLE B-4

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
6 NOVEMBER 1980

Station and replicate	Total coliforms (counts/100 ml)	Fecal coliforms (counts/100 ml)	Fecal streptococcus (counts/100 ml)	FC/FS
1A	<200	110	<20	>5.50
1B	<200	140	<20	>7.00
Avg.	<200	125	<20	>6.25
3A	<200	190	<20	>9.50
3B	<200	<20	<20	<1.00
Avg.	<200	<105	<20	<5.25
6A	<200	10	60	0.17
6B	<200	10	30	0.33
Avg.	<200	10	45	0.22
8A[a]	-	-	-	-
8B	-	-	-	-
Avg.	-	-	-	-

[a]No water in stream.

APPENDIX TABLE C.1-1

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
27 MARCH 1980

	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	64.5	32.3									
Cyclotella comta	135.8	0.0	67.9	56.0	53.2	54.6	41.8	51.6	46.7			
C. glomerata	217.4	257.7	237.5	363.2	372.6	367.9	125.3	311.0	218.2			
C. Meneghiniana	108.5	0.0	54.3	56.0	53.2	54.6	167.0	0.0	83.5			
C. pseudostelligera	352.8	289.7	321.3	335.0	212.9	273.9	0.0	259.0	129.5	5.1	0.0	2.5
C. stelligera	54.3	128.6	91.4	0.0	53.2	26.6	0.0	51.6	25.8	40.4	45.9	43.2
Cyclotella sp. 1	624.5	773.0	698.8	530.6	559.2	544.9	960.2	673.7	816.9	25.3	38.2	31.8
Melosira distans	81.6	128.6	105.1				0.0	77.9	38.9			
M. granulata	0.0	64.5	32.3	27.8	26.8	27.3	20.7	25.8	23.3			
M. varians				56.0	0.0	28.0	41.8	0.0	20.9			
Stephanodiscus astraea v. minutula	0.0	64.5	32.3	0.0	53.2	26.6						
unidentified centric sp. 2				0.0	53.2	26.6						
Pennales												
Achnanthes affinis	108.5	0.0	54.3				41.8	51.6	46.7	10.1	38.2	24.2
A. deflexa	0.0	64.5	32.3									
A. lanceolata	54.3	64.5	59.4	0.0	53.2	26.6	41.8	0.0	20.9	5.1	7.6	6.4
A. lanceolata v. dubia							0.0	51.6	25.8			
A. linearis f. curta	54.3	64.5	59.4	223.4	53.2	138.3	125.3	51.6	88.5	5.1	7.6	6.4
A. microcephala				0.0	53.2	26.6	0.0	51.6	25.8			
A. minutissima	217.4	193.1	205.3	335.0	532.3	433.6	250.6	311.0	280.8	116.2	198.9	157.6
Amphora ovalis v. pediculus							41.8	51.6	46.7	15.2	15.3	15.2
A. perpusilla				0.0	53.2	26.6						
Anomoeoneis vitrea	54.3	0.0	27.1									
Asterionella formosa v. gracillima	325.9	450.8	388.4	390.9	479.1	435.0	375.9	311.0	343.5			
Cocconeis pediculus	0.0	64.5	32.3									
C. placentula v. lineata							41.8	0.0	20.9			
Cymbella affinis	0.0	64.5	32.3	0.0	53.2	26.6				15.2	7.6	11.4
C. minuta f. latens				56.0	0.0	28.0						
C. minuta f. silesiaca							41.8	51.6	46.7	5.1	0.0	2.5
Diatoma tenue v. elongatum				56.0	0.0	28.0						
D. vulgare							83.5	0.0	41.8	15.2	0.0	7.6
Eunotia fenella	54.3	0.0	27.1	56.0	53.2	54.6						
Fragilaria crotonensis				56.0	0.0	28.0	83.5	51.6	67.6			
F. vaucheriae				56.0	53.2	54.6	125.3	0.0	62.6	5.1	0.0	2.5
Gomphonema affine										5.1	0.0	2.5

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
27 MARCH 1980

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)												
Gomphonema angustatum							0.0	51.6	25.8	10.1	22.9	16.5
G. angustatum v. citera										15.2	30.6	22.9
G. olivaceum	54.3	257.7	156.0	56.0	0.0	28.0	41.8	103.7	72.7	5.1	30.6	17.8
G. parvulum	54.3	128.6	91.4	111.5	0.0	55.8	0.0	51.6	25.8	20.2	84.1	52.2
Gyrosigma nodiferum	0.0	64.5	32.3									
Hantzschia amphioxys	54.3	0.0	27.1									
Meridion circulare							0.0	51.6	25.8	15.2	15.3	15.2
Navicula biconica										0.0	7.6	3.8
N. cryptocephala	108.5	128.6	118.5	167.5	319.4	243.4	167.0	207.4	187.2	10.1	7.6	8.9
N. cryptocephala v. veneta	108.5	128.6	118.5	0.0	106.5	53.2	41.8	155.3	98.5	15.2	0.0	7.6
N. lanceolata				0.0	53.2	26.6						
N. mutica v. undulata										5.1	0.0	2.5
N. tripuncta				0.0	53.2	26.6	0.0	51.6	25.8			
N. schroeteri v. escambia										10.1	0.0	5.1
N. viridula	380.2	257.7	318.9	111.5	106.5	109.0	167.0	207.4	187.2			
N. viridula v. rostellata							41.8	0.0	20.9			
Navicula sp. 2	54.3	64.5	59.4	0.0	212.9	106.5						
Navicula sp. 4				56.0	0.0	28.0						
Nitzschia acicularis v. closterioides							83.5	0.0	41.8			
N. amphibia	0.0	128.6	64.3	111.5	0.0	55.8				5.1	0.0	2.5
N. capitellata				0.0	106.5	53.2	0.0	103.7	51.8			
N. communis	0.0	193.1	96.6	0.0	53.2	26.6	41.8	103.7	72.7	10.2	15.3	12.7
N. communis v. abbreviata							0.0	103.7	51.8			
N. dissipata	325.9	257.7	291.8	279.4	212.9	246.2	41.8	155.3	98.5	65.7	45.9	55.8
N. palea	108.5	386.3	247.4	279.4	53.2	166.3	167.0	207.4	187.2	0.0	38.2	19.1
N. parvula										0.0	7.6	3.8
N. tryblionella v. victoriae				56.0	0.0	28.0						
Pinnularia appendiculata				56.0	0.0	28.0						
P. subcapitata							0.0	51.6	25.8			
Pinnularia sp. 1										5.1	0.0	2.5
Rhoicosphenia curvata				56.0	0.0	28.0	83.5	0.0	41.8	15.2	68.8	42.0
Surirella angustata							0.0	51.6	25.8			
S. ovata	108.5	193.1	150.8				0.0	103.7	51.8	30.3	45.9	38.1
Synedra delicatissima v. angustissima							0.0	51.6	25.8			

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
27 MARCH 1980

	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 (continued)												
Synedra incisa				0.0	53.2	26.6						
S. minuscula				56.0	0.0	28.0						
S. radians	54.3	0.0	27.1									
S. rumpens v. familiaris				56.0	53.2	54.6	41.8	0.0	20.9			
S. socia	108.5	0.0	54.3	111.5	0.0	55.8						
S. ulna				56.0	53.2	54.6	41.8	51.6	46.7			
S. ulna v. contracta	54.3	0.0	27.1									
TOTAL BACILLARIOPHYTA	4018.3	4926.5	4472.6	4274.2	4258.4	4266.3	3570.5	4297.9	3934.1	506.1	779.7	642.8
CHRYSOPHYTA												
Dinobryon cylindricum	0.0	19.8	9.9	0.0	10.2	5.1	0.0	10.3	5.2			
TOTAL CHRYSOPHYTA	0.0	19.8	9.9	0.0	10.2	5.1	0.0	10.3	5.2	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata	18.6	9.9	14.3	19.6	10.2	14.9	20.3	0.0	10.2			
cryptophyte sp. 1	0.0	9.9	5.0				30.5	41.0	35.8	3.9	2.4	3.2
cryptophyte sp. 2	0.0	9.9	5.0				50.9	20.5	35.7	2.6	1.2	1.9
TOTAL CRYPTOPHYTA	18.6	29.7	24.3	19.6	10.2	14.9	101.7	61.5	81.7	6.5	3.6	5.1
XANTHOPHYTA												
Ophiocytium parvulum							10.2	0.0	5.1			
TOTAL XANTHOPHYTA	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	5.1	0.0	0.0	0.0
CHLOROPHYTA												
Ankistrodesmus convolutus				9.8	0.0	4.9						
A. falcatus	27.9	0.0	14.0	0.0	10.2	5.1				2.6	0.0	1.3
A. falcatus v. acicularis	0.0	9.9	5.0				10.2	0.0	5.1			
A. fractus	0.0	9.9	5.0									
Carteria Klebsii	0.0	9.9	5.0				0.0	10.3	5.2	1.3	0.0	0.7
Characium sp. 1	9.3	9.9	9.6									
Chlamydomonas globosa	37.1	29.6	33.4	0.0	30.4	15.2	10.2	0.0	5.1	3.9	0.0	2.0
Chlamydomonas sp. 3										1.3	1.2	1.3
Chlamydomonas sp. 5	9.3	0.0	4.7	0.0	30.5	15.3						
Dictyosphaerium Ehrenbergianum	0.0	9.9	5.0				10.2	10.3	10.3	0.0	1.2	0.6
Kirchneriella lunaris v. irregularis										3.9	0.0	2.0

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
27 MARCH 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Kirchneriella obesa	0.0	9.9	5.0	0.0	10.2	5.1	10.2	0.0	5.1			
Lagerheimia quadriseta							10.2	0.0	5.1			
Micractinium pusillum				9.8	0.0	4.9	10.2	10.3	10.3			
Oocystis Borgei	9.3	19.8	14.6	9.8	0.0	4.9				1.3	0.0	0.7
Polyedriopsis quadrispina				9.8	0.0	4.9						
Scenedesmus quadricauda				19.6	10.2	14.9						
Schroederia setigera							10.2	0.0	5.1			
Selenastrum Westii				9.8	0.0	4.9	10.2	0.0	5.1			
Tetraedron caudatum	0.0	9.9	5.0									
coccoid green sp. 2										2.6	2.5	2.6
TOTAL CHLOROPHYTA	92.9	118.7	106.3	68.6	91.5	80.1	81.6	30.9	56.4	16.9	4.9	11.2
CYANOPHYTA												
Anabaena sp. 1							1.0	0.0	0.5			
Aphanizomenon sp.	0.0	10.9	5.5				6.1	0.0	3.1			
Chroococcus dispersus v. minor	46.4	19.8	33.1	9.8	40.6	25.2				11.5	4.9	8.2
C. limneticus	9.3	0.0	4.7				10.2	0.0	5.1	0.0	4.9	2.5
Dactylococcopsis fascicularis ?	0.0	9.9	5.0									
D. Smithii	9.3	9.9	9.6				20.4	0.0	10.2			
Gomphosphaeria lacustris										3.9	0.0	2.0
Lyngbya Aestuarii	39.9	0.0	20.0									
L. Diguetii	7.4	11.9	9.7	0.0	11.2	5.6	26.5	0.0	13.3	0.7	0.0	0.4
Lyngbya sp.	24.2	4.0	14.1	9.8	3.1	6.5	6.1	0.0	3.1	0.8	0.3	0.6
Marssoniella elegans				9.8	0.0	4.9	10.2	0.0	5.1			
Microcystis incerta	18.6	0.0	9.3									
Oscillatoria amphibia ?	6.5	23.7	15.1	19.6	15.2	17.4	18.3	4.1	11.2	2.2	0.6	1.4
O. limnetica				0.0	25.4	12.7						
Oscillatoria sp. (1,2)	59.4	50.4	54.9	72.6	84.2	78.4	54.9	40.0	47.5	0.0	0.6	0.3
Rhabdoderma irregulare				19.6	0.0	9.8	10.2	20.5	15.4			
R. lineare	27.9	0.0	14.0	19.6	10.2	14.9	0.0	10.3	5.2			
TOTAL CYANOPHYTA	248.9	140.5	195.0	160.8	189.9	175.4	163.9	74.9	119.7	19.4	11.3	15.4
EUGLENOPHYTA												
Euglena proxima							0.0	20.5	10.3			
Euglena sp. 4										1.3	0.0	0.7

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
27 MARCH 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
EUGLENOPHYTA (continued)												
Trachelomonas robusta				9.8	0.0	4.9						
Trachelomonas sp. 1	46.4	69.1	57.8	88.2	60.9	74.6	71.2	143.4	107.3	6.4	0.0	3.2
euglenoid sp. 1				9.8	0.0	4.9	10.2	10.3	10.3			
euglenoid sp. 2				0.0	10.2	5.1						
TOTAL EUGLENOPHYTA	46.4	69.1	57.8	107.8	71.1	89.5	81.4	174.2	127.9	7.7	0.0	3.9
PYRRHOPHYTA												
Massartia sp. 1								10.2	0.0	5.1		
dinoflagellate sp. 1				0.0	10.2	5.1						
TOTAL PYRRHOPHYTA	0.0	0.0	0.0	0.0	10.2	5.1	10.2	0.0	5.1	0.0	0.0	0.0
OTHERS												
phytoflagellate sp. 4	9.3	9.9	9.6	29.4	0.0	14.7						
phytoflagellate sp. 9										2.6	1.2	1.9
TOTAL OTHERS	9.3	9.9	9.6	29.4	0.0	14.7	0.0	0.0	0.0	2.6	1.2	1.9
TOTAL PHYTOPLANKTON	4434.4	5314.2	4875.5	4660.4	4641.5	4651.1	4019.5	4649.7	4335.2	558.9	800.7	680.3
std. dev.			±523.92			±172.02			±503.64			±144.57

APPENDIX TABLE C.1-2

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
29 MAY 1980

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	44.8	120.2	82.5	78.5	0.0	39.3	48.9	0.0	24.4			
C. glomerata	355.4	160.6	258.0	288.1	232.1	260.1	73.1	128.4	100.8			
C. Meneghiniana	222.5	80.3	151.4	52.5	51.7	52.1	73.1	102.5	87.8			
C. pseudostelligera	977.4	923.2	950.3	654.7	438.5	546.6	585.3	693.2	639.2			
C. stelligera	266.6	200.5	233.5	183.5	103.0	143.3	0.0	102.5	51.3			
C. striata	622.0	361.1	491.5	288.1	335.5	311.8	390.2	384.9	387.5			
Cyclotella sp. 1	1466.5	1485.4	1475.9	785.7	928.8	857.2	682.6	718.7	700.7			
Melosira distans				26.0	0.0	13.0	73.1	0.0	36.6			
M. granulata	0.0	160.6	80.3	0.0	77.4	38.7	48.9	51.5	50.2			
M. varians							24.2	0.0	12.1			
Stephanodiscus astraea	133.6	0.0	66.8	26.0	0.0	13.0						
S. astraea v. minutula	177.7	481.8	329.8	157.1	283.8	220.4	170.8	256.9	213.9			
Pennales												
Achnanthes affinis	44.8	39.9	42.3	0.0	25.7	12.8						
A. deflexa							24.2	25.5	24.9	14.2	0.0	7.1
A. lanceolata v. dubia	0.0	39.9	19.9				0.0	25.5	12.8			
A. linearis				26.0	25.7	25.8	0.0	25.5	12.8			
A. linearis f. curta	0.0	80.3	40.2				24.2	51.5	37.8	10.6	0.0	5.3
A. microcephala	0.0	39.9	19.9	26.0	25.7	25.8						
A. minutissima	355.4	160.6	258.0	104.6	103.0	103.8	146.2	128.4	137.3	42.4	58.8	50.6
Amphora perpusilla	88.9	80.3	84.6	26.0	25.7	25.8	0.0	25.5	12.8	14.2	7.3	10.7
A. submontana							24.2	0.0	12.1			
Asterionella formosa	444.3	200.5	322.4	262.0	361.2	311.6	317.1	205.4	261.2			
Cocconeis pediculus										0.0	11.0	5.5
C. placentula							24.2	0.0	12.1			
Cymbella affinis							24.2	25.5	24.9	28.2	11.0	19.6
C. tumida							24.2	0.0	12.1			
Cymbella sp. 1										3.5	0.0	1.7
Diatoma tenue v. elongatum							24.2	0.0	12.1			
D. vulgare	0.0	39.9	19.9							3.5	3.7	3.6
Eunotia exigua				104.6	0.0	52.3						
Fragilaria capucina v. pumila	44.8	0.0	22.4									
F. pinnata	44.8	0.0	22.4									
F. vaucheriae	133.6	120.2	126.9				24.2	25.5	24.9			
Gomphonema angustatum	0.0	39.9	19.9							10.6	3.7	7.2
G. angustatum v. citera	0.0	39.9	19.9	0.0	25.7	12.8				3.5	14.6	9.1
G. olivaceum	44.8	0.0	22.4				24.2	0.0	12.1	10.6	47.8	29.2
G. tenellum										0.0	3.7	1.8
G. truncatum				0.0	25.7	12.8						

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
29 MAY 1980

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)												
Hantzschia amphioxys							24.2	0.0	12.1	7.1	3.7	5.3
Meridion circulare				26.0	0.0	13.0						
Navicula biconica	0.0	39.9	19.9				73.1	25.5	49.3	14.2	7.3	10.7
N. cincta							24.2	0.0	12.1			
N. cryptocephla	44.8	80.3	62.5	78.5	129.1	103.8	122.0	154.0	138.0	7.0	0.0	3.5
N. cryptocephala v. veneta	44.8	0.0	22.4	26.0	103.0	64.5	48.9	51.5	50.2	3.5	3.7	3.6
N. gracilloides	177.7	0.0	88.9	0.0	25.7	12.8	48.9	0.0	24.4			
N. mutica v. cohnii				26.0	103.0	64.5				7.1	3.7	5.3
N. radiosa v. parva							0.0	25.5	12.8			
N. rhyncocephala	44.8	80.3	62.5				24.2	0.0	12.1			
N. schroeteri v. escambia				0.0	25.7	12.8						
N. viridula	88.9	240.9	164.9	157.1	180.8	168.9	73.1	128.4	100.8	0.0	3.7	1.8
N. viridula v. avenacea	0.0	39.9	19.9				0.0	25.5	12.8			
Nitzschia acicularis v. closterioides	44.8	0.0	22.4				24.2	51.5	37.8	7.1	3.7	5.3
N. amphibia	88.9	0.0	44.4	26.0	0.0	13.0				0.0	3.7	1.8
N. capitellata	88.9	39.9	64.4	26.0	0.0	13.0	24.2	0.0	12.1	0.0	3.7	1.8
N. communis v. abbreviata	44.8	39.9	42.3	78.5	0.0	39.3				7.0	0.0	3.5
N. dissipata	222.5	160.6	191.5	78.5	51.7	65.1	48.9	51.5	50.2	42.4	29.5	35.9
N. filiformis				0.0	25.7	12.8						
N. hungarica				26.0	0.0	13.0				0.0	3.7	1.8
N. linearis										0.0	3.7	1.8
N. palea	311.3	80.3	195.8	157.1	25.7	91.4	170.8	179.9	175.4	239.8	224.2	232.0
N. parvula				0.0	25.7	12.8				3.5	0.0	1.7
N. sublinearis										0.0	11.0	5.5
N. tryblionella v. levidensis	44.8	0.0	22.4	26.0	0.0	13.0						
Pinnularia appendiculata	44.8	0.0	22.4									
Rhoicosphenia curvata	0.0	39.9	19.9	26.0	25.7	25.8				14.2	33.1	23.6
Stauroneis anceps							24.2	0.0	12.1			
Surirella angustata										0.0	3.7	1.8
S. linearis				0.0	25.7	12.8						
S. ovata	0.0	120.2	60.1	52.5	51.7	52.1	48.9	51.5	50.2	45.9	51.4	48.6
Synedra acus										17.6	7.3	12.5
S. delicatissima	0.0	39.9	19.9	0.0	25.7	12.8	24.2	179.9	102.1	3.5	3.7	3.6
S. radians	44.8	0.0	22.4	26.0	25.7	25.8	48.5	0.0	24.2	3.5	0.0	1.7
S. rumpens	44.8	0.0	22.4	52.5	0.0	26.2						
S. rumpens v. familiaris				26.0	0.0	13.0				3.5	3.7	3.6
S. rumpens v. meneghiana				0.0	25.7	12.8	0.0	25.5	12.8			
S. ulna	44.8	0.0	22.4				24.2	0.0	12.1	10.6	3.7	7.2
TOTAL BACILLARIOPHYTA	6894.1	5857.0	6374.8	4004.1	3945.5	3974.0	3728.0	3927.1	3828.0	578.8	573.5	575.3

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
29 MAY 1980

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												
Cryptomonas ovata	0.0	39.5	19.8	79.0	0.0	39.5	19.8	59.2	39.5	8.5	1.7	5.1
cryptophyte sp. 1	39.5	98.7	69.1	19.8	59.2	39.5	79.0	59.2	69.1	15.2	22.0	18.7
cryptophyte sp. 2	197.4	118.4	157.9	79.0	59.2	69.1	78.9	59.2	69.1	1.7	0.0	0.9
TOTAL CRYPTOPHYTA	236.9	256.6	246.8	177.8	118.4	148.1	177.7	177.6	177.7	25.4	23.7	24.7
CHLOROPHYTA												
Ankistrodesmus convolutus	19.8	0.0	9.9									
A. falcatus	59.2	59.2	59.2	19.8	19.8	19.8	79.0	39.5	59.3	0.0	1.7	0.9
Carteria multifilis							0.0	39.5	19.8			
Characium ambiguum										1.7	1.7	1.7
Chlamydomonas globosa	118.4	39.5	79.0				19.8	98.7	59.3	3.4	5.1	4.3
Chlamydomonas sp. 3	39.5	19.8	29.7							16.9	23.7	20.3
Chlamydomonas sp. 5	0.0	19.8	9.9	0.0	39.5	19.8	19.8	0.0	9.9			
Chlorella ? sp.	59.2	0.0	29.6	0.0	19.8	9.9	19.8	19.8	19.8	0.0	1.7	0.9
Chlorogonium sp.	0.0	19.8	9.9									
Closteriopsis longissima	19.8	0.0	9.9									
Cosmarium sp. 3	0.0	39.5	19.8	19.8	0.0	9.9	59.2	19.8	39.5			
Dictyosphaerium Ehrenberglanum	39.5	19.8	29.7				19.8	0.0	9.9			
Golenkinia radiata	19.8	0.0	9.9									
Gonium pectorale							19.8	19.8	19.8			
Kirchneriella contorta	0.0	19.8	9.9									
K. lunaris v. irregularis							19.8	0.0	9.9	0.0	2.1	1.1
K. obesa	19.8	0.0	9.9				0.0	19.8	9.9			
Lagerheimia quadriseta				19.8	19.8	19.8						
Polyedriopsis quadrispina	19.8	19.8	19.8	19.8	0.0	9.9	19.8	39.5	29.7			
Scenedesmus abundans v. longicauda	19.8	0.0	9.9	19.8	19.8	19.8						
S. acuminatus	0.0	19.8	9.9	0.0	19.8	9.9	0.0	19.8	9.9			
S. acutiformis ?	19.8	0.0	9.9									
S. incrassatulus v. mononae	0.0	19.8	9.9									
S. quadricauda	19.8	39.5	29.7	19.8	39.5	29.7	0.0	39.5	19.8			
Scenedesmus sp. 2	0.0	19.8	9.9									
Schroederia setigera	39.5	0.0	19.8									
Selenastrum gracile	19.8	0.0	9.9	19.8	0.0	9.9	0.0	19.8	9.9			
Tetrastrum glabrum	19.8	0.0	9.9									
T. punctatum	0.0	19.8	9.9									
T. staurogeniaeforme	19.8	0.0	9.9				0.0	19.8	9.9			
unidentified green sp. 2	0.0	19.8	9.9				39.5	0.0	19.8			
TOTAL CHLOROPHYTA	573.1	395.5	484.6	138.6	178.0	158.4	316.3	395.3	356.1	22.0	36.0	29.2

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
29 MAY 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CYANOPHYTA												
Chroococcus dispersus v. minor	98.7	118.4	108.6	0.0	39.5	19.8	19.8	39.5	29.7	1.7	0.0	0.9
Dactylococcopsis fascicularis?	59.2	79.0	69.1	19.8	0.0	9.9	0.0	39.5	19.8			
Lyngbya sp.	0.0	35.6	17.8	17.8	9.9	13.9	17.8	13.8	15.8			
Oscillatoria amphibia?	5.9	47.4	26.7	5.9	0.0	3.0	2.0	0.0	1.0			
Oscillatoria sp. (1,2)	45.4	45.4	45.4	5.9	0.0	3.0	0.0	15.8	7.9	1.7	3.5	2.6
Rhabdoderma lineare				19.8	0.0	9.9	19.8	0.0	9.9			
filamentous blue-green sp. 1	0.0	4.0	2.0									
TOTAL CYANOPHYTA	209.2	329.8	269.6	69.2	49.4	59.5	59.4	108.6	84.1	3.4	3.5	3.5
EUGLENOPHYTA												
Euglena acus	0.0	19.8	9.9									
E. proxima				19.8	0.0	9.9						
Phacus asymmetrica	0.0	19.8	9.9									
P. crenulata	19.8	0.0	9.9				19.8	0.0	9.9			
Trachelomonas hispida	19.8	0.0	9.9									
Trachelomonas sp. 1	78.9	59.2	69.1	79.0	118.4	98.7	19.8	98.7	59.3	0.0	3.4	1.7
Trachelomonas sp. 9				39.5	0.0	19.8						
euglenoid sp. 2										1.7	0.0	0.9
TOTAL EUGLENOPHYTA	118.5	98.8	108.7	138.3	118.4	128.4	39.6	98.7	69.2	1.7	3.4	2.6
TOTAL PHYTOPLANKTON	8031.8	6937.7	7484.5	4528.0	4409.7	4468.4	4321.0	4707.3	4515.1	631.3	640.1	635.3
std. dev.			±684.7			±778.5			±1147.8			±42.5

APPENDIX TABLE C.1-3

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
14 AUGUST 1980

	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												
Cyclotella glomerata	837.5	656.2	746.9	496.9	728.3	612.6	795.3	1005.0	900.2	10.0	0.0	5.0
C. Meneghiniana	79.7	77.2	78.5	36.9	19.8	28.3	61.0	62.7	61.8			
C. ocellata	159.5	154.5	157.0	220.9	118.0	169.4	265.0	104.7	184.8			
C. pseudostelligera	0.0	38.6	19.3	18.5	39.2	28.8	0.0	42.0	21.0			
C. stelligera	60.0	57.9	58.9	128.9	39.2	84.1	81.6	21.0	51.3			
Cyclotella sp. 1	259.3	347.6	303.4	441.5	452.8	447.1	448.4	460.7	454.5			
Melosira distans	139.7	96.6	118.1	55.1	157.5	106.3	101.8	209.3	155.6			
M. granulata	0.0	19.3	9.7	110.4	118.0	114.2						
M. granulata v. angustissima	99.8	115.9	107.8	73.5	39.2	56.4	101.8	167.7	134.7			
M. italica							81.6	125.7	103.6			
M. varians	0.0	19.3	9.7	36.9	19.8	28.3	20.2	0.0	10.1			
Melosira sp. 1	638.2	733.5	685.8	993.4	984.0	988.7	1039.7	753.7	896.7			
Stephanodiscus astraea v. minutula	39.9	19.3	29.6	18.5	0.0	9.2	20.2	0.0	10.1			
Pennales												
Achnanthes affinis				0.0	19.8	9.9	0.0	21.0	10.5	10.0	5.0	7.5
A. lanceolata	20.1	38.6	29.4				40.8	0.0	20.4	4.9	0.0	2.5
A. linearis f. curta	60.0	38.6	49.3	73.5	137.8	105.6	81.6	83.7	82.6	109.4	59.4	84.4
A. microcephala										0.0	9.9	5.0
A. minutissima	39.9	57.9	48.9				0.0	21.0	10.5	99.4	99.1	99.3
A. nolitt				18.5	0.0	9.2						
Amphora perpusilla	0.0	19.3	9.7							10.0	14.9	12.4
A. submontana							20.2	0.0	10.1			
Asterionella formosa v. gracillima	0.0	19.3	9.7	55.1	0.0	27.5	20.2	21.0	20.6	4.9	0.0	2.5

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
14 AUGUST 1980

	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 (continued)												
Cocconeis placentula v. lineata ?				18.5	0.0	9.2						
Cymbella affinis	39.9	0.0	19.9	0.0	19.8	9.9				4.9	5.0	5.0
C. minuta v. silesiaca	0.0	19.3	9.7				20.2	0.0	10.1			
Diatoma vulgare	20.1	0.0	10.0									
Eunotia exigua							20.2	0.0	10.1			
E. tenella	20.1	0.0	10.0	18.5	0.0	9.2						
Fragilaria capucina							61.0	0.0	30.5			
F. crotonensis				0.0	19.8	9.9						
F. pinnata							0.0	42.0	21.0			
F. vaucheriae	60.0	0.0	30.0									
Frustulia rhomboides v. ?	20.1	0.0	10.0									
Gomphonema angustatum	0.0	19.3	9.7	18.5	0.0	9.2				0.0	5.0	2.5
G. gracile							0.0	21.0	10.5			
G. parvulum	20.1	0.0	10.0							10.0	5.0	7.5
Gyrosigma obtusatum							20.2	0.0	10.1	4.9	5.0	5.0
Navicula biconica	20.1	38.6	29.4	36.9	0.0	18.5	40.8	42.0	41.4	4.9	0.0	2.5
N. cryptocephala	39.9	57.9	48.9	18.5	0.0	9.2	0.0	21.0	10.5	10.0	14.9	12.4
N. cryptocephala v. veneta							0.0	62.7	31.3	14.9	5.0	9.9
N. gracilloides										0.0	5.0	2.5
N. mutica	20.1	19.3	19.7				0.0	21.0	10.5			
N. rhyncocephala				0.0	19.8	9.9	0.0	21.0	10.5			
N. tripunctata v. schizonemoides	0.0	19.3	9.7	18.5	0.0	9.2	0.0	42.0	21.0	10.0	44.6	27.3
N. viridula				18.5	0.0	9.2	20.2	42.0	31.1			
N. viridula v. avenacea	39.9	38.6	39.2	18.5	19.8	19.1	40.8	0.0	20.4			
N. viridula v. rostellata	39.9	0.0	19.9							0.0	5.0	2.5
Nitzschia acicularis v. closterioides	39.9	0.0	19.9	18.5	0.0	9.2	40.8	0.0	20.4			

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
14 AUGUST 1980

	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 (continued)												
Nitzschia amphibia							0.0	21.0	10.5	29.9	19.8	24.8
N. clausii										39.8	34.7	37.2
N. communis v. abbreviata	39.9	57.9	48.9				40.8	21.0	30.9	24.8	24.8	24.8
N. dissipata	60.0	57.9	58.9				61.0	0.0	30.5	4.9	14.9	9.9
N. linearis							20.2	0.0	10.1			
N. palea	159.5	212.4	185.9	147.1	137.8	142.4	183.4	188.3	185.9	109.4	114.0	111.7
N. sublinearis	20.1	19.3	19.7	36.9	59.0	48.0	20.2	21.0	20.6	4.9	9.9	7.4
N. tryblionella v. victoriae	0.0	19.3	9.7									
Pinnularia subcapitata v. paucistriata				0.0	19.8	9.9						
Rhoicosphenia curvata	0.0	19.3	9.7	0.0	19.8	9.9				10.0	0.0	5.0
Surirella ovata	0.0	38.6	19.3				40.8	0.0	20.4	0.0	5.0	2.5
Synedra filiformis v. exilis				36.9	0.0	18.5						
S. rumpens							0.0	21.0	10.5			
S. ulna	0.0	19.3	9.7									
TOTAL BACILLARIOPHYTA	3093.2	3165.9	3129.5	3184.3	3189.0	3186.0	3810.0	3686.2	3747.9	531.9	505.9	519.0
CRYPTOPHYTA												
Cryptomonas ovata	23.1	28.9	26.0	5.8	5.8	5.8	23.1	23.1	23.1			
cryptophyte sp. 2	23.1	17.4	20.3	11.6	0.0	5.8	11.6	11.6	11.6	40.0	21.1	30.6
TOTAL CRYPTOPHYTA	46.2	46.3	46.3	17.4	5.8	11.6	34.7	34.7	34.7	40.0	21.1	30.6
CHLOROPHYTA												
Actinastrum Hantzschii	5.8	11.6	8.7	0.0	5.8	2.9						
Ankistrodesmus convolutus	5.8	0.0	2.9									
A. falcatus	0.0	5.8	2.9	11.6	0.0	5.8	0.0	34.7	17.4	0.0	10.6	5.3
A. falcatus v. acicularis							11.6	0.0	5.8			
A. fractus				5.8	0.0	2.9						
A. spiralis				5.8	0.0	2.9						

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
14 AUGUST 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Chlamydomonas globosa	5.8	34.7	20.3	34.7	11.6	23.2						
Chlamydomonas sp. 1	5.8	11.6	8.7	23.2	0.0	11.6				6.8	14.8	10.8
Chlorella ? sp.	11.6	11.6	11.6				23.1	23.1	23.1			
Chlorogonium elongatum	5.8	0.0	2.9									
Closterium acutum v. variable				0.0	5.8	2.9						
Closterium sp. 2	0.0	11.6	5.8									
Coelastrum sphaericum	0.0	5.8	2.9	0.0	5.8	2.9						
Dictyosphaerium Ehrenberglanum				0.0	5.8	2.9	0.0	11.6	5.8			
Gloeocystis sp.	0.0	5.8	2.9	0.0	5.8	2.9						
Golenkinia radiata	11.6	0.0	5.8							2.5	6.4	4.5
Gonium pectorale	0.0	5.8	2.9									
Kirchneriella contorta				0.0	5.8	2.9	11.6	23.1	17.4			
K. lunaris v. irregularis	5.8	5.8	5.8	0.0	5.8	2.9						
K. obesa										0.0	4.2	2.1
Micractinium pusillum	5.8	5.8	5.8									
Nephrocytium limneticum	0.0	5.8	2.9									
Oocystis Borgei	11.6	0.0	5.8				0.0	11.6	5.8	9.3	0.0	4.7
Oocystis ? sp. 1										9.3	2.1	5.7
Pediastrum obtusum				0.0	5.8	2.9						
Scenedesmus abundans	5.8	5.8	5.8									
S. abundans v. longicauda				0.0	17.4	8.7						
S. acuminatus				5.8	5.8	5.8	11.6	0.0	5.8			
S. Bernardii				5.8	5.8	5.8						
S. denticulatus	0.0	5.8	2.9									
S. dimorphus	5.8	0.0	2.9									
S. quadricauda	11.6	40.5	26.1	17.4	28.9	23.2	69.3	23.1	46.2			
Senedesmus sp. 2	5.8	0.0	2.9									
Schroederia setigera				0.0	5.8	2.9						

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
14 AUGUST 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Tetrastrum heteracanthum				0.0	11.6	5.8						
coccoid green sp. 7	11.6	11.6	11.6	5.8	0.0	2.9						
unidentified green sp. 2	0.0	46.3	23.2	23.2	40.5	31.9	0.0	34.7	17.4			
TOTAL CHLOROPHYTA	116.0	231.7	174.0	139.1	173.8	156.6	127.2	161.9	144.7	27.9	38.1	33.1
CYANOPHYTA												
Anabaena sp. 1										1.5	0.0	0.8
Chroococcus dispersus v. minor							0.0	11.6	5.8			
Dactylococcopsis acicularis										2.2	0.0	1.1
D. fascicularis	5.8	0.0	2.9									
Gomphosphaeria lacustris				5.8	0.0	2.9						
Lyngbya contorta	0.0	5.2	2.6									
L. Diguetii										0.0	7.9	4.0
L. limnetica				0.0	15.0	7.5						
Merismopedia tenuissima	5.8	5.8	5.8	11.6	0.0	5.8	0.0	11.6	5.8			
Microcystis incerta	5.8	5.8	5.8									
Oscillatoria amphibia ?	0.0	12.1	6.1	17.4	5.8	11.6	12.7	7.0	9.9			
Oscillatoria tenuis (sp. 4)				4.6	2.9	3.8	3.5	0.0	1.8	1.3	0.0	0.7
Oscillatoria sp. (1,2)	43.9	5.8	24.9	5.2	16.2	10.7	15.0	9.3	12.2	38.5	36.0	37.3
Synechococcus sp.	11.6	5.8	8.7									
TOTAL CYANOPHYTA	72.9	40.5	56.8	44.6	39.9	42.3	31.2	39.5	35.5	43.5	43.9	43.9
EUGLENOPHYTA												
Euglena convoluta ?				0.0	5.8	2.9						
E. proxima	0.0	5.8	2.9									
Trachelomonas hispida	5.8	5.8	5.8									
Trachelomonas robusta	0.0	5.8	2.9									
Trachelomonas sp. 1	23.2	11.6	17.4	11.6	0.0	5.8						
Trachelomonas sp. 2										0.0	2.1	1.1
TOTAL EUGLENOPHYTA	29.0	29.0	29.0	11.6	5.8	8.7	0.0	0.0	0.0	0.0	2.1	1.1
TOTAL PHYTOPLANKTON	3357.3	3513.4	3435.6	3397.0	3414.3	3405.2	4003.1	3922.3	3962.8	643.3	611.1	627.7
std. dev.			±372.0			±245.9			±399.2			±79.3

APPENDIX TABLE C.1-4

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	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												
Cyclotella glomerata	265.3	259.2	262.3	257.0	309.9	283.4	167.5	351.8	259.7			
C. Meneghiniana	7.0	16.1	11.6	24.1	30.4	27.2	15.2	6.5	10.8			
C. ocellata	15.3	16.1	15.7	8.0	23.1	15.6	10.4	40.9	25.6			
C. pseudostelligera	52.8	10.4	31.6	32.1	23.1	27.6	19.9	6.5	13.2			
C. stelligera	15.3	10.4	12.9				10.4	0.0	5.2			
Cyclotella sp. 1	98.6	64.6	81.6	104.4	158.0	131.2	106.9	162.5	134.7			
Melosira ambigua	0.0	21.8	10.9									
M. distans	302.9	237.3	270.1	448.4	226.0	327.2	126.8	115.1	121.0			
M. granulata	129.1	38.0	83.6	80.3	105.7	93.0	25.5	47.3	36.4			
M. granulata v. angustissima	7.0	5.7	6.4	88.3	14.6	51.5	4.8	0.0	2.4			
M. islandica subsp. helvetica	30.5	59.8	45.2	104.4	60.8	82.6	55.8	47.3	51.6			
M. varians							15.2	6.5	10.8			
Stephanodiscus astraea	15.3	16.1	15.7	16.1	45.0	30.5	19.9	53.8	36.9			
S. astraea v. minutula	7.0	0.0	3.5									
S. dubius	7.0	10.4	8.7	24.1	23.1	23.6	4.8	67.8	36.3			
unidentified centric sp. 1	68.1	48.4	58.3	40.2	37.7	38.9	76.6	53.8	65.2			
unidentified centric sp. 2	7.0	5.7	6.4									
Pennales												
Achnanthes deflexa				16.1	14.6	15.3	4.8	0.0	2.4	6.5	0.5	3.5
A. exigua							0.0	6.5	3.2			
A. lanceolata							4.8	0.0	2.4	0.0	0.5	0.2
A. linearis f. curta	15.3	5.7	10.5	0.0	14.6	7.3	0.0	6.5	3.2	15.2	14.7	15.0
A. minutissima										7.9	4.9	6.4
Amphora perpusilla										4.0	3.4	3.7
A. submontana	0.0	5.7	2.8							0.6	0.0	0.3
Asterionella formosa				8.0	0.0	4.0						
A. formosa v. gracillima	45.8	16.1	31.0	8.0	45.0	26.5	35.9	14.0	24.9			
Cocconeis pediculus										0.6	0.5	0.6
Cymbella affinis	0.0	5.7	2.8							0.6	2.0	1.3
C. tumida							4.8	0.0	2.4			

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	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 (continued)												
Eunotia vanheurckii							4.8	0.0	2.4			
Fragilaria crotonensis				7.0	16.1	11.6						
Gomphonema angustatum										1.3	0.5	0.9
G. olivaceum							0.0	6.5	3.2	0.6	1.0	0.8
G. parvulum							4.8	0.0	2.4	4.6	2.0	3.3
Navicula biconica							4.8	0.0	2.4	0.6	0.5	0.6
N. cryptocephala							4.8	0.0	2.4	2.6	2.9	2.8
N. cryptocephala v. veneta				0.0	7.3	3.6				2.6	2.0	2.3
N. gracilloides	0.0	5.7	2.8							2.0	1.0	1.5
N. lanceolata				8.0	0.0	4.0	4.8	0.0	2.4			
N. mutica v. cohnii				8.0	0.0	4.0						
N. tripunctata				0.0	7.3	3.6	4.8	0.0	2.4	0.6	1.0	0.8
Nitzschia clausii										0.0	0.5	0.2
N. communis v. abbreviata	7.0	0.0	3.5	0.0	7.3	3.6	10.4	14.0	12.2	6.5	2.0	4.3
Nitzschia dissipata				8.0	7.3	7.7	4.8	0.0	2.4	7.3	3.9	5.6
N. gandersheimensis							0.0	6.5	3.2	0.6	0.5	0.6
N. hungarica										0.6	0.5	0.6
N. palea	52.8	21.8	37.3	16.1	37.7	26.9	19.9	14.0	17.0	25.1	14.3	19.7
Pennularia appendiculata	0.0	5.7	2.8									
P. obscura				8.0	0.0	4.0	4.8	0.0	2.4			
Rhoicosphenia curvata										3.3	2.5	2.9
Surirella angustata										0.6	0.5	0.6
S. ovata				8.0	0.0	4.0						
Synedra delicatissima	15.3	42.7	29.0	24.1	7.3	15.7	4.8	29.9	15.8			
S. fasciculata							4.8	6.5	5.6	8.5	16.3	12.4
S. filiformis v. exilis	0.0	5.7	2.8				0.0	6.5	3.2			
S. pulchella										2.0	1.5	1.8
S. rumpens v. familiaris				0.0	7.3	3.6	4.8	6.5	5.6			
TOTAL BACILLARIOPHYTA	1171.7	951.2	1061.5	1339.9	1212.8	1276.4	792.7	1073.8	933.3	105.3	79.6	92.5
CHRYSOPHYTA												
Mallomonas sp. 1				3.2	0.0	1.6	6.4	0.0	3.2			
TOTAL CHRYSOPHYTA				3.2	0.0	1.6	6.4	0.0	3.2			

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CRYPTOPHYTA												
cryptophyte sp. 1				0.0	6.4	3.2	6.4	3.2	4.8			
cryptophyte sp. 2							0.0	3.2	1.6	0.3	0.5	0.4
TOTAL CRYPTOPHYTA				0.0	6.4	3.2	6.4	6.4	6.4	0.3	0.5	0.4
CHLOROPHYTA												
Ankistrodesmus falcatus	12.7	3.2	8.0	0.0	9.5	4.8	6.4	6.3	6.4			
A. falcatus v. mirabilis	0.0	3.2	1.6	3.2	0.0	1.6	0.0	6.4	3.2			
Carteria sp. 2										1.6	0.3	1.0
Chlamydomonas globosa	15.8	0.0	7.9	9.5	3.2	6.4	6.3	6.3	6.3	0.8	0.3	0.6
Chlamydomonas sp. 5				6.4	6.4	6.4						
Chlorella sp.	3.2	3.2	3.2	6.4	3.2	4.8	3.2	3.2	3.2			
Closteriopsis longissima	0.0	3.2	1.6				3.2	0.0	1.6			
Cosmarium sp. 3	12.7	0.0	6.4	3.2	0.0	1.6	3.2	0.0	1.6			
Crucigenia quadrata							3.2	0.0	1.6			
C. tetrapedia				0.0	3.2	1.6						
Gloeocystis sp.	6.3	0.0	3.2									
Golenkinia radiata	3.2	0.0	1.6									
Kirchneriella lunaris v. irregularis	3.2	0.0	1.6	6.4	3.2	4.8	3.2	6.4	4.8			
Lagerheimia quadriseta	12.7	3.2	8.0	0.0	3.2	1.6	6.3	0.0	3.2			
Micractinium pusillum	6.4	0.0	3.2									
Oocystis Borgei	6.4	3.2	4.8	6.4	3.2	4.8	0.0	3.2	1.6			
Pediastrum duplex v. clathrathum				0.0	3.2	1.6	3.0	3.2	3.2			
P. obtusum	3.2	0.0	1.6	3.2	0.0	1.6	3.2	0.0	1.6			
Polyedriopsis quadrispina	3.2	0.0	1.6									
Scenedesmus abundans				6.4	0.0	3.2						
S. abundans v. longicauda	6.4	0.0	3.2	6.4	3.2	4.8	3.2	0.0	1.6			
S. Bernardii										0.3	0.0	0.2
S. dimorphus	3.2	0.0	1.6									

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Scenedesmus quadricauda	15.9	12.7	14.3	15.8	3.2	9.5	6.4	3.2	4.8			
Scenedesmus sp. 2	3.2	0.0	1.6									
Selenastrum bibraianum				3.2	0.0	1.6						
Tetraedron minimum				0.0	3.2	1.6						
Tetrastrum glabrum	6.4	9.5	8.0	3.2	6.4	4.8	3.2	6.4	4.8			
T. heteracanthum				0.0	3.2	1.6	3.2	0.0	1.6			
T. punctatum	6.4	0.0	3.2	0.0	3.2	1.6						
T. staurogeniaeforme	0.0	3.2	1.6				6.3	0.0	3.2			
unidentified coccoid sp. 2	0.0	3.2	1.6	6.4	6.3	6.4	6.4	6.4	6.4			
TOTAL CHLOROPHYTA	130.5	47.8	89.4	86.1	67.0	76.7	70.1	51.0	60.7	2.7	0.6	1.8
CYANOPHYTA												
Chroococcus dispersus v. minor	3.2	0.0	1.6									
Dactylococcopsis fascicularis				3.2	0.0	1.6	3.2	0.0	1.6			
Gomphosphaeria lacustris	19.0	6.4	12.7	15.8	19.0	17.4	9.5	3.2	6.4			
Marssoniella elegans	3.2	0.0	1.6	3.2	0.0	1.6	6.3	3.2	4.8			
Merismopedia tenuissima				3.2	0.0	1.6						
Oscillatoria limnetica										0.0	0.1	0.1
Oscillatoria sp. (1,2)				18.4	0.0	9.2				0.3	0.3	0.3
Rhabdoderma lineare										0.0	0.3	0.2
TOTAL CYANOPHYTA	25.4	6.4	41.3	43.8	19.0	31.4	19.0	6.4	12.8	0.3	0.7	0.6
EUGLENOPHYTA												
Phacus asymnetrica										0.0	0.3	0.2
Trachelomonas sp. 1	0.0	6.4	3.2	3.2	6.4	4.8	3.2	0.0	1.6			
euglenoid sp. 1							0.0	3.2	1.6			
TOTAL EUGLENOPHYTA	0.0	6.4	3.2	3.2	6.4	4.8	3.2	3.2	3.2	0.0	0.3	0.2

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	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												
dinoflagellate sp. 1										0.0	0.5	0.3
TOTAL PYRRHOPHYTA										0.0	0.5	0.3
TOTAL PHYTOPLANKTON	1327.6	1011.8	1195.4	1476.2	1311.6	1394.1	897.8	1140.8	1019.6	108.6	82.2	95.8
std. dev.			±367.9			±289.2			±404.2			±17.7

APPENDIX TABLE C.1-5

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA									
Centrales									
Coscinodiscus lacustris	362.9	0.7	117.22						
Cyclotella comta	267.8	1.4	181.84	1.2	146.22	1.1	125.06		
C. glomerata	150.8	4.9	358.15	7.9	554.79	5.0	329.05		
C. Meneghiniana	726.3	1.1	394.38	1.2	396.56	1.9	606.46		
C. pseudostelligera	81.4	6.6	261.54	5.9	222.95	3.0	105.41	0.4	2.04
C. stelligera	49.3	1.9	45.06	0.6	13.11	0.6	12.72	6.4	21.30
Cyclotella sp. 1	68.7	14.3	480.08	11.7	374.35	18.8	561.21	4.7	21.85
Melosira distans	140.4	2.2	147.56			0.9	54.62		
M. granulata	443.8	0.7	143.35	0.6	121.16	0.5	103.41		
M. varians	3601.5			0.6	1008.42	0.5	752.71		
Stephanodiscus astraea v. minutula	110.8	0.7	35.79	0.6	29.47				
unidentified centric sp. 2	25.1			0.6	6.68				
Pennales									
Achnanthes affinis	72.8	1.1	39.53			1.1	34.00	3.6	17.62
A. deflexa	54.7	0.7	17.67						
A. lanceolata	31.5	1.2	18.71	0.6	8.38	0.5	6.58	0.9	2.02
A. lanceolata v. dubia	40.6					0.6	10.47		
A. linearis f. curta	53.2	1.2	31.60	3.0	73.58	2.0	47.08	0.9	3.40
A. microcephala	141.1			0.6	37.53	0.6	36.40		
A. minutissima	35.2	4.2	72.27	9.3	152.63	6.5	98.84	23.2	55.48
Amphora ovalis v. pediculus	108.6					1.1	50.72	2.2	16.51
A. perpusilla	51.9			0.6	13.80				
Anomoeoneis vitrea	87.4	0.6	23.68						
Asterionella formosa v. gracillima	189.5	8.0	736.02	9.4	824.32	7.9	650.93		
Cocconeis pediculus	1175.0	0.7	379.52						
C. placentula v. lineata	585.3					0.5	122.33		
Cymbella affinis	392.5	0.7	126.78	0.6	104.40			1.6	44.74
C. minuta f. latens	286.5			0.6	80.22				
C. minuta f. silesiaca	1338.3					1.1	624.99	0.4	33.46
Diatoma tenue v. elongatum	590.5			0.6	165.34				
D. vulgare	2782.6					1.1	1163.13	0.4	101.71
Eunotia tenella	363.6	0.6	98.54	1.2	198.53				

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA (continued)									
Fragilaria crotonensis	662.4			0.6	185.47	1.6	447.78		
F. vaucheriae	114.0			1.2	62.24	1.4	71.36	0.4	2.85
Gomphonema affine	656.8							0.4	16.42
G. angustatum	371.1					0.6	95.74	2.4	61.23
G. angustatum v. citera	50.4							3.4	11.54
G. olivaceum	198.0	3.2	308.88	0.6	55.44	1.7	143.95	2.6	35.24
G. parvulum	128.8	1.9	117.72	1.2	71.87	0.6	33.23	7.7	67.23
Gyrosigma nodiferum	18731.2	0.7	6050.18						
Hantzschia amphioxys	174.0	0.6	47.15						
Meridion circulare	537.8					0.6	138.75	2.2	81.75
Navicula biconica	354.0							0.6	13.45
N. cryptocephala	283.1	2.4	335.47	5.2	689.06	4.3	529.96	1.3	25.20
N. cryptocephala v. veneta	104.8	2.4	124.19	1.1	55.75	2.3	103.23	1.1	7.96
N. lanceolata	376.7			0.6	100.20				
N. mutica v. undulata	150.7							0.4	3.77
N. tripunctata	306.7			0.6	81.58	0.6	79.13		
N. schroeteri v. escambia	304.6							0.7	15.53
N. viridula	990.9	6.5	3159.98	2.3	1080.08	4.3	1854.96		
N. viridula v. rostellata	769.5					0.5	160.83		
Navicula sp. 2	143.3	1.2	85.12	2.3	152.61				
Navicula sp. 4	102.1			0.6	28.59				
Nitzschia acicularis v. closterioides	71.0					1.0	29.68		
N. amphibia	583.2	1.3	375.00	1.2	325.43			0.4	14.58
N. capitellata	112.9			1.1	60.06	1.2	58.48		
N. communis	28.8	2.0	27.82	0.6	7.66	1.7	20.94	1.9	3.66
N. communis v. abbreviata	15.1					1.2	7.82		
N. dissipata	80.3	6.0	234.32	5.3	197.70	2.3	79.10	8.2	44.81
N. palea	97.7	5.1	241.71	3.6	162.48	4.3	182.89	2.8	18.66
N. parvula	153.5							0.6	5.83
N. tryblionella v. victoriae	1874.3			0.6	524.80				
Pinnularia appendiculata	204.6			0.6	57.29				
P. subcapitata	76.7					0.6	19.79		
Pinnularia sp. 1	2140.2							0.4	53.51
Rhoicosphenia curvata	649.2			0.6	181.78	1.0	271.37	6.1	272.66
Surirella angustata	538.3					0.6	138.88		
S. ovata	676.9	3.1	1020.76			1.2	350.63	5.6	257.90
Synedra delicatissima v. angustissima	1827.8					0.6	471.57		

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA (continued)									
S. incisa	66.5			0.6	17.69				
S. minuscula	96.3			0.6	26.96				
S. radians	144.0	0.6	39.02						
S. rumpens v. familiaris	111.7			1.2	60.99	0.5	23.35		
S. socia	84.3	1.1	45.77	1.2	47.04				
S. ulna	987.8			1.2	539.34	1.1	461.30		
S. ulna v. contracta	638.4	0.6	173.01						
TOTAL BACILLARIOPHYTA		91.7	16095.39	92.0	9304.55	90.8	11270.84	94.3	1333.91
CHRYSOPHYTA									
Dinobryon cylindricum	113.3[c]	0.2	11.22	0.1	5.78	0.1	5.89		
TOTAL CHRYSOPHYTA		0.2	11.22	0.1	5.78	0.1	5.89		
CRYPTOPHYTA									
Cryptomonas ovata	764.8	0.3	109.37	0.3	113.96	0.2	78.01		
cryptophyte sp. 1	150.1	0.1	7.51			0.8	53.74	0.5	4.80
cryptophyte sp. 2	56.6	0.1	2.83			0.8	20.21	0.3	1.08
TOTAL CRYPTOPHYTA		0.5	119.71	0.3	113.96	1.8	151.96	0.8	5.88
XANTHOPHYTA									
Ophiocytium parvulum	669.0					0.1	34.12		
TOTAL XANTHOPHYTA						0.1	34.12		
CHLOROPHYTA									
Ankistsrodesmus convolutus	73.5[c]			0.1	3.60				
A. falcatus	28.1[c]	0.3	3.93	0.1	1.43			0.2	0.37
A. falcatus v. acicularis	74.3[c]	0.1	3.72			0.1	3.79		
A. fractus	102.6[c]	0.1	5.13						
Carteria Klebsii	929.5	0.1	46.48			0.1	48.33	0.1	6.51
Characium sp. 1	195.4	0.2	18.76						
Chlamydomonas globosa	2065.2	0.7	689.78	0.3	313.91	0.4	105.33	0.3	41.30
Chlamydomonas sp. 3	28.3							0.2	0.37
Chlamydomonas sp. 5	68.1	0.1	3.20	0.3	10.41				
Dictyosphaerium Ehrenbergianum	195.4[c]	0.1	9.77			0.2	20.13	0.1	1.17
Kirchneriella lunaris v. irregularis	40.7[c]							0.3	0.81
K. obesa	75.4[c]	0.1	3.77	0.1	3.84	0.1	3.84		
Lagerheimia quadriseta	50.3					0.1	2.57		
Micractinium pusillum	248.5[c]			0.1	12.18	0.2	25.60		
Oocystis Borgei	94.2[c]	0.3	13.75	0.1	4.62			0.1	0.66

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
CHLOROPHYTA (continued)									
Polyedriopsis quadrispina	75.0			0.1	3.68				
Scenedesmus quadricauda	231.2[c]			0.3	34.45				
Schroederia setigera	7.1					0.1	0.36		
Selenastrum Westii	53.1[c]			0.1	2.60	0.1	2.71		
Tetraedron caudatum	172.0[c]	0.1	8.60						
coccoid green sp. 2	212.2							0.4	5.52
TOTAL CHLOROPHYTA		2.2	806.89	4.6	390.72	1.4	212.66	1.7	56.71
CYANOPHYTA									
Anabaena sp. 1	201.1[d]					<0.1	10.06		
Aphanizomenon sp.	254.5[d]	0.1	13.98			0.1	7.89		
Chroococcus dispersus v. minor	13.8[c]	0.7	4.57	0.5	3.47			1.2	1.13
C. limneticus	164.6[c]	0.1	7.74			0.1	8.39	0.4	4.12
Dactylococcopsis fascicularis	5.8[c]	0.1	0.29						
D. Smithii	41.9[c]	0.2	4.02			0.2	4.27		
Gomphosphaeria lacustris	1150.3[c]							0.3	23.01
Lyngbya Aestuarii	3421.2[d]	0.4	684.24						
L. Diguetii	452.4[d]	0.2	43.88	0.1	25.33	0.3	60.17	0.1	1.81
Lyngbya sp.	153.9	0.3	21.70	0.1	10.00	0.1	4.77	0.1	0.92
Marssoniella elegans	66.2[c]			0.1	3.24	0.1	3.38		
Microcystis incerta	2065.2[c]	0.2	192.06						
Oscillatoria amphibia ?	530.9[d]	0.3	80.17	0.4	92.38	0.3	59.46	0.2	7.43
O. limnetica	314.2[d]			0.3	39.90				
Oscillatoria sp. (1,2)	153.9[d]	1.1	84.49	1.7	120.66	1.1	73.10	<0.1	0.46
Rhabdoderma irregulare	15.9[c]			0.2	1.56	0.4	2.45		
R. lineare	21.2[c]	0.3	2.97	0.3	3.16	0.1	1.10		
TOTAL CYANOPHYTA		4.0	1140.11	3.7	299.70	2.8	235.04	2.3	38.88
EUGLENOPHYTA									
Euglena proxima	4884.5					0.2	503.10		
Euglena sp. 4	4246.4							0.1	29.72
Trachelomonas robusta	1376.1			0.1	67.43				
Trachelomonas sp. 1	623.6	1.2	360.44	1.6	465.21	2.5	669.12	0.5	19.96
euglenoid sp. 1	250.9			0.1	12.29	0.2	25.84		
euglenoid sp. 2	703.7			0.1	35.89				
TOTAL EUGLENOPHYTA		1.2	360.44	1.9	580.82	2.9	1198.06	0.6	49.68

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
PYRRHOPHYTA									
Massartia sp. 1	694.2					0.1	35.40		
dinoflagellate sp. 1	9416.8			0.1	480.26				
TOTAL PYRRHOPHYTA				0.1	480.26	0.1	35.40		
OTHERS									
phytoflagellate sp. 4	56.6	0.2	5.43	0.3	8.32			0.3	4.14
phytoflagellate sp. 9	217.9							0.3	4.14
TOTAL OTHERS		0.2	5.43	0.3	8.32				
TOTAL BIOVOLUME			18539.19		11184.11		13143.97		1489.20

[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 100 μ filament volume.

APPENDIX TABLE C.1-6

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
29 MAY 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella comta	254.8	1.1	210.21	0.9	100.14	0.5	62.17		
C. glomerata	164.2	3.4	423.64	5.8	427.08	2.2	165.51		
C. Meneghiniana	475.6	2.0	720.06	1.2	247.79	1.9	417.58		
C. pseudostelligera	111.0	12.7	1054.83	12.2	606.73	14.2	709.51		
C. stelligera	210.7	3.1	491.98	3.2	301.93	1.1	108.09		
C. striata	365.6	6.6	1796.92	7.0	1139.94	8.6	1416.70		
Cyclotella sp. 1	66.5	19.7	981.47	19.2	570.04	15.5	465.97		
Melosira distans	225.2			0.3	29.28	0.8	82.42		
M. granulata	861.9	1.1	692.11	0.9	333.56	1.1	432.67		
M. varians	8867.8					0.3	1073.00		
Stephanodiscus astraea	950.2	0.9	634.73	0.3	123.53				
S. astraea v. minutula	143.4	4.4	472.93	4.9	316.05	4.7	306.73		
Pennales									
Achnanthes affinis	218.9	0.6	92.59	0.3	28.02				
A. deflexa	65.0					0.6	16.19	1.1	4.62
A. lanceolata v. dubia	49.0	0.3	9.75			0.3	6.27		
A. linearis	71.9			0.6	18.55	0.3	9.20		
A. linearis f. curta	65.5	0.5	26.33			0.8	24.76	0.8	3.47
A. microcephala	151.6	0.3	30.17	0.6	39.11				
A. minutissima	37.0	3.4	95.46	2.3	38.41	3.0	50.80	8.0	18.72
Amphora perpusilla	58.9	1.1	49.83	0.6	15.20	0.3	7.54	1.7	6.30
A. submontana	117.1					0.3	14.17		
Asterionella formosa	355.5	4.3	1146.13	7.0	1107.14	5.8	928.57		
Cocconeis pediculus	1261.7							0.9	69.39
C. placentula	859.5					0.3	104.00		
Cymbella affinis	1549.7					0.6	385.88	3.1	303.74
C. tumida	8851.0					0.3	1070.97		
Cymbella sp. 1	1023.7							0.3	17.40
Diatoma tenue v. elongatum	815.5					0.3	98.68		
D. vulgare	3127.3	0.3	622.33					0.6	112.58
Eunotia exigua	117.0			1.2	61.19				
Fragilaria construens v. pumila	367.6	0.3	82.34						
F. pinnata	50.5	0.3	11.31						
F. vaucheriae	147.6	1.7	187.30			0.6	36.75		
Gomphonema angustatum	512.5	0.3	101.99					1.1	36.90
G. angustatum v. citera	173.3	0.3	34.49	0.3	22.18			1.4	15.77
G. olivaceum	507.4	0.3	113.66			0.3	61.40	4.6	148.16
G. tenellum	812.3							0.3	14.62
G. truncatum	507.3			0.3	64.93				
Hantzschia amphioxys	636.5					0.3	70.02	0.8	33.73

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
29 MAY 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA (continued)									
Meridion circulare	644.2			0.3	83.75				
Navicula biconica	215.3	0.3	42.84			1.1	106.14	1.7	23.04
N. cincta	74.6					0.3	9.03		
N. cryptocephala	369.5	0.8	230.94	2.3	383.54	3.1	509.91	0.6	12.93
N. cryptocephala v. *veneta*	86.4	0.3	19.35	1.4	55.73	1.1	43.37	0.6	3.11
N. graciloides	217.7	1.2	193.54	0.3	27.87	0.5	53.12		
N. mutica v. *cohnii*	92.4			1.4	59.60			0.8	4.90
N. radiosa v. *parva*	308.8					0.3	39.53		
N. rhyncocephala	581.4	0.8	363.38			0.3	70.35		
N. schroeteri v. *escambia*	274.6			0.3	35.15				
N. viridula	1024.9	2.2	1690.06	3.8	1731.06	2.2	1033.10	0.3	18.45
N. viridula v. *avenacea*	1104.2	0.3	219.74			0.3	141.34		
Nitzschia acicularis v. *closterioides*	128.9	0.3	28.87			0.8	48.72	0.8	6.8
N. amphibia	88.1	0.6	39.12	0.3	11.45			0.3	1.59
N. capitellata	168.7	0.9	108.64	0.3	21.93	0.3	20.41	0.3	3.04
N. communis v. *abbreviata*	25.9	0.6	10.96	0.9	10.18			0.6	0.91
N. dissipata	230.0	2.6	440.45	1.5	149.73	1.1	115.46	5.7	82.57
N. filiformis	705.6			0.3	90.32				
N. hungarica	333.3			0.3	43.33			0.3	6.00
N. linearis	4099.4							0.3	73.79
N. palea	154.3	2.6	302.12	2.0	141.03	3.9	270.64	36.5	357.98
N. parvula	243.4			0.3	31.16			0.3	4.14
N. sublinearis	1121.3							0.9	61.67
N. tryblionella v. *levidensis*	438.6	0.3	98.25	0.3	57.02				
Pinnularia appendiculata	268.8	0.3	60.21						
Rhoicosphenia curvata	1678.4	0.3	334.00	0.6	433.02			3.7	396.10
Stauroneis anceps	393.3					0.3	47.59		
Surirella angustata	702.3							0.3	12.64
S. linearis	900.0			0.3	115.20				
S. ovata	657.3	0.8	395.04	1.2	342.45	1.1	329.96	7.6	319.45
Synedra acus	1706.6							2.0	213.33
S. delicatissima	369.4	0.3	73.51	0.3	47.28	2.3	377.16	0.6	13.30
S. radians	76.8	0.3	17.20	0.6	19.81	0.5	18.59	0.3	1.31
S. rumpens	275.9	0.3	61.80	0.6	72.28				
S. rumpens v. *familiaris*	252.7			0.3	32.85			0.6	9.10
S. rumpens v. *meneghiana*	173.3			0.3	22.18	0.3	22.18		
S. ulna	2653.9	0.3	594.47			0.3	321.12	1.1	191.08
TOTAL BACILLARIOPHYTA		85.8	15407.05	89.3	9609.32	85.2	11703.27	90.7	2602.63

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
29 MAY 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance (%)	Biovolume ($\mu^3 \times 10^2$)/ml
CRYPTOPHYTA									
Cryptomonas ovata	512.7	0.3	101.51	0.9	202.52	0.9	202.52	0.8	26.15
cryptophyte sp. 1	73.0	0.9	50.44	0.9	28.84	1.5	50.44	2.9	13.65
cryptophyte sp. 2	126.5	2.1	199.74	1.5	87.41	1.5	87.41	0.1	1.14
TOTAL CRYPTOPHYTA		3.3	351.69	3.3	318.77	3.9	340.37	3.8	40.94
CHLOROPHYTA									
Ankistrodesmus convolutus	61.3[c]	0.1	6.07						
A. falcatus	70.6[c]	0.8	41.78	0.4	13.98	1.3	41.87	0.1	0.64
Carteria multifilis	113.1					0.4	22.39		
Characium ambiguum	31.4							0.3	0.53
Chlamydomonas globosa	1987.8	1.0	1570.36			1.3	1178.77	0.7	85.48
Chlamydomonas sp. 3	24.5	0.4	7.28					3.2	4.97
Chlamydomonas sp. 5	266.4	0.1	26.37	0.4	52.75	0.2	26.37		
Chlorella ? sp.	24.4	0.4	7.22	0.2	2.42	0.4	4.83	0.1	0.22
Chlorogonium sp.	928.9	0.1	91.96						
Closteriopsis longissima	134.0	0.1	13.27						
Cosmarium sp. 3	18.4	0.3	3.64	0.2	1.82	0.9	7.27		
Dictyosphaerium Ehrenbergianum	2065.2[c]	0.4	613.36			0.2	204.45		
Golenkinia radiata	73.6	0.1	7.29						
Gonium pectorale	670.3[c]					0.4	132.72		
Kirchneriella contorta	21.4[c]	0.1	2.12						
K. lunaris v. irregularis	5.1[c]					0.2	0.50	0.2	0.06
K. obesa	223.0[c]	0.1	22.08			0.2	22.08		
Lagerheimia quadriseta	50.3			0.4	9.96				
Polyedriopsis quadrispina	48.0	0.3	9.50	0.2	4.75	0.7	14.26		
Scenedesmus abundans v. longicauda	106.4[c]	0.1	10.53	0.4	21.07				
S. acuminatus	166.0	0.1	16.43	0.2	16.43	0.2	16.43		
S. acutiformis ?	49.0	0.1	4.85						
S. incrassatulus v. mononae	447.2[c]	0.1	44.27						
S. quadricauda	211.1[c]	0.4	62.70	0.7	62.70	0.4	41.80		
Scenedesmus sp. 2	137.8[c]	0.1	13.64						
Schroederia setigera	103.9	0.3	20.39						
Selenastrum gracile	86.2[c]	0.1	8.53	0.2	8.53	0.2	8.53		
Tetrastrum glabrum	81.2[c]	0.1	8.04						
T. punctatum	551.3[c]	0.1	54.58						
T. staurogeniaeforme	98.0[c]	0.1	9.70			0.2	9.70		
unidentified green sp. 2	21.8[c]	0.1	2.16			0.4	4.32		
TOTAL CHLOROPHYTA		6.0	2678.12	3.3	194.41	7.6	1736.29	4.6	91.90
CYANOPHYTA									
Chroococcus dispersus v. minor	11.5[c]	1.5	12.49	0.4	2.28	0.7	3.42	0.1	0.10
Dactylococcopsis fascicularis ?	5.4[c]	0.9	3.73	0.2	0.53	0.4	1.07		

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
29 MAY 1980

Species	Average biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative abundance[a](%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml
CYANOPHYTA (continued)									
Lyngbya sp.	28.3[d]	0.2	5.04	0.3	3.93	0.3	4.47		
Oscillatoria amphibia?	530.9[d]	0.4	141.75	0.1	15.93	<0.05	5.31		
Oscillatoria sp. (1,2)	201.1[d]	0.6	91.30	0.1	6.03	0.2	15.89	0.4	5.23
Rhabdoderma lineare	55.7[c]			0.2	5.51	0.2	5.51		
filamentous blue-green sp. 1	314.2[d]	<0.05	19.80						
TOTAL CYANOPHYTA		3.6	274.11	1.3	34.21	1.8	35.67	0.5	5.33
EUGLENOPHYTA									
Euglena acus	2111.2	0.1	209.00						
E. proxima	1908.5			0.2	188.94				
Phacus asymmetrica	2352.8	0.1	232.93						
P. crenulata	6027.2	0.1	596.69			0.2	596.69		
Trachelomonas hispida	1206.4	0.1	119.43						
Trachelomonas sp. 1	51.0	0.9	35.24	2.2	50.34	1.3	30.24	0.3	0.87
Trachelomonas sp. 9	131.9			0.4	26.12				
euglenoid sp. 2	362.9							0.1	3.27
TOTAL EUGLENOPHYTA		1.3	1193.29	2.8	264.50	1.5	626.93	0.4	4.14
TOTAL BIOVOLUME			19904.26		10421.21		14442.53		2744.94

[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 100-μ filament volume.

APPENDIX TABLE C.1-7

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 AUGUST 1980

Species	Average biovolume (μ^3)	Station and parameter: 1 Relative abundance[a] (%)	1 Biovolume[b] ($\mu^3 \times 10^2$)/ml	3 Relative abundance (%)	3 Biovolume ($\mu^3 \times 10^2$)/ml	5 Relative abundance (%)	5 Biovolume ($\mu^3 \times 10^2$)/ml	6 Relative abundance (%)	6 Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella glomerata	102.6	21.7	766.32	18.0	628.53	22.7	923.61	0.8	5.13
C. Meneghiniana	1114.4	2.3	874.80	0.8	247.57	1.6	688.70		
C. ocellata	437.9	4.6	687.50	5.0	1164.63	4.7	809.24		
C. pseudostelligera	169.6	0.6	32.73	0.8	48.84	0.5	35.62		
C. stelligera	269.4	1.7	158.68	2.5	226.57	1.3	138.20		
Cyclotella sp. 1	55.4	8.8	168.08	13.1	247.69	11.5	251.79		
Melosira distans	130.7	3.4	154.36	3.1	138.93	3.9	203.37		
M. granulata	452.4	0.3	43.88	3.4	516.64				
M. granulata v. angustissima	183.8	3.1	198.14	1.7	103.66	3.4	247.58		
M. italica	692.7					2.6	717.64		
M. varians	1806.3	0.3	175.21	0.8	511.18	0.3	182.44		
Melosira sp. 1	62.3	20.0	427.25	29.0	615.96	22.6	558.64		
Stephanodiscus astraea v. minutula	471.2	0.9	139.48	0.3	43.35	0.3	47.59		
Pennales									
Achnanthes affinis	218.9			0.3	21.67	0.3	22.98	1.2	16.42
A. lanceolata	130.0	0.9	38.22			0.5	26.52	0.4	3.25
A. linearis f. curta	72.0	1.4	35.50	3.1	76.03	2.1	59.47	13.4	60.77
A. microcephala	117.0							0.8	5.85
A. minutissima	41.3	1.4	20.20			0.3	4.34	15.8	41.01
A. nolitii	288.0			0.3	26.50				
Amphora perpusilla	33.0	0.3	3.20					2.0	4.09
A. submontana	117.1					0.3	11.83		
Asterionella formosa v. gracillima	630.0	0.3	61.11	0.8	173.25	0.5	129.78	0.4	15.75
Cocconeis placentula v. lineata	1010.8			<0.05	92.99				
Cymbella affinis	1893.0	0.6	376.71	0.3	187.41			0.8	94.65
C. minuta v. silesiaca	804.2	0.3	78.01			0.3	81.22		
Diatoma vulgare	2029.5	0.3	202.95						
Eunotia exigua	141.4					0.3	14.28		
E. tenella	216.0	0.3	21.60	0.3	19.87				
Fragilaria capucina	324.0					0.8	98.82		
F. crotonensis	840.0			0.3	83.16				
F. pinnata	84.8					0.5	17.81		
F. vaucheriae	126.0	0.9	37.80						
Frustulia rhomboides v.	1518.0	0.3	151.80						
Gomphonema angustatum	213.8	0.3	20.74	0.3	19.67			0.4	5.35
G. gracile	630.0					0.3	66.15		
G. parvulum	127.5	0.3	12.75					1.2	9.56
Gyrosigma obtusatum	562.5					0.3	56.81	0.8	28.13
Navicula biconica	113.1	0.9	33.25	0.5	20.92	1.0	46.82	0.4	2.83
N. cryptocephala	247.5	1.4	121.03	0.3	22.77	0.3	25.99	2.0	30.69
N. cryptocephala v. veneta	213.8					0.8	66.92	1.6	21.17
N. graciloides	378.0							0.4	9.45
N. mutica	505.2	0.6	99.52			0.3	53.05		
N. rhyncocephala	486.0			0.3	48.11	0.3	51.03		

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 AUGUST 1980

Species	Average biovolume (μ^3)	Station and parameter: 1 Relative abundance[a] (%)	1 Biovolume[b] ($\mu^3 \times 10^2$)/ml	3 Relative abundance (%)	3 Biovolume ($\mu^3 \times 10^2$)/ml	5 Relative abundance (%)	5 Biovolume ($\mu^3 \times 10^2$)/ml	6 Relative abundance (%)	6 Biovolume ($\mu^3 \times 10^2$)/ml
BACILLARIOPHYTA (continued)									
Navicula tripunctata v. schizonemoides	407.9	0.3	39.57	0.3	37.53	0.5	85.66	4.3	111.36
N. viridula	990.0			0.3	91.08	0.8	307.89		
N. viridula v. avenacea	1730.4	1.1	678.32	0.6	330.51	0.5	353.00		
N. viridula v. rostellata	708.8	0.6	141.05					0.4	17.72
Nitzschia acicularis v. closterioides	402.1	0.6	80.02	0.3	36.99	0.5	82.03		
N. amphibia	183.8					0.3	19.30	4.0	45.58
N. clausii	367.5							5.9	136.71
N. communis v. abbreviata	31.5	1.4	15.40			0.8	9.73	4.0	7.81
N. dissipata	268.8	1.7	158.32			0.8	81.98	1.6	26.61
N. linearis	3852.0					0.3	389.05		
N. palea	67.8	5.4	126.04	4.2	96.55	4.7	126.04	17.8	75.73
N. sublinearis	131.0	0.6	258.46	1.4	629.76	0.5	270.27	1.2	97.09
N. tryblionella v. victoriae	3392.9	0.3	329.11						
Pinnularia subcapitata v. paucistriata	1080.0			0.3	106.92				
Rhoicosphenia curvata	1848.0	0.3	179.26	0.3	182.95			0.8	92.40
Surirella ovata	1555.1	0.6	300.13			0.5	317.24	0.4	38.88
Synedra filiformis v. exilis	168.0			0.5	31.08				
S. rumpens	189.0					0.3	19.85		
S. ulna	2772.0	0.3	268.88						
TOTAL BACILLARIOPHYTA		90.4	7715.38	93.2	6829.27	95.0	7700.28	82.9	1058.13
CRYPTOPHYTA									
Cryptomonas ovata	1647.1	0.6	428.25	0.2	95.53	0.6	380.48		
cryptophyte sp. 2	12.3	0.6	2.50	0.2	0.71	0.3	1.43	4.9	3.76
TOTAL CRYPTOPHYTA		1.4	430.75	0.4	96.24	0.9	381.91	4.9	3.76
CHLOROPHYTA									
Actinastrum Hantzschii	46.3[c]	0.3	4.03	0.1	1.34				
Ankistrodesmus convolutus	35.3[c]	0.1	1.02						
A. falcatus	25.7[c]	0.1	0.75	0.2	1.49	0.4	4.47	0.8	1.36
A. falcatus v. acicularis	205.9[c]					0.1	11.94		
A. fractus	128.7[c]			0.1	3.73				
A. spiralis	120.6[c]			0.1	3.50				
Chlamydomonas globosa	137.3	0.6	27.87	0.7	31.85				
Chlamydomonas sp. 1	566.9	0.3	49.32	0.3	65.76			1.7	61.23
Chlorella sp.	137.3	0.3	15.93			0.6	31.72		
Chlorogonium elongatum	102.9	0.1	2.98						
Closterium acutum v. variabile	1093.8			0.1	31.72				
Closterium sp. 2	308.8	0.2	17.91						
Coelastrum sphaericum	1098.1[c]	0.1	31.84	0.1	31.84				
Dictyosphaerium Ehrenbergianum	523.6[c]			0.1	15.18	0.1	30.37		

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 AUGUST 1980

Species	Average biovolume (μ^3)	Station and parameter							
		1		3		5		6	
		Relative abundance[a] (%)	Biovolume[b] ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml	Relative abundance(%)	Biovolume ($\mu^3 \times 10^2$)/ml
CHLOROPHYTA (continued)									
Gloeocystis sp.	463.2[c]	0.1	13.43	0.1	13.43				
Golenkinia radiata	57.9	0.2	3.36					0.7	2.61
Gonium pectorale	1510.3[c]	0.1	43.80						
Kirchneriella contorta	4.0[c]			0.1	0.12	0.4	0.70		
K. lunaris v. irregularis	34.3[c]	0.2	1.99	0.1	0.99				
K. obesa	311.0[c]							0.3	6.53
Micractinium pusillum	356.8[c]	0.2	20.69						
Nephrocytium limneticum	633.4[c]	0.1	18.37						
Oocystis Borgei	332.5[c]	0.2	19.29			0.1	19.29	0.7	15.63
Oocystis sp. 1	65.4[c]							0.9	3.73
Pediastrum obtusum	72.4[c]			0.1	2.10				
Scenedesmus abundans	1098.0[c]	0.2	63.68						
S. abundans v. longicauda	45.2[c]			0.3	3.93				
S. acuminatus	207.6[c]			0.2	12.04	0.1	12.04		
S. Bernardii	1098.0[c]			0.2	63.68				
S. denticulatus	232.4[c]	0.1	6.74						
S. dimorphus	844.4[c]	0.1	24.49						
S. quadricauda	244.3[c]	0.8	63.76	0.7	56.68	1.2	112.87		
Scenedesmus sp. 2	102.4[c]	0.1	2.97						
Schroederia setigera	34.3			0.1	0.99				
Tetrastrum heteracanthum	37.5[c]			0.2	2.18				
coccoid green sp. 7	137.3	0.3	15.93	0.1	3.98				
unidentified green sp. 2	294.2	0.7	68.25	0.9	93.85	0.4	51.19		
TOTAL CHLOROPHYTA		5.5	518.40	4.9	440.38	3.4	274.59	5.1	91.09
CYANOPHYTA									
Anabaena sp. 1	706.9[d]							0.1	5.66
Chroococcus dispersus v. minor	21.0[c]					0.1	1.22		
Dactylococcopsis acicularis	31.4[c]							0.2	0.11
D. fascicularis	9.7[c]	0.1	0.28						
Gomphosphaeria lacustris	137.3[c]			0.1	3.98				
Lyngbya contorta	113.1[d]	0.1	2.94						
L. Diguetti	452.4[d]							0.6	18.10
L. limnetica	452.4[d]			0.2	33.93				
Merismopedia tenuissima	38.3[c]	0.2	2.22	0.2	2.22	0.1	2.22		
Microcystis incerta	8784.5[c]	0.2	509.50						
Oscillatoria amphibia	201.1[d]	0.2	12.27	0.3	23.33	0.2	19.91		
O. tenuis (sp. 4)	1661.9[d]			0.1	63.15	<0.05	29.91	0.1	11.63
Oscillatoria sp. (1,2)	153.9[d]	0.7	38.32	0.3	16.47	0.3	18.78	5.9	57.40
Synechococcus sp.	205.9[c]	0.3	17.91						
TOTAL CYANOPHYTA		1.8	583.44	1.2	143.08	0.7	72.04	6.9	92.90

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
14 AUGUST 1980

Species	Average biovolume (μ^3)	Station and parameter: 1 Relative abundance[a] (%)	1 Biovolume[b] ($\mu^3 \times 10^2$)/ml	3 Relative abundance (%)	3 Biovolume ($\mu^3 \times 10^2$)/ml	5 Relative abundance (%)	5 Biovolume ($\mu^3 \times 10^2$)/ml	6 Relative abundance (%)	6 Biovolume ($\mu^3 \times 10^2$)/ml
EUGLENOPHYTA									
Euglena convoluta	8261.2			0.1	239.57				
E. proxima	5353.1	0.1	155.24						
Trachelomonas hispida	4941.3	0.2	286.60						
T. robusta	1098.1	0.1	31.84						
Trachelomonas sp. 1	17.2	0.5	2.99	0.2	1.00				
Trachelomonas sp. 2	179.6							0.2	1.98
TOTAL EUGLENOPHYTA		0.9	476.67	0.3	240.57	0.0	0.00	0.2	1.98
TOTAL BIOVOLUME			9724.64		7749.54		8428.82		1247.86

[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 100-μ filament volume.

APPENDIX TABLE C.1-8

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella glomerata	156.2	21.9	409.71	20.3	442.67	25.5	405.65		
C. Meneghiniana	804.2	1.0	93.29	2.0	218.74	1.1	86.85		
C. ocellata	286.3	1.3	44.95	1.1	44.66	2.5	73.29		
C. pseudostelligera	96.5	2.6	30.98	2.0	26.63	1.3	12.74		
C. stelligera	173.2	1.1	22.34			0.5	9.01		
Cyclotella sp. 1	84.9	6.8	69.28	9.4	111.39	13.2	114.36		
Melosira ambigua	838.7	0.9	91.42						
M. distans	155.5	22.6	420.01	23.5	508.80	11.9	188.16		
M. granulata	3840.3	7.0	3210.49	6.7	3571.48	3.6	1397.87		
M. granulata v. angustissima	168.2	0.5	10.76	3.7	86.62	0.2	4.04		
M. islandica subsp. helvektica	404.5	3.8	182.83	5.9	334.12	5.1	208.72		
M. varians	6195.9					1.1	669.16		
Stephanodiscus astraea	11309.7	1.3	1775.62	2.2	3449.46	3.6	4173.28		
S. astraea v. minutula	1206.4	0.3	42.22						
S. dubius	514.7	0.7	44.78	1.7	121.47	3.6	186.84		
unidentified centric sp. 1	18.2	4.9	10.61	2.8	7.08	6.4	11.87		
unidentified centric sp. 2	37.7	0.5	2.41						
Pennales									
Achnanthes deflexa	40.5			1.1	6.20	0.2	0.97	3.6	1.42
A. exigua	96.5					0.3	3.09		
A. lanceolata	67.2					0.2	1.61	0.2	0.13
A. linearis f. curta	61.2	0.9	6.86	0.5	4.77	0.3	2.09	15.7	9.80
A. minutissima	33.0							6.7	2.11
Amphora perpusilla	65.3							3.9	2.42
A. submontana	627.7	0.2	17.58					0.3	1.88
Asterionella formosa	549.8			0.3	21.99				
A. formosa v. gracillima	518.2	2.6	160.64	1.9	137.32	2.4	129.03		
Cocconeis pediculus	3035.2							0.6	18.21
Cymbella affinis	919.6	0.2	25.75					1.4	11.95
C. tumida	7326.4					0.2	175.83		
Eunotia vanheurckii	205.8					0.2	4.94		
Fragilaria crotonensis	1566.0			0.8	181.66				
Gomphonema angustatum	326.4							0.9	2.94
G. olivaceum	919.1					0.3	29.41	0.8	7.35
G. parvulum	288.7					0.2	2.89	3.4	9.53
Navicula biconica	64.0					0.2	1.54	0.6	0.38
N. cryptocephala	321.3					0.2	7.71	2.9	9.00
N. cryptocephala v. veneta	176.3			0.3	6.25			2.4	3.99
N. gracilloides	353.8	0.2	9.91					1.6	5.31
N. lanceolata	957.9			0.3	38.32	0.2	22.99		
N. mutica v. cohnii	60.9			0.3	2.44				
N. tripunctata	250.6			0.3	9.02	0.2	6.01	0.8	2.00
Nitzschia clausii	437.8							0.2	0.88
N. communis v. abbreviata	18.0	0.3	0.63	0.3	0.65	1.2	2.20	4.5	0.77
N. dissipata	184.8			0.1	14.23	0.2	4.44	5.8	10.35
N. gandersheimiensis	667.2					0.3	21.35	0.6	4.00
N. hungarica	681.0							0.6	4.09
N. palea	97.7	3.1	36.44	1.9	26.28	1.7	16.61	20.6	19.25

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a](%)	Biovolume[b] $\mu^3(x10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(x10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(x10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(x10^2)$/ml
BACILLARIOPHYTA (continued)									
Pennularia appendiculata	84.0	0.2	2.35						
P. obseura	129.6			0.3	5.18	0.2	3.11		
Rhoicosphenia curvata	1487.3							3.0	43.13
Surirella angustata	539.3							0.6	3.24
S. ovata	1682.6			0.3	67.30				
Synedra delicatissima	2169.0	2.4	629.01	1.1	340.53	1.6	342.70		
S. fasciculata	1034.0					0.6	57.90	12.9	128.22
S. fasciculata v. exilis	222.0	0.2	6.22			0.3	7.10		
S. pulchella	1788.7							1.9	32.20
S. rumpens v. familiaris	253.8			0.3	9.14	0.6	14.21		
TOTAL BACILLARIOPHYTA		88.6	7355.09	91.7	9794.40	91.4	8399.57	96.6	334.55
CRYSOPHYTA									
Mallomonas sp. 1	347.4			0.1	5.56	0.3	11.12		
TOTAL CRYSOPHYTA				0.1	5.56	0.3	11.12		
CRYPTOPHYTA									
cryptophyte sp. 1	171.6			0.2	5.49	0.5	8.24		
cryptophyte sp 2	102.9					0.2	1.65	0.4	0.41
TOTAL CRYPTOPHYTA				0.2	5.49	0.6	9.89	0.4	0.41
CHLOROPHYTA									
Ankistrodesmus falcatus	26.8[c]	0.7	2.1	0.3	1.29	0.6	1.72		
A. falcatus v. mirabilis	107.2[c]	0.1	1.7	0.1	1.72	0.3	3.43		
Carteria sp. 2	33.0							1.0	0.33
Chlamydomonas globosa	268.1	1.3	21.2	0.5	17.16	0.6	16.89	0.6	1.61
Chlamydomonas sp. 5	240.2			0.5	15.37				
Chlorella sp.	137.3	0.3	4.4	0.3	6.59	0.3	4.39		
Closteriopsis longissima	4117.7	0.1	65.88			0.2	65.88		
Cosmarium sp. 3	68.6	0.5	4.39	0.1	1.10	0.2	1.10		
Crucigenia quadrata	20.4[c]					0.2			
C. tetrapedia	316.8[c]			0.1	5.07				
Gloeocystis sp.	137.3[c]	0.3	4.39						
Golenkinia radiata	137.3	0.1	2.20						
Kirchneriella lunaris v. irregularis	24.7[c]	0.1	0.40	0.3	1.19	0.4	1.19		
Lagerheimia quadriseta	53.6	0.7	4.29	0.1	0.86	0.3	1.72		
Micractinium pusillum	137.3[c]	0.3	4.39						
Oocystis Borgei	570.1[c]	0.4	27.36	0.3	27.36	0.2	9.12		
Pediastrum duplex v. clathratum	3883.9[c]			0.1	62.14	0.3	124.28		
P. obtusum	1425.9[c]	0.1	22.81	0.1	22.81	0.2	22.81		
Polyedriopsis quadrispina	69.1	0.1	1.11						
Scenedesmus abundans	241.2[c]			0.2	7.72				
S. abundans v. longicauda	81.5[c]	0.3	2.61	0.3	3.91	0.2	1.30		
S. Bernardii	90.1[c]							0.2	0.18
S. dimorphus	206.0[c]	0.1	3.30						
S. quadricauda	732.8[c]	1.2	104.79	0.7	69.62	0.5	35.17		
Scenedesmus sp. 2	222.2[c]	0.1	3.56						
Selenastrum Bibraianum	125.7[c]			0.1	2.01				
Tetraedron minimum	316.8[c]			0.1	5.07				
Tetrastrum glabrum	194.9[c]	0.7	15.59	0.3	9.36	0.5	9.36		
T. heteracanthum	155.5[c]			0.1	2.49	0.2	2.49		
T. punctatum	1169.6[c]	0.3	37.43	0.1	18.71				
T. staurogeniaeforme	169.6[c]	0.1	27.14			0.3	54.27		
unidentified coccoid sp. 2	549.0	0.1	8.78	0.5	35.14	0.6	35.14		
TOTAL CHLOROPHYTA		7.5	369.85	5.5	316.69	6.0	390.59	1.9	2.12

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml	Relative Abundance (%)	Biovolume μ^3 (x10^2)/ml
CYANOPHYTA									
Chroococcus dispersus v. *minor*	42.0[c]	0.1	0.67						
Dactylococcopsis fascicularis	8.7[c]			0.1	0.14	0.2	0.14		
Gomphosphaeria lacustris	1317.1[c]	1.1	167.27	1.2	229.18	0.6	84.29		
Marssoniella elegans	18.6[c]	0.1	0.30	0.1	0.30	0.5	0.89		
Merismopedia tenuissima	71.7[c]			0.1	1.15				
Oscillatoria limnetica	1256.6[d]							0.1	1.26
Oscillatoria sp. (1,2)	113.1[d]			0.7	10.41			0.3	0.34
Rhabdoderma lineare	113.1[c]							0.2	0.23
TOTAL CYANOPHYTA		3.4	168.24	2.2	241.18	1.3	85.32	0.6	1.83
EUGLENOPHYTA									
Phacus asymmetrica	4071.5							0.2	8.14
Trachelomonas sp. 1	137.3	0.7	439.36	0.3	659.04	0.2	219.68		
euglenoid sp. 1	926.5					0.2	1482.40		
TOTAL EUGLENOPHYTA		0.7	439.36	0.3	659.04	0.4	1702.08	0.2	8.14
PYRRHOPHYTA									
dinoflagellate sp. 1	523.6							0.3	1.57
TOTAL PYRRHOPHYTA								0.3	1.57
TOTAL BIOVOLUME			8332.54		11022.36		10513.25		348.62

[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 boivolume for each species by the average density at each station.

[c]Value represents colony volume.

[d]Value represents 100-μ filament.

APPENDIX TABLE C.2-1

ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
25 MARCH 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PROTOZOA												
Acineta sp.	0.5	4.8	2.7	1.6	0.5	1.1	2.4	0.3	1.4			
Arcella sp.		0.8	0.4	0.8	0.9	0.9	0.6	0.3	0.5	0.1	0.1	0.1
Carchesium sp.	12.2	16.0	14.1	10.0	5.9	8.0	8.1	8.4	8.3			
Centropyxis spp.	3.2	7.2	5.2	11.6	10.4	11.0	12.0	11.1	11.6	0.1	0.1	0.1
Difflugia spp.	1.4	2.4	1.9	4.0	1.8	2.9	4.8	4.5	4.7			
Epistylis sp.	2.7	2.4	2.6	1.2	2.3	1.8	0.9	1.2	1.1			
Podophrya sp.	0.0	0.8	0.4									
Vorticella sp.	47.3	40.0	43.7	30.0	58.1	44.1	18.0	16.8	17.4			
TOTAL PROTOZOA	67.3	74.4	71.0	59.2	79.9	69.8	46.8	42.6	45.0	0.2	0.2	0.2
ROTIFERA												
Asplanchna sp.	0.5	0.0	0.3	0.0	0.5	0.3						
Brachionus spp.	0.5	0.0	0.3	0.8	0.5	0.7						
B. calyciflorus				0.8	0.0	0.4						
Epiphanes sp.							0.9	1.2	1.1	0.1	0.1	0.1
Euchlanis sp.				0.8	0.5	0.7						
Filinia longiseta				0.0	0.5	0.3	0.0	0.3	0.2			
Kellicottia longispina							0.3	0.0	0.2			
Keratella cochlearis	0.0	0.8	0.4	0.4	0.9	0.7	0.3	1.2	0.8			
K. quadrata	0.0	0.8	0.4	0.4	0.9	0.7	0.3	0.0	0.2			
Notholca sp.								0.6	0.0	0.3		

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
25 MARCH 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
ROTIFERA (continued)												
unidentified Bdelloidia	0.5	3.2	1.9	0.4	0.5	0.5	0.3	0.3	0.3	0.2	0.1	0.2
unidentified Rotifera				0.4	1.4	0.9	0.3	0.9	0.6	0.0	0.1	0.1
TOTAL ROTIFERA	1.5	4.8	3.3	4.0	5.7	5.2	3.0	4.2	3.7	0.3	0.3	0.4
CLADOCERA												
Chydorus sphaericus							0.6	0.0	0.3	0.1	0.1	0.1
immature Cladocera										0.1	0.0	0.1
TOTAL CLADOCERA	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.2	0.1	0.2
COPEPODA												
Calanoida												
Diaptomus sp.	0.5	0.8	0.7									
Cyclopoida												
Cyclops bicuspidatus thomasi										0.1	0.0	0.1
Eucyclops speratus							0.3	0.0	0.2	0.0	0.1	0.1
Harpacticoida												
Attheyella illinoisensis								0.3	0.2	0.1	0.1	0.1
copepodites				0.0	0.9	0.5	0.6	0.3	0.5	0.0	0.1	0.1
nauplii	1.4	3.2	2.3	1.6	1.8	1.7	0.9	1.5	1.2	0.2	0.2	0.2
TOTAL COPEPODA	1.9	4.0	3.0	1.6	2.7	2.2	1.8	2.1	2.1	0.4	0.5	0.6
OTHERS												
Nematoda	2.3	6.4	4.4	3.2	3.6	3.4	2.1	0.9	1.5	0.1	0.1	0.1
Ectoprocta statoblasts	0.5	0.0	0.3	0.8	0.9	0.9	0.3	0.0	0.2			

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
25 MARCH 1980

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS (continued)												
Tardigrada	0.0	0.8	0.4	1.6	0.0	0.8	0.3	0.6	0.5	0.1	0.1	0.1
Oligochaeta	0.5	0.8	0.7	0.4	0.5	0.5				0.1	0.1	0.1
Chironomidae										0.3	0.4	0.4
Ostracoda		•								0.1	0.0	0.1
TOTAL OTHERS	3.3	8.0	5.8	6.0	5.0	5.6	2.7	1.5	2.2	0.7	0.7	0.8
TOTAL ZOOPLANKTERS PER LITER	74.0	91.2	83.1	70.8	93.3	82.8	54.9	50.1	53.3	1.8	1.8	2.2
Standard deviation			±32.3			±18.8			±3.5			±12.8

[a]Number of zooplankters per liter.

APPENDIX TABLE C.2-2

ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
27 MAY 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A[b]	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PROTOZOA												
Acineta sp.	2.3	1.1	1.7				0.0	0.5	0.3			
Arcella spp.	0.0	0.5	0.3							0.0	0.4	0.2
Carchesium sp.	0.6	1.1	0.9		1.4		0.3	1.7	1.0	1.5	1.1	1.3
Centropyxis sp.	2.1	0.9	1.5		1.2		1.8	1.7	1.8	0.6	0.3	0.5
Cothurina sp.	0.0	0.3	0.2		0.3							
Difflugia spp.	0.0	0.2	0.1				0.5	0.3	0.4			
Epistylis sp.	1.7	0.8	1.3		3.3		2.1	2.3	2.2	0.2	0.0	0.1
Podophrya sp.	0.2	0.0	0.1									
Tokophrya sp.	1.6	2.6	2.1		7.6		12.2	6.2	9.2	0.1	0.0	0.1
Vorticella sp.	2.8	3.9	3.4		8.5		7.1	6.9	7.0			
TOTAL PROTOZOA	11.3	11.4	11.6		22.3		24.0	19.6	21.9	2.4	1.8	2.2
ROTIFERA												
Asplanchna sp.	0.2	0.2	0.2									
Brachionus angularis	0.7	0.0	0.4		0.3		0.6	0.8	0.7			
B. calyciflorus	2.6	1.5	2.1		1.6		2.7	1.2	2.0			
B. caudatus					0.1							
B. quadridentata	0.9	1.1	1.0		1.0		0.6	1.5	1.1			
Filinia longiseta	0.3	0.6	0.5		0.8		0.3	0.5	0.4			
Kellicottia bostoniensis	1.8	0.2	1.0		0.2		0.9	0.0	0.5			
K. longispina	1.3	2.1	1.7		3.8		5.0	5.4	5.2	0.4	0.1	0.3
Keratella cochlearis	5.2	5.0	5.1		6.6		3.8	9.5	6.7			
K. quadrata	3.7	5.6	4.7		7.0		6.0	5.6	5.8	0.1	0.2	0.2
Lecane sp.							0.2	0.0	0.1			
Monostyla sp.							0.2	0.0	0.1			
Notholca sp.	0.8	0.2	0.5		1.1		0.9	1.1	1.0			

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
27 MAY 1980

Taxon	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A[b]	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
ROTIFERA (continued)												
Polyarthra sp.	0.3	0.5	0.4		0.9		1.1	0.5	0.8			
Synchaeta sp.							0.3	0.2	0.3			
Trichocerca sp.	0.0	0.3	0.2				0.2	0.3	0.3			
unidentified Bdelloidia	0.0	0.3	0.2		0.2					0.1	0.0	0.1
unidentified Rotifera	2.2	1.5	1.9		0.8		1.2	0.6	0.9	0.5	0.7	0.6
TOTAL ROTIFERA	20.0	19.1	19.9		24.4		24.0	27.2	25.9	1.1	1.0	1.2
CLADOCERA												
Bosmina longirostris	0.3	0.6	0.5		0.4		0.6	0.5	0.6	0.0	0.1	0.1
Chydorus sphaericus										0.2	0.1	0.2
TOTAL CLADOCERA	0.3	0.6	0.5		0.4		0.6	0.5	0.6	0.2	0.2	0.3
COPEPODA												
Calanoida												
Diaptomus pallidus	0.2	0.0	0.1									
Cyclopoida												
Cyclops vernalis	0.2	0.2	0.2		0.1							
copepodites	0.2	0.0	0.1		0.2		0.2	0.0	0.1	0.1	0.0	0.1
nauplii	0.4	1.1	0.8		0.6		1.4	1.7	1.6	0.6	0.6	0.6
TOTAL COPEPODA	1.0	1.3	1.2		0.9		1.6	1.7	1.7	0.7	0.6	0.7

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
27 MAY 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A[b]	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS												
Nematoda	2.8	2.4	2.6		2.1		2.0	1.7	1.9	0.5	0.6	0.6
Ectoprocta statoblasts	0.0	0.2	0.1				0.0	0.2	0.1			
Tardigrada	0.7	0.5	0.6		0.3		0.6	0.5	0.6	0.1	0.1	0.1
Oligochaeta	4.6	2.4	3.5		0.5		0.6	0.2	0.4	0.3	0.3	0.3
Hydracarina										0.1	0.2	0.2
Chironomidae	0.5	0.6	0.6				0.5	0.2	0.4	0.3	0.5	0.4
Ostracoda							0.2	0.0	0.1	0.0	0.1	0.1
Amphipoda	0.2	0.3	0.3				0.2	0.0	0.1			
fish larvae	0.2	0.0	0.1									
TOTAL OTHERS	9.0	6.4	7.8		2.9		4.1	2.8	3.6	1.3	1.8	1.7
TOTAL ZOOPLANKTERS PER LITER	41.6	38.8	41.0		50.9		54.3	51.8	53.7	5.7	5.4	6.1
Standard deviation			±2.7						±9.5			±1.1

[a]Number of zooplankters per liter.

[b]Results of Station 3 Replicate A analysis were not reported because data were not representative due to excessive sediment in the sample.

APPENDIX TABLE C.2-3

ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
11 AUGUST 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PROTOZOA												
Arcella spp.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
Centropyxis sp.	1.6	2.1	1.9	2.0	2.1	2.1	2.1	2.0	2.1	0.4	0.6	0.5
Difflugia spp.	0.2	0.1	0.2	0.4	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2
Epistylis sp.	0.1	0.0	0.1									
Pyxicola sp.				0.0	0.1	0.1	0.2	0.1	0.2			
Tokophrya sp.	0.5	1.2	0.9				2.7	2.5	2.6			
unidentified Suctoria				0.6	1.5	1.1						
TOTAL PROTOZOA	2.5	3.5	3.2	3.1	4.0	3.7	5.3	4.9	5.3	0.7	0.8	0.8
ROTIFERA												
Brachionus angularis	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	1.7	1.0	1.4
B. calyciflorus	0.3	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.1	0.0	0.1
B. caudatas	0.1	0.3	0.2	0.1	0.0	0.1	0.1	0.2	0.2			
B. havanaensis	1.6	1.4	1.5	1.3	2.0	1.7	1.7	1.2	1.5	0.6	0.4	0.5
B. quadridentata	0.1	0.0	0.1									
Filinia longiseta	0.1	0.0	0.1	0.1	0.0	0.1						
Keratella cochlearis	0.1	0.0	0.1				0.1	0.0	0.1	0.1	0.0	0.1
K. quadrata										0.0	0.1	0.1
Lecane luna										0.3	0.5	0.4

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
11 AUGUST 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
ROTIFERA (continued)												
Monostyla lunaris										0.1	0.0	0.1
Platyias patulus							0.1	0.0	0.1	0.2	0.2	0.2
Polyarthra sp.	0.0	0.1	0.1									
Synchaeta sp.	0.1	0.4	0.3	0.0	0.2	0.1						
Trichocerca sp.										0.2	0.1	0.2
unidentified Bdelloidia				0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.2
unidentified Rotifera	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.0	0.1
TOTAL ROTIFERA	2.7	2.8	3.1	2.2	3.0	2.9	2.8	2.1	2.7	3.6	2.5	3.4
CLADOCERA												
Bosmina longirostris				0.0	0.1	0.1	0.1	0.0	0.1			
Ceriodaphnia quadrangula										1.0	1.6	1.3
Daphnia retrocurva				0.1	0.0	0.1						
Diaphanosoma brachyurum	0.1	0.0	0.1									
immature *Ceriodaphnia* sp.										2.7	2.8	2.8
immature Cladocera				0.0	0.1	0.1						
TOTAL CLADOCERA	0.1	0.0	0.1	0.1	0.2	0.3	0.1	0.0	0.1	3.7	4.4	4.1
COPEPODA												
Calanoida												
Diaptomus pallidus	0.0	0.1	0.1	0.1	0.1	0.1				0.1	0.8	0.5
Diaptomus sp.	0.4	0.0	0.2	0.1	0.0	0.1						
Cyclopoida												
Cyclops bicuspidatus thomasi				0.1	0.0	0.1						

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
11 AUGUST 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
Cyclopoida (continued)												
Eucyclops serrulatus							0.1	0.0	0.1			
Tropocyclops prasinus mexicanus										2.2	4.9	3.6
copepodites	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	2.1	3.2	2.7
nauplii	0.6	0.5	0.6	0.3	0.3	0.3	0.3	0.3	0.3	4.5	6.9	5.7
TOTAL COPEPODA	1.2	0.8	1.1	0.8	0.5	0.8	0.5	0.4	0.5	8.9	15.8	12.5
OTHERS												
Nematoda												
Criconema sp.							0.0	0.1	0.1			
unidentified Nematoda	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.3	0.1	0.2
Oligochaeta	0.0	0.1	0.1									
Tardigrada							0.0	0.1	0.1			
Chironimidae							0.1	0.2	0.2			
Diptera larvae	0.0	0.1	0.1							0.1	0.0	0.1
Mollusc larvae				0.1	0.1	0.1	0.1	0.2	0.2			
Ostracoda	0.1	0.0	0.1									
TOTAL OTHERS	0.2	0.3	0.4	0.2	0.1	0.2	0.2	0.5	0.5	0.5	0.3	0.5
TOTAL ZOOPLANKTERS PER LITER	6.7	7.4	7.9	6.4	7.8	7.9	8.9	7.9	9.1	17.4	23.8	21.3
Standard deviation			±0.5			±0.6			±0.5			±4.0

[a]Number of zooplankters per liter.

APPENDIX TABLE C.2-4

ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PROTOZOA												
Carchesium sp.	11.9	10.8	11.4	12.9	16.2	14.6	15.0	15.2	15.1	0.2	0.1	0.2
Centropyxis sp.	0.3	0.2	0.3									
Difflugia spp.	0.0	0.2	0.1									
TOTAL PROTOZOA	12.2	11.2	11.8	12.9	16.2	14.6	15.0	15.2	15.1	0.2	0.1	0.2
ROTIFERA												
Asplanchna sp.	0.0	0.2	0.1	0.2	0.5	0.4						
Brachionus angularis				0.5	0.3	0.4	0.0	0.5	0.3			
B. calyciflorus				0.0	0.2	0.1						
B. caudatus							0.0	0.2	0.1			
Collotheca sp.	0.9	0.5	0.7	1.5	0.6	1.1	1.5	1.1	1.3			
Euchlanis dilatata										0.0	0.1	0.1
Filinia longiseta	0.2	0.0	0.1									
Keratella cochlearis	5.0	3.2	4.1	2.6	5.9	4.3	5.3	2.9	4.1	0.0	0.1	0.1
K. quadrata				0.0	0.2	0.1	0.2	0.3	0.3	0.1	0.0	0.1
K. valga							0.0	0.2	0.1			
Polyarthra sp.	1.7	1.4	1.6	1.1	3.3	2.2	1.7	0.8	1.3			
Synchaeta sp.	0.6	0.3	0.5	0.5	0.0	0.3	0.3	0.9	0.6			
unidentified Bdelloidia	0.6	0.0	0.3							0.1	0.0	0.1
unidentified Rotifera	3.3	3.0	3.2	3.9	2.9	3.4	2.9	1.8	2.4	0.0	0.1	0.1
TOTAL ROTIFERA	12.3	8.6	10.6	10.3	13.9	12.3	11.9	8.7	10.5	0.2	0.3	0.5

APPENDIX TABLE C.2-4
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY[a]
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CLADOCERA												
Bosmina longirostris	116.0	116.9	116.5	93.6	125.3	109.5	113.6	99.5	106.6	3.8	0.7	2.3
Ceriodaphnia sp.	0.0	0.2	0.1	0.2	0.0	0.1						
Daphnia retrocurva	0.8	0.5	0.7				0.2	0.0	0.1			
TOTAL CLADOCERA	116.8	117.6	117.3	93.8	125.3	109.6	113.8	99.5	106.7	3.8	0.7	2.3
COPEPODA												
Calanoida												
Diaptomus pallidus	0.2	0.0	0.1	0.2	0.0	0.1						
Cyclopoida												
Cyclops vernalis	1.7	1.1	1.4	1.1	1.2	1.2	0.9	0.9	0.9	0.0	0.1	0.1
copepodites	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.7			
nauplii	5.1	4.5	4.8	4.2	6.8	5.5	5.1	6.2	5.7	0.0	0.3	0.2
TOTAL COPEPODA	7.8	6.4	7.1	6.3	8.8	7.6	6.8	7.7	7.3	0.0	0.4	0.3
OTHERS												
Pelecypod larvae	0.6	0.0	0.3									
TOTAL OTHERS	0.6	0.0	0.3									
TOTAL ZOOPLANKTERS PER LITER	149.7	143.8	147.1	123.5	164.4	144.3	153.3	131.1	142.2	4.2	1.5	3.3
Standard deviation			±5.7			±25.5			±10.4			±1.7

[a]Number of zooplankters per liter.

APPENDIX TABLE C.2-5

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
25 MARCH 1980

Taxon	Station 1	3	5	6
PROTOZOA				
Acineta sp.	3.2	1.3	2.6	
Arcella spp.	0.5	1.1	0.9	4.5
Carchesium sp.	16.9	9.7	15.5	
Centropyxis spp.	6.3	13.3	21.7	4.5
Difflugia spp.	2.3	3.5	8.8	
Epistylis sp.	3.1	2.2	2.1	
Podophrya sp.	0.5			
Vorticella sp.	52.5	53.2	32.3	
TOTAL PROTOZOA	85.3	84.3	83.9	9.0
ROTIFERA				
Asplanchna sp.	0.4	0.4		
Brachionus spp.	0.4	0.8		
B. calyciflorus		0.5		
Epiphanes sp.			2.1	4.5
Euchlanis sp.		0.8		
Filinia longiseta		0.4	0.4	
Kellicottia longispina			0.4	
Keratella cochlearis	0.5	0.8	1.5	
K. quadrata	0.5	0.8	0.4	
Notholca sp.			0.6	
unidentified Bdelloidia	2.3	0.6	0.6	9.2
unidentified Rotifera		1.1	1.1	4.5
TOTAL ROTIFERA	4.1	6.2	7.1	18.2
CLADOCERA				
Chydorus sphaericus			0.6	4.5
immature Cladocera				4.5
TOTAL CLADOCERA			0.6	9.0
COPEPODA				
Calanoida				
Diaptomus sp.	0.8			
Cyclopoida				
Cyclops bicuspidatus thomasi				4.5
Eucyclops speratus			0.4	4.5
Harpacticoida				
Attheyella illinoisensis			0.4	4.5
copepodites		0.6	0.9	4.5
nauplii	2.8	2.1	2.3	9.2
TOTAL COPEPODA	3.6	2.7	4.0	27.2

APPENDIX TABLE C.2-5
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
25 MARCH 1980

Taxon	Station 1	3	5	6
OTHERS				
Nematoda	5.3	4.1	2.8	4.5
Ectoprocta statoblasts	0.4	1.1	0.7	
Tardigrada	0.5	1.0	0.9	4.5
Oligochaeta	0.8	0.6		4.5
Chironomidae				18.6
Ostracoda				4.5
TOTAL OTHERS	7.0	6.8	4.4	36.6

[a]Values represent relative percentage of the total zooplankton and are based on the average of Replicates A and B.

APPENDIX TABLE C.2-6

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
27 MAY 1980

Taxon	Station 1	3	5	6
PROTOZOA				
Acineta sp.	4.1		0.6	
Arcella spp.	0.7			3.3
Carchesium sp.	2.2	2.8	1.9	21.5
Centropyxis sp.	3.7	2.4	3.4	8.2
Cothurina sp.	0.5	0.6		
Difflugia spp.	0.2		0.7	
Epistylis sp.	3.2	6.5	4.1	1.6
Podophrya sp.	0.2			
Tokophyra sp.	5.1	15.1	17.1	1.6
Vorticella sp.	8.3	16.8	13.0	
TOTAL PROTOZOA	28.2	44.2	40.8	36.2
ROTIFERA				
Asplanchna sp.	0.5			
Brachionus angularis	1.0	0.6	1.3	
B. calyciflorus	5.1	3.1	3.7	
B. caudatus		0.2		
B. quadridentata	2.4	2.0	2.0	
Filinia longiseta	1.2	1.6	0.7	
Kellicottia bostoniensis	2.4	0.4	0.9	
K. longispina	4.1	7.5	9.7	4.9
Keratella cochlearis	12.5	12.0	12.5	
K. quadrata	11.6	14.1	10.8	3.3
Lecane sp.			0.2	
Monostyla sp.			0.2	
Notholca sp.	1.2	2.2	1.9	
Polyarthra sp.	1.0	1.8	1.5	
Synchaeta sp.			0.6	
Trichocerca sp.	0.5		0.6	
unidentified Bdelloidia	0.5	0.4		1.6
unidentified Rotifera	4.6	1.6	1.7	9.9
TOTAL ROTIFERA	48.6	47.5	48.3	19.7
CLADOCERA				
Bosmina longirostris	1.2	0.8	1.1	1.6
Chydorus sphaericus				3.3
TOTAL CLADOCERA	1.2	0.8	1.1	4.9

APPENDIX TABLE C.2-6
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
27 MAY 1980

Taxon	Station 1	3	5	6
COPEPODA				
Calanoida				
Diaptomus pallidus	0.2			
Cyclopoida				
Cyclops vernalis	0.5	0.2		
copepodites	0.2	0.4	0.2	1.6
nauplii	2.0	1.2	3.0	9.8
TOTAL COPEPODA	2.9	1.8	3.2	11.4
OTHERS				
Nematoda	6.4	4.1	3.5	9.8
Ectoprocta statoblasts	0.2		0.2	
Tardigrada	1.5	0.6	1.1	1.6
Oligochaeta	8.6	1.0	0.7	4.9
Hydracarina				3.3
Chironomidae	1.5		0.7	6.6
Ostracoda			0.2	1.6
Amphipoda	0.7		0.2	
fish larvae	0.2			
TOTAL OTHERS	19.1	5.7	6.6	27.8

[a]Values represent relative percentage of the total zooplankton and are based on the average of Replicates A and B.

APPENDIX TABLE C.2-7

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
11 AUGUST 1980

Taxon	Station 1	Station 3	Station 5	Station 6
PROTOZOA				
Arcella spp.	1.3	1.3	1.1	0.5
Centropyxis spp.	23.8	26.4	23.1	2.3
Difflugia spp.	2.5	3.8	3.3	0.9
Epistylis sp.	1.3			
Pyxicola sp.		1.3	2.2	
Tokophrya sp.	11.4		28.5	
unidentified Suctoria		13.9		
TOTAL PROTOZOA	40.3	46.7	58.2	3.7
ROTIFERA				
Brachionus angularis	2.5	2.5	2.2	6.6
B. calyciflorus	3.8	5.1	3.3	0.5
B. caudatus	2.5	1.3	2.2	
B. havanaensis	19.0	21.3	16.5	2.3
B. quadridentata	1.3			
Filina longiseta	1.3	1.3		
Keratella cochlearis	1.3		1.1	0.5
K. quadrata				0.5
Lecane luna				1.9
Monostyla lunaris				0.5
Platyias patulus			1.1	0.9
Polyarthra sp.	1.3			
Synchaeta sp.	3.8	1.3		
Trichocerca sp.				0.9
unidentified Bdelloidia		1.3	1.1	0.9
unidentified Rotifera	2.5	2.5	2.2	0.5
TOTAL ROTIFERA	39.3	36.6	29.7	16.0
CLADOCERA				
Bosmina longirostris		1.3	1.1	
Ceriodaphnia quadrangula				6.1
Daphnia retrocurva		1.3		
Diaphanosoma brachyurum	1.3			
immature Ceriodaphnia				13.1
immature Cladocera		1.3		
TOTAL CLADOCERA	1.3	3.9	1.1	19.2

APPENDIX TABLE C.2-7
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
11 AUGUST 1980

Taxon	Station 1	3	5	6
COPEPODA				
Calanoida				
Diaptomus pallidus	1.3	1.3		2.3
Diaptomus sp.	2.5	1.3		
Cyclopoida				
Cyclops bicuspidatus thomasi		1.3		
Eucyclops serrulatus			1.1	
Tropocyclops prasinus mexicanus				16.9
copepodites	2.5	2.5	1.1	12.7
nauplii	7.6	3.8	3.3	26.9
TOTAL COPEPODA	13.9	10.2	5.5	58.8
OTHERS				
Nematoda				
Criconema sp.			1.1	
unidentified Nematoda	1.3	1.3	1.1	0.9
Oligochaeta	1.3			
Tardigrada			1.1	
Chironomidae				0.9
Diptera larvae	1.3			0.5
Mollusc larvae		1.3	2.2	
Ostracoda	1.3			
TOTAL OTHERS	5.2	2.6	5.5	2.3

[a]Values represent relative percentage of the total zooplankton and are based on the average of Replicates A and B.

APPENDIX TABLE C.2-8

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Taxon	Station 1	3	5	6
PROTOZOA				
Carchesium sp.	7.7	10.1	10.6	6.1
Centropyxis sp.	0.2			
Difflugia sp.	<0.1			
TOTAL PROTOZOA	8.0	10.1	10.6	6.1
ROTIFERA				
Asplanchna sp.	<0.1	0.3		
Brachionus angularis		0.3	0.2	
B. calyciflorus		<0.1		
B. caudatus			<0.1	
Collotheca sp.	0.5	0.8	0.9	
Euchlanis dilatata				3.0
Filinia longiseta	<0.1			
Keratella cochlearis	2.8	3.0	2.9	3.0
K. quadrata		<0.1	0.2	3.0
K. valga			<0.1	
Polyarthra sp.	1.1	1.5	0.9	
Synchaeta sp.	0.3	0.2	0.4	
unidentified Bdelloidia	0.2			3.0
unidentified Rotifera	2.2	2.4	1.7	3.0
TOTAL ROTIFERA	7.2	8.5	7.4	15.2
CLADOCERA				
Bosmina longirostris	79.2	75.9	75.0	70.0
Ceriodaphnia sp.	<0.1	<0.1		
Daphnia retrocurva	0.5		<0.1	
TOTAL CLADOCERA	79.7	76.0	75.0	70.0
COPEPODA				
Calanoida				
Diaptomus pallidus	<0.1	<0.1		
Cyclopoida				
Cyclops vernalis	1.0	0.8	0.6	3.0
copepodites	0.5	0.6	0.5	
nauplii	3.3	3.8	4.0	6.1
TOTAL COPEPODA	4.8	5.3	5.1	9.1

APPENDIX TABLE C.2-8
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Taxon	Station 1	3	5	6
OTHERS				
Pelecypod larvae	0.2			
TOTAL OTHERS	0.2			

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

APPENDIX TABLE D-1

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
24 MARCH 1980

Taxon	Station and replicate											
	1				3				5			
	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
	Samplers were not recovered due to high water conditions.				Stations 3 and 5 samples inadvertantly biomassed prior to species composition and density analyses.							

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 MAY 1980

	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	14.13	13.06	13.60	0.47	4.42	17.70	11.06	0.48	0.00	23.85	11.93	0.23
C. Kutzingiana v. planetophora					4.42	0.00	2.21	0.10	19.44	0.00	9.72	0.19
C. Meneghiniana					0.00	17.70	8.85	0.38				
C. pseudostelligera	14.13	38.90	26.51	0.92	13.27	52.74	33.01	1.42	19.44	23.85	21.65	0.42
Melosira distans					4.42	0.00	2.21	0.10				
M. varians	28.56	13.06	20.81	0.73	22.02	17.70	19.86	0.86	19.44	23.85	21.65	0.42
Stephanodiscus astraea v. minutula	0.00	38.90	19.45	0.69	0.00	17.70	8.85	0.38	0.00	48.26	24.13	0.47
Pennales												
Achnanthes affinis					0.00	17.70	8.85	0.38				
A. deflexa									0.00	48.26	24.13	0.47
A. lanceolata	28.56	13.06	20.81	0.73					38.48	23.85	31.17	0.61
A. linearis f. curta									19.44	23.85	21.65	0.42
A. microcephala	0.00	13.06	6.53	0.24								
A. minutissima	42.69	90.85	66.77	2.32	4.42	35.04	19.73	0.85	38.48	336.17	187.33	3.66
A. submontana									38.48	0.00	19.24	0.38
Asterionella formosa	0.00	25.84	12.92	0.45					0.00	23.85	11.93	0.23
Cocconeis pediculus	14.13	0.00	7.07	0.25								
C. placentula v. euglypta	14.13	13.06	13.60	0.48	0.00	17.70	8.85	0.38	57.92	72.12	65.02	1.27
Cymbella affinis	142.21	129.75	135.98	4.74	4.42	52.74	28.58	1.23	57.92	48.26	53.09	1.04
C. minuta v. silesiaca	14.13	0.00	7.07	0.25	8.85	70.08	39.46	1.70				
Diatoma vulgare					8.85	0.00	4.42	0.19				
Fragilaria vaucheriae	28.56	0.00	14.28	0.15	8.85	0.00	4.42	0.19				
Gomphonema angustatum					22.02	0.00	11.01	0.47	0.00	119.82	59.91	1.17
G. angustatum v. citera	42.69	13.06	27.87	0.97	17.60	158.23	87.91	3.79	115.45	240.20	177.83	3.48
G. dichotomum					4.42	0.00	2.21	0.10				
G. gracile					4.42	0.00	2.21	0.10	19.44	0.00	9.72	0.19
G. instablis	0.00	13.06	6.53	0.22	17.60	17.70	17.65	0.76				
G. olivaceum	554.11	220.59	387.35	13.50	282.15	386.53	334.34	14.40	250.34	336.17	293.26	5.73
G. parvulum	1278.70	1545.00	1411.85	49.22	440.91	2529.04	1484.98	64.00	2963.70	3626.35	3295.03	64.42
G. tenellum	28.56	0.00	14.28	0.50	0.00	52.74	26.37	1.14				
Navicula biconica	14.13	0.00	7.07	0.25	4.42	0.00	2.21	0.10	0.00	48.26	24.13	0.47
N. cincta	14.13	13.06	13.60	0.47	0.00	17.70	8.85	0.38				
N. cryptocephala	14.13	51.95	33.04	1.15	4.42	17.70	11.06	0.48				
N. cryptocephala v. veneta	85.38	65.01	75.20	2.62	13.27	0.00	6.63	0.29	57.92	0.00	28.96	0.57
N. gracilloides	56.82	0.00	28.41	0.99					0.00	23.85	11.93	0.23
N. radiosa	0.00	13.06	6.53	0.23	4.42	0.00	2.21	0.10				
N. rhyncocephala	14.13	0.00	7.07	0.25								
N. viridula	0.00	13.06	6.53	0.23					19.44	48.26	33.85	0.66
N. viridula v. avenacea	0.00	13.06	6.53	0.23								
Nitzschia amphibia					4.42	0.00	2.21	0.10				
N. capitellata	14.13	0.00	7.07	0.25								
N. communis v. abbreviata									0.00	23.85	11.93	0.23
N. dissipata	70.96	77.79	74.38	2.59	0.00	17.70	8.85	0.38				
N. palea	269.99	324.50	297.25	10.36	8.85	122.82	65.83	2.84	115.45	336.17	225.81	4.42

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 MAY 1980

Taxon	Station and replicate											
	1				3				5			
	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
BACILLARIOPHYTA (continued)												
Rhoicosphenia curvata	0.00	13.06	6.53	0.23					0.00	23.85	11.93	0.23
Surirella ovata	14.13	0.00	7.07	0.25	4.42	17.70	11.06	0.48	19.44	23.85	21.65	0.42
Synedra rumpens	14.13	13.06	13.60	0.47	0.00	17.70	8.85	0.38	19.44	0.00	9.72	0.19
S. rumpens v. meneghiniana	28.56	0.00	14.28	0.50	4.42	17.70	11.06					
S. ulna	28.56	0.00	14.28	0.50								
TOTAL BACILLARIOPHYTA	2884.47	2778.86	2831.72	98.40	921.70	3690.06	2305.86	98.83	3889.66	5546.80	4718.30	92.22
CHLOROPHYTA												
Ankistrodesmus convolutus	3.22	0.00	1.61	0.06	0.00	3.76	1.88	0.08				
A. falcatus	0.00	3.22	1.61	0.06					3.76	3.76	3.76	0.07
Chlamydomonas globosa									7.51	7.51	7.51	0.15
Chlamydomonas sp.									0.00	3.76	1.88	0.04
Chlorogonium elongatum									3.76	7.51	5.64	0.11
Dictyosphaerium Ehrenbergianum	0.00	3.22	1.61	0.06								
Lagerheimia subsalsa	3.22	0.00	1.61	0.06								
Scenedesmus quadricauda	0.00	3.22	1.61	0.06	0.00	3.76	1.88	0.08	7.51	0.00	3.76	0.07
Scenedesmus sp.	3.22	3.22	3.22	0.11	1.67	0.00	0.84	0.04	3.76	7.51	5.64	0.11
unidentified coccoid sp. (4.3μ diam.)	9.66	12.88	11.27	0.41	1.67	7.52	4.60	0.20	26.30	30.05	28.19	0.55
TOTAL CHLOROPHYTA												
CYANOPHYTA												
Anacystis sp.	0.00	3.22	1.61	0.06	1.67	3.76	2.72	0.12				
Chamaesiphon incrustans									135.22	578.41	356.82	6.98
Chroococcus sp.	3.22	0.00	1.61	0.06								
Oscillatoria sp. 1	29.94	7.73	18.84	0.66	4.01	6.39	5.20	0.22	4.51	10.52	7.52	0.14
Oscillatoria sp. 3									2.63	4.89	3.76	0.07
TOTAL CYANOPHYTA	33.16	10.95	22.06	0.78	5.68	10.15	7.92	0.34	142.36	593.82	368.10	7.19
EUGLENOPHYTA												
Trachelomonas spp.	0.00	3.22	1.61	0.06	1.67	0.00	0.84	0.04				
TOTAL EUGLENOPHYTA	0.00	3.22	1.61	0.06	1.67	0.00	0.84	0.04				
OTHERS												
unidentified phytoflagellate sp. 3	3.22	0.00	1.61	0.06	3.34	0.00	1.67	0.07				
TOTAL OTHERS	3.22	0.00	1.61	0.06	3.34	0.00	1.67	0.07				
TOTAL PERIPHYTON ± std. dev.	2930.51	2805.91	2868.27±164.76		934.06	3707.73	2320.89±1603.36		4058.32	6170.67	5114.59±1256.12	
TOTAL SPECIES (s)			46				40				36	
DIVERSITY INDEX ($\bar{d}$)			2.9562				2.2362				2.3169	
EQUITABILITY (e)			0.24				0.16				0.19	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-3

PERIPHYTON COMPOSITION AND ABUNDANCE (Individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
11 AUGUST 1980

	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	74.31	33.92	54.12	1.27	51.03	29.47	40.25	1.02	48.90	0.00	24.45	0.18
C. Kutzingiana	0.00	18.85	9.42	0.22								
C. Kutzingiana v. planetophora					31.40	14.74	23.07	0.58	24.45	0.00	12.23	0.09
C. Meneghiniana					66.73	14.74	40.73	1.03				
C. pseudostelligera	19.55	67.85	43.70	1.02	15.70	14.74	15.22	0.38	0.00	25.24	12.62	0.09
Cyclotella sp.	0.00	52.77	26.39	0.62	102.06	44.21	73.13	1.86	24.45	25.24	24.85	0.19
Melosira distans					0.00	14.74	7.37	0.18	0.00	25.24	12.62	0.09
M. granulata					15.70	0.00	7.85	0.19				
M. varians	778.27	1070.51	924.39	21.75	687.11	412.58	649.84	16.53	264.07	206.96	235.52	1.82
Stephanodiscus astraea v. minutula					0.00	29.47	14.74	0.37	24.45	0.00	12.23	0.09
Pennales												
Achnanthes affinis	19.55	0.00	9.78	0.23	0.00	14.74	7.37	0.18				
A. deflexa	19.55	0.00	9.78	0.23	0.00	14.74	7.37	0.18	97.80	50.48	74.14	0.57
A. exigua					0.00	29.47	14.74	0.37	1246.99	383.64	815.32	6.30
A. lanceolata	19.55	0.00	9.78	0.23	0.00	44.21	22.10	0.56	97.80	126.20	112.00	0.86
A. linearis f. curta	19.55	33.92	26.74	0.62	31.40	0.00	15.70	0.39	24.45	25.24	24.85	0.19
A. minutissima					0.00	29.47	14.74	0.37				
Amphora submontana	19.55	0.00	9.78	0.23	31.40	103.15	67.27	1.71	166.27	25.24	95.75	0.74
Asterionella formosa	0.00	18.85	9.42	0.22								
Cocconeis placentula v. euglypta	172.08	188.47	180.27	4.24	200.19	397.85	299.02	7.61	958.47	1665.81	1312.14	10.15
Cymbella affinis					15.70	0.00	7.85	0.19				
C. tumida									24.45	0.00	12.23	0.09
Gomphonema augustatum	74.31	0.00	37.15	0.87					24.45	75.72	50.08	0.38
G. olivaceum									0.00	25.24	12.62	0.09
G. parvulum	1896.79	1209.97	1553.38	36.55	486.73	780.96	633.84	16.13	718.85	1484.09	1101.47	8.52
Gyrosigma obtusatum					15.70	0.00	7.85	0.19	24.45	0.00	12.23	0.09
Meridion circulare					0.00	14.74	7.37	0.18				
Navicula biconica	19.55	18.85	19.20	0.45	82.43	44.21	63.32	1.61	97.80	176.68	137.24	1.06
N. cryptocephala									24.45	0.00	12.23	0.09
N. cryptocephala v. veneta	19.55	0.00	9.78	0.23								
N. gracioides	625.74	795.34	710.54	16.72	1593.65	589.40	1091.53	27.78	577.04	282.68	429.86	3.32
N. rhyncocephala					15.70	0.00	7.85	0.19				
N. schroeteri v. escambia	19.55	18.85	19.20	0.45								
N. tripunctata v. schizonemoides					0.00	14.74	7.37	0.18				
N. viridula v. rostellata									0.00	25.24	12.62	0.09
Nitzschia acicularis	19.55	0.00	9.78	0.23	0.00	14.74	7.37	0.18	0.00	25.24	12.62	0.09
N. amphibia					0.00	14.74	7.37	0.18				
N. communis v. abbreviata					0.00	14.74	7.37	0.18	141.81	100.96	121.39	0.93

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
11 AUGUST 1980

Taxon	Station and replicate											
	1				3				5			
	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Pennales (continued)												
Nitzschia dissipata					15.70	29.47	22.59	0.57				
N. gandersheimiensis	0.00	18.85	9.42	0.22	15.70	44.21	29.95	0.76	73.35	25.24	49.30	0.38
N. kutzingiana	0.00	18.85	9.42	0.22								
N. palea	74.31	154.54	114.43	2.69	200.19	132.62	166.40	4.23	190.72	257.44	224.08	1.73
N. parvula					15.70	14.74	15.22	0.38				
N. sublinearis	0.00	33.92	19.96	0.46	0.00	14.74	7.37	0.18				
Surirella ovata					15.70	0.00	7.85	0.19				
Synedra rumpens									24.45	0.00	12.23	0.09
Synedra ulna	19.55	0.00	9.78	0.23								
S. ulna v. oxyrhynchus	0.00	18.85	9.42	0.22								
Synedra sp.					0.00	14.74	7.37	0.18				
TOTAL BACILLARIOPHYTA	3910.90	3773.16	3845.03	90.42	3905.62	2947.11	3426.35	86.99	4899.92	5037.82	4968.12	38.31
CHRYSOPHYTA												
Dinobryon bavaricum	7.91	0.00	3.96	0.09								
TOTAL CHRYSOPHYTA	7.91	0.00	3.96	0.09								
CRYPTOPHYTA												
cryptophyte sp. 1	63.30	79.12	71.21	1.67	16.39	28.68	22.54	0.57	43.02	43.02	43.02	0.33
TOTAL CRYPTOPHYTA	63.30	79.12	71.21	1.67	16.39	28.68	22.54	0.57	43.02	43.02	43.02	0.33
CHLOROPHYTA												
Characium ambiguum					73.76	215.11	144.44	3.67	3255.34	3384.40	3319.87	25.69
Chlamydomonas sp.									14.34	0.00	7.17	0.05
Closterium moniliferum	7.91	0.00	3.96	0.09					14.34	0.00	7.17	0.05
Coelastrum microporum	0.00	7.91	3.96	0.09								
Dictyosphaerium Ehrenbergianum									358.52	659.67	509.10	3.93
Gloeocystis gigas									14.34	0.00	7.17	0.05
Oocystis sp.					8.20	0.00	4.10	0.10				
Scenedesmus bijuga	0.00	7.91	3.96	0.09								
S. quadricauda	0.00	7.91	3.96	0.09	8.20	0.00	4.10	0.10				
Tetrastrum staurogeniaeforme	7.91	0.00	3.96	0.09								
Ulothrix sp.	69.63	0.00	34.82	0.81	0.82	0.00	0.41	0.01	0.00	11.48	5.74	0.04
unidentified coccoid sp. (6-7μ diam)					8.20	0.00	4.10	0.10	14.34	14.34	14.34	0.11
TOTAL CHLOROPHYTA	85.45	23.73	54.62	1.26	99.18	215.11	157.15	3.98	3671.22	4069.89	3870.56	29.92

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
9 AUGUST 1979

Taxon	Station and replicate											
	1				3				5			
	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CYANOPHYTA												
Chamaesiphon incrustans					16.39	35.85	26.12	0.66	2538.30	3169.29	2853.80	22.08
Chroococcus sp.					0.00	14.34	7.17	0.18	659.67	774.40	717.04	5.54
Merismopedia tenuissima									14.34	0.00	7.17	0.05
Microcystis incerta									14.34	0.00	7.17	0.05
Oscillatoria sp. 1	0.00	41.94	20.97	0.49	21.31	11.48	16.40	0.41	17.21	12.91	15.06	0.11
Oscillatoria sp. 3	352.88	130.55	241.72	5.68	257.31	273.91	265.61	6.76	440.26	367.12	403.69	3.12
TOTAL CYANOPHYTA	352.88	172.49	262.69	6.17	295.01	335.58	315.30	8.01	3684.12	4323.72	4003.93	30.95
EUGLENOPHYTA												
Trachelomonas spp.	15.83	0.00	7.92	0.18	8.20	0.00	4.10	0.10	14.34	28.68	21.51	0.16
euglenoid sp. 1									0.00	28.68	14.34	0.11
TOTAL EUGLENOPHYTA	15.83	0.00	7.92	0.18	8.20	0.00	4.10	0.10	14.34	57.36	35.85	27.00
PROTOZOA												
unidentified ciliated protozoan					0.00	7.17	3.59	0.09				
TOTAL PROTOZOA					0.00	7.17	3.59	0.09				
OTHERS												
unidentified phytoflagellate sp. 2	7.91	0.00	3.96	0.09								
TOTAL OTHERS	7.91	0.00	3.96	0.09								
TOTAL PERIPHYTON ± std. dev.	4452.05	4048.50	4249.39±230.97		4324.40	3533.65	3929.03±540.21		12312.62	13531.81	12921.48±757.75	
TOTAL SPECIES (s)			37				47				43	
DIVERSITY INDEX ($\bar{d}$)			2.9311				3.5391				3.4335	
EQUITABILITY (e)			0.29				0.36				0.36	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-4

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
OHIO RIVER STATIONS 1, 3 AND 5 (ARTIFICIAL SUBSTRATES)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	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	258.51	488.39	373.45	3.61	350.95	0.00	175.47	0.99	258.59	713.48	486.03	2.80
C. Kutzingiana	44.57	0.00	22.29	0.22					166.24	63.42	114.83	0.66
C. Meneghiniana	44.57	54.27	49.42	0.48								
C. pseudostelligera	80.23	54.27	67.25	0.65	92.35	63.42	77.89	0.44	166.24	142.70	154.47	0.89
C. stelligera	44.57	54.27	49.42	0.48	0.00	63.42	31.71	0.18				
Cyclotella sp.					92.35	0.00	46.18	0.26				
Melosira distans	0.00	54.27	27.13	0.26					424.83	0.00	212.41	1.22
M. varians	935.99	1573.69	1254.84	12.13	1422.25	3377.13	2399.69	13.59	3361.69	3757.65	3559.67	20.53
Pennales												
Achnanthes deflexa									92.35	0.00	46.18	0.27
A. linearis f. curta	44.57	108.53	76.55	0.74	92.35	206.12	149.23	0.85	0.00	63.42	31.71	0.18
Amphipleura pellucida					0.00	63.42	31.71	0.18				
Amphora submontana	89.14	108.53	98.84	0.96	0.00	142.70	71.35	0.40				
Asterionella formosa									0.00	63.42	31.71	0.18
Cocconeis placentula v. euglypta	169.37	54.27	111.82	1.08								
Cymbella affinis					92.35	0.00	46.18	0.26	0.00	63.42	31.71	0.18
C. tumida	89.14	434.12	261.63	2.53	258.59	269.54	264.06	1.50	868.13	1125.71	996.92	5.75
Diatoma vulgare	89.14	325.59	207.37	2.00	184.71	0.00	92.35	0.52	0.00	142.70	71.35	0.41
Gomphonema angustatum	0.00	54.27	27.13	0.26	184.71	0.00	92.35	0.52	92.35	0.00	46.18	0.27
G. gracile	0.00	54.27	27.13	0.26	0.00	63.42	31.71	0.18				
G. parvulum	4822.57	3581.50	4202.03	40.62	11581.19	5057.76	8319.48	47.11	8108.68	4312.58	6210.63	35.82
Navicula biconica									92.35	63.42	77.89	0.45
N. cryptocephala									0.00	63.42	31.71	0.18
N. cryptocephala v. veneta									92.35	142.70	117.52	0.68
N. gracilioides	641.82	1790.75	1216.29	11.76	1588.49	2092.87	1840.68	10.42	1643.90	2473.39	2058.65	11.87
N. mutica v. cohnii									0.00	63.42	31.71	0.18
N. mutica v. undulata									0.00	63.42	31.71	0.18
N. pupula	44.57	0.00	22.29	0.22								
N. rhyncocephala v. germainii					92.35	63.42	77.89	0.44				
N. tripunctata v. schizonemoides	0.00	54.27	27.13	0.26								
Nitzschia acicularis									92.35	63.42	77.89	0.45
N. amphibia					92.35	206.12	149.23	0.85				
N. capitellata	44.57	108.53	76.55	0.74	0.00	63.42	31.71	0.18	92.35	142.70	117.52	0.68
N. communis v. abbreviata	0.00	54.27	27.13	0.26	0.00	142.70	71.35	0.40	92.35	63.42	77.89	0.45
N. dissipata					0.00	142.70	71.35	0.40	0.00	63.42	31.71	0.18
N. filiformis	89.14	54.27	71.70	0.69	184.71	0.00	92.35	0.52				
N. Kutzingiana	44.57	0.00	22.29	0.22								
N. palea	641.82	1139.57	890.69	8.61	1680.84	3171.01	2425.93	13.74	1385.31	713.48	1049.39	6.05
N. paradoxa	0.00	54.27	27.13	0.26	0.00	63.42	31.71	0.18	92.35	142.70	117.52	0.68
N. recta	0.00	54.27	27.13	0.26								
N. stagnorum	124.80	0.00	62.40	0.60	443.30	63.42	253.36	1.43	424.83	491.51	458.17	2.64
Synedra delicatissima	0.00	54.27	27.13	0.26	0.00	63.42	31.71	0.18	0.00	63.42	31.71	0.18
S. minuscula	597.25	488.39	542.82	5.25	92.35	475.65	284.00	1.61	868.13	491.51	679.82	3.92
S. ulna									92.35	63.42	77.89	0.45
TOTAL BACILLARIOPHYTA	8985.48	10853.03	9919.26	95.89	18526.19	15855.08	17190.63	97.35	18507.74	15759.93	17133.84	98.82

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)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CRYPTOPHYTA												
cryptophyte sp. 1	45.89	34.42	40.16	0.39	11.48	45.90	28.69	0.16				
TOTAL CRYPTOPHYTA	45.89	34.42	40.16	0.39	11.48	45.90	28.69	0.16				
CHLOROPHYTA												
Chlamydomonas globosa	0.00	45.90	22.95	0.22	45.90	22.95	34.43	0.19				
Chlamydomonas sp.	22.95	45.90	34.43	0.33	103.26	68.84	86.05	0.49	34.42	45.90	40.16	0.23
Closterium moniliferum	22.95	0.00	11.48	0.11	0.00	11.48	5.74	0.03	0.00	11.48	5.74	0.03
Cosmarium binum					0.00	11.48	5.74	0.03				
Cosmarium sp.	0.00	11.48	5.74	0.06								
Dictyosphaerium Ehrenbergianum	0.00	11.48	5.74	0.06								
D. pulchellum	11.48	0.00	5.74	0.06								
Gleocystis gigas	0.00	22.95	11.48	0.11								
G. planetonica					11.48	34.42	22.95	0.13	0.00	22.95	11.48	0.07
Mougeotia sp.					0.00	26.39	13.20	0.07				
Oocystis Borgei	0.00	11.48	5.74	0.06	34.42	34.42	34.42	0.19				
Scenedesmus denticulatus	11.48	0.00	5.74	0.06								
S. quadricauda	0.00	11.48	5.74	0.06	11.48	0.00	5.74	0.03	0.00	22.95	11.48	0.07
Stigeoclonium sp. 1	0.00	3.44	1.72	0.02								
Tetraedron minimum	11.48	0.00	5.74	0.06								
unidentified coccoid sp.	57.37	68.84	63.11	0.61					0.00	57.37	28.69	0.17
TOTAL CHLOROPHYTA	137.71	232.95	185.35	1.79	206.54	209.98	208.27	1.18	34.42	160.65	97.55	0.56
CYANOPHYTA												
Lyngbya sp. 1	1.15	0.00	0.58	<0.01	0.00	4.59	2.30	0.001	0.00	22.95	11.48	0.07
Microcystis sp.	0.00	11.48	5.74	0.06	11.48	0.00	5.74	0.03				
Oscillatoria Agardhii					0.00	91.78	45.89	0.26				
Oscillatoria sp. 1	18.36	42.45	30.41	0.29	13.77	14.34	14.06		25.24	14.92	20.08	0.12
Oscillatoria sp. 2	0.00	13.77	6.89	0.07					2.30	3.44	2.87	0.02
Oscillatoria sp. 3	22.95	24.09	23.52	0.23	4.59	4.59	4.59	0.08				
Spirulina major					4.59	2.30	3.45	0.02				
TOTAL CYANOPHYTA	42.46	91.79	67.14	0.65	34.43	117.60	76.03	0.43	27.54	41.31	34.43	0.20
EUGLENOPHYTA												
Trachelomonas sp.	0.00	11.48	5.74	0.06					0.00	11.48	5.74	0.03
TOTAL EUGLENOPHYTA	0.00	11.48	5.74	0.06					0.00	11.48	5.74	0.03
PROTOZOA												
Amoeba sp.					45.89	22.95	34.42	0.19				
unidentified ciliated protozoa	0.00	11.48	5.74	0.06	11.48	11.48	11.48	0.07	22.95	22.95	22.95	0.13
unidentified protozoa									11.48	34.42	22.95	0.13
TOTAL PROTOZOA	0.00	11.48	5.74	0.06	57.37	34.43	45.90	0.26	34.43	57.37	45.90	0.26

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)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
OTHERS												
unidentified phytoflagellate sp. 2	91.79	57.37	74.58	0.72	11.48	22.95	17.22	0.10	11.48	34.42	22.95	0.13
unidentified phytoflagellate sp. 3	45.90	22.95	34.43	0.33	114.73	68.84	91.79	0.52				
unidentified phytoflagellate sp. 4	22.95	0.00	11.48	0.11								
TOTAL OTHERS	160.64	80.32	120.49	1.16	126.21	91.79	109.01	0.62	11.48	34.42	22.95	0.13
TOTAL PERIPHYTON ± std. dev.	9372.18	11315.47	10343.88±	1142.17	18962.22	16354.78	17658.53±	1305.27	18615.61	16065.16	17340.41±	1395.49
TOTAL SPECIES (S)			52				45				41	
DIVERSITY INDEX (d)			3.2529				2.7548				3.1192	
EQUITABILITY (e)			0.26				0.21				0.30	

[a]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-5

PERIPHYTON COMPOSITION-AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
24 MARCH 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Centrales				
Cyclotella stelligera	7.29	0.00	3.65	0.18
Melosira granulata	0.00	10.78	5.39	0.26
Pennales				
Achnanthes affinis	36.30	86.00	61.15	2.97
A. deflexa	0.00	10.78	5.39	0.26
A. lanceolata	7.29	10.78	9.04	0.44
A. linearis f. curta	7.29	10.78	9.04	0.44
A. minutissima	544.42	751.97	648.20	31.46
Amphora ovalis v. pediculus	333.89	214.88	274.38	13.32
Cocconeis placentula v. euglypta	7.29	0.00	3.65	0.18
Cymbella affinis	58.03	150.44	104.23	5.06
Eunotia sp.	7.29	0.00	3.65	0.18
Gomphonema angustatum	29.01	0.00	14.51	0.70
G. angustatum v. citera	14.58	0.00	7.29	0.35
G. intricatum	0.00	32.34	16.17	0.78
G. olivaceum	14.58	53.66	34.12	1.66
G. parvulum	36.30	128.88	82.59	4.01
G. tenellum	65.32	225.66	145.49	7.06
Meridion circulare	7.29	10.78	9.04	0.44
Navicula biconica	21.72	0.00	10.86	0.53
N. cryptocephala	0.00	10.78	5.39	0.26
N. cryptocephala v. veneta	36.30	64.44	50.37	2.44
N. mutica v. cohnii	7.29	53.66	30.48	1.48
N. notha	0.00	10.78	5.39	0.26
Nitzschia amphibia	7.29	10.78	9.04	0.44
N. communis	7.29	10.78	9.04	0.44
N. communis v. abbreviata	7.29	10.78	9.04	0.44
N. dissipata	174.23	451.08	312.66	15.12
N. Kutzingiana	7.29	10.78	9.04	0.44
N. linearis	7.29	10.78	9.04	0.44
N. palea	7.29	0.00	3.65	0.18
Rhoicosphenia curvata	7.29	42.88	25.09	1.22
Surirella angustata	0.00	10.78	5.39	0.26
S. ovata	21.72	0.00	10.86	0.53
TOTAL BACILLARIOPHYTA	1488.46	2396.03	1942.29	94.27

APPENDIX TABLE D-5
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
24 MARCH 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CRYPTOPHYTA				
cryptophyte sp. 1	32.19	33.82	33.01	1.60
TOTAL CRYPTOPHYTA	32.19	33.82	33.01	1.60
CHLOROPHYTA				
Chlamydomonas globosa	0.00	5.64	2.82	0.14
Cladophora sp.	45.78	33.26	39.52	1.92
Oocystis sp.	3.94	4.51	4.23	0.21
TOTAL CHLOROPHYTA	49.72	43.41	46.57	2.26
CYANOPHYTA				
Lyngbya Diquetii	4.65	2.82	3.74	0.18
Microcystis incerta	3.58	0.00	1.79	0.09
Oscillatoria sp. 2	2.15	1.13	1.64	0.08
TOTAL CYANOPHYTA	10.38	3.95	7.17	0.35
EUGLENOPHYTA				
Trachelomonas spp.	0.00	5.64	2.82	0.14
TOTAL EUGLENOPHYTA	0.00	5.64	2.82	0.14
OTHERS				
unidentified phytoflagellate sp. 2	25.04	22.55	23.80	1.16
unidentified phytoflagellate sp. 3	3.58	5.64	4.61	0.22
TOTAL OTHERS	28.62	28.19	28.41	1.38
TOTAL PERIPHYTON ±std. dev.	1609.37	2511.04	2060.27±528.24	
TOTAL SPECIES (s)			43	
DIVERSITY INDEX ($\bar{d}$)			3.5884	
EQUITABILITY (e)			0.40	

[a]Samples were scraped from rocks in a partially shaded environment.

[b]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 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
26 MAY 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achnanthes affinis	0.00	61.54	30.77	0.89
A. deflexa	47.03	0.00	23.51	0.68
A. lanceolata	15.79	0.00	7.90	0.23
A. linearis f. curta	0.00	61.54	30.77	0.89
A. minutissima	658.06	1339.82	998.94	28.82
Amphora perpusilla	1018.50	308.01	663.26	19.14
Cymbella affinis	109.85	123.07	116.46	3.36
Diatoma vulgare	0.00	15.30	7.65	0.22
Fragilaria vaucheriae	15.79	0.00	7.90	0.23
Gomphonema angustatum	109.85	123.07	116.46	3.36
G. angustatum v. citera	422.91	200.24	311.58	8.99
G. olivaceum	125.29	123.07	124.18	3.58
G. parvulum	31.24	15.30	23.27	0.67
Meridion circulare	31.24	0.00	15.62	0.45
Navicula biconia	15.79	46.24	31.01	0.89
N. cryptocephala	62.82	76.84	69.83	2.01
N. graciloides	15.79	0.00	7.90	0.23
N. mutica v. cohnii	15.79	30.93	23.36	0.67
N. radiosa	15.79	0.00	7.90	0.23
Nitzschia acicularis	0.00	15.30	7.65	0.22
N. amphibia	15.79	15.30	15.55	0.45
N. capitellata	0.00	30.93	15.47	0.45
N. communis v. abbreviata	47.03	46.24	46.63	1.35
N. dissipata	109.85	61.54	85.69	2.47
N. Kutzingiana	109.85	61.54	85.69	2.47
N. palea	219.35	230.84	225.10	6.49
Rhoicosphenia curvata	109.85	92.47	101.16	2.92
Surirella linearis	15.79	0.00	7.90	0.23
S. ovata	172.32	215.54	193.93	5.60
Synedra acus	0.00	15.30	7.65	0.22
S. ulna	0.00	15.30	7.65	0.22
TOTAL BACILLARIOPHYTA	3511.36	3325.27	3418.34	98.63

APPENDIX TABLE D-6
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
26 MAY 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CRYPTOPHYTA				
cryptophyte sp. 1	4.06	11.38	7.72	0.22
TOTAL CRYPTOPHYTA	4.06	11.38	7.72	0.22
CHLOROPHYTA				
Ankistrodesmus falcatus	4.06	0.00	2.03	0.06
Chlamydomonas sp.	4.06	0.00	2.03	0.06
Cladophora sp.	0.00	1.90	0.95	0.03
Dictyosphaerium Ehrenbergianum	0.00	3.80	1.90	0.05
Stigeoclonium sp. 1	0.00	1.52	0.76	0.02
unidentified coccoid sp. (4.3μ diam.)	12.17	7.59	9.88	0.29
TOTAL CHLOROPHYTA	20.29	14.81	17.55	0.51
CYANOPHYTA				
Chamaesiphon incrustans	8.12	3.80	5.96	0.17
Lyngbya Diquetii	1.63	17.83	9.73	0.28
Oscillatoria sp. 1	4.47	4.93	4.70	0.14
TOTAL CYANOPHYTA	14.22	26.56	20.39	0.59
PROTOZOA				
unidentified ciliated protozoan	0.00	3.80	1.90	0.05
TOTAL PROTOZOA	0.00	3.80	1.90	0.05
TOTAL PERIPHYTON ± std. dev.	3549.93	3381.82	3465.90±227.28	
TOTAL SPECIES (s)			42	
DIVERSITY INDEX ($\bar{d}$)			3.6235	
EQUITABILITY (e)			0.42	

[a]Samples scraped from rocks in a partially shaded environment.
[b]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 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
11 AUGUST 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achnanthes affinis	96.06	36.44	66.25	2.32
A. linearis f. curta	576.39	2459.43	1517.91	53.25
A. minutissima	268.12	382.58	325.35	11.41
Amphora perpusilla	108.97	156.67	132.82	4.66
Cocconeis placentula v. euglypta	0.00	18.22	9.11	0.31
Cymbella affinis	7.17	36.44	21.80	0.76
Gomphonema parvulum	14.34	36.44	25.39	0.89
Navicula cryptocephala	7.17	18.22	12.69	0.45
N. cryptocephala v. veneta	0.00	36.44	18.22	0.64
N. tripunctata v. schizonemoides	116.14	174.89	145.52	5.11
N. viridula v. rostellata	14.34	0.00	7.17	0.25
Nitzschia amphibia	7.17	36.44	21.80	0.76
N. communis	199.30	87.45	143.37	5.03
N. dissipata	7.17	18.22	12.69	0.45
N. hungarica	7.17	0.00	3.58	0.13
N. obtusa	7.17	0.00	3.58	0.13
Rhoicosphenia curvata	7.17	156.67	81.92	2.87
TOTAL BACILLARIOPHYTA	1443.85	3654.55	2549.17	89.42
CRYPTOPHYTA				
cryptophyte sp. 1	7.86	14.58	11.22	0.39
TOTAL CRYPTOPHYTA	7.86	14.58	11.22	0.39
CHLOROPHYTA				
Ankistrodesmus falcatus	0.00	7.29	3.65	0.13
Cladophora sp.	38.89	0.00	19.45	0.68
TOTAL CHLOROPHYTA	38.89	7.29	23.10	0.81
CYANOPHYTA				
Anabaena sp.	0.00	7.29	3.65	0.13
Chroococcus sp.	70.71	51.01	60.86	2.14
Lyngbya Diguetii	113.14	149.39	131.27	4.61
Lyngbya sp. 1	18.86	5.83	12.35	0.43
Oscillatoria sp. 1	19.33	58.30	38.82	1.36
Spirulina major	0.00	5.83	2.92	0.10
TOTAL CYANOPHYTA	222.04	277.65	249.87	8.77

APPENDIX TABLE D-7
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
11 AUGUST 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
EUGLENOPHYTA				
Trachelomonas sp.	19.64	14.58	17.11	0.60
TOTAL EUGLENOPHYTA	19.64	14.58	17.11	0.60
TOTAL PERIPHYTON ±std. dev.	1732.28	3925.65	2850.47±1293.45	
TOTAL SPECIES (s)			27	
DIVERSITY INDEX ($\bar{d}$)			2.7148	
EQUITABILITY (e)			0.34	

[a]Samples were scraped from rocks in a partially shaded environment.

[b]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-8

PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achnanthes affinis	16.86	0.00	8.43	0.28
A. deflexa	246.15	169.06	207.60	6.81
A. lanceolata	16.86	12.25	14.55	0.48
A. linearis f. curta	2286.14	901.63	1593.88	52.29
A. minutissima	33.72	0.00	16.86	0.55
Amphora perpusilla	131.50	396.91	264.21	8.67
Cocconeis pediculus	0.00	12.25	6.13	0.20
C. placentala v. euglypta	0.00	24.50	12.25	0.40
Diatoma vulgare	16.86	36.75	26.81	0.88
Gomphonema angustatum	16.86	36.75	26.81	0.88
G. parvulum	97.78	61.25	79.52	2.61
Navicula biconica	67.44	0.00	33.72	1.11
N. cryptocephala	0.00	24.50	12.25	0.40
N. cryptocephala v. veneta	16.86	49.00	32.93	1.08
N. mutica v. cohnii	50.58	49.00	49.79	1.63
N. rhyncocephala v. germainii	0.00	12.25	6.13	0.20
N. tripunctata v. schizonemoides	0.00	12.25	6.13	0.20
Nitzschia amphibia	50.58	49.00	49.79	1.63
N. capitellata	0.00	12.25	6.13	0.20
N. communis v. abbreviata	114.64	396.91	255.78	8.39
N. dissipata	16.86	36.75	26.81	0.88
N. hungarica	0.00	12.25	6.13	0.20
N. palea	16.86	36.75	26.81	0.88
Pinnularia sp. 1	16.86	0.00	8.43	0.28
Rhoicosphenia curvata	165.22	61.25	113.24	3.72
Surirella angustata	0.00	12.25	6.13	0.20
S. ovata	0.00	24.50	12.25	0.40
Synedra fasciculata	0.00	24.50	12.25	0.40
TOTAL BACILLARIOPHYTA	3378.63	2464.76	2921.75	95.86
CRYPTOPHYTA				
cryptophyte sp. 1	10.97	4.29	7.63	0.25
TOTAL CRYPTOPHYTA	10.97	4.29	7.63	0.25

APPENDIX TABLE D-8
(continued)
PERIPHYTON COMPOSITION AND ABUNDANCE (individuals x 10^3/10 cm^2)
LITTLE SALUDA CREEK STATION 6 (NATURAL SUBSTRATES[a])
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CHLOROPHYTA				
Mougeotia sp.	5.49	0.00	2.75	0.09
unidentified coccoid sp. (10μ diam.)	43.87	0.00	21.94	0.72
TOTAL CHLOROPHYTA	49.36	0.00	24.69	0.81
CYANOPHYTA				
Chroococcus sp.	0.00	8.58	4.29	0.14
Lyngbya Diguetii	137.62	16.31	76.97	2.53
Oscillatoris Agardhii	5.49	0.43	2.96	0.10
Oscillatoria sp. 1	2.20	3.01	2.61	0.09
TOTAL CYANOPHYTA	145.31	28.33	86.83	2.85
EUGLENOPHYTA				
Trachelomonas sp.	0.00	4.29	2.15	0.07
TOTAL EUGLENOPHYTA	0.00	4.29	2.15	0.07
PROTOZOA				
unidentified protozoan	5.49	4.29	4.89	0.16
TOTAL PROTOZOA	5.49	4.29	4.89	0.16
TOTAL PERIPHYTON ± std. dev.	3589.76	2505.96	3047.94±	596.95
TOTAL SPECIES (s)			37	
DIVERSITY INDEX ($\bar{d}$)			2.8807	
EQUITABILITY (e)			0.28	

[a]Samples were scraped from rocks in a partially shaded environment.

[b]Relative abundance as percentage of total periphyton.

APPENDIX TABLE D-9

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
26 MAY 1980

	Station			
Replicate	1[a]	3	5[b]	6[c]
C		0.1		2.8
D		0.1		2.5
E		0.2		1.8
Mean ±std. dev.		0.1±0.1		2.4±0.5

[a]Samples were not recovered due to high water conditions.

[b]Periphyton growth was extremely sparse and biomass was less than could be reliably measured.

[c]Station 6 samples were scraped from rocks in a partially shaded environment.

APPENDIX TABLE D-10

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
26 MAY 1980

	Station			
Replicate	1	3	5	6[a]
C	1.4	0.7	1.2	9.0
D	0.9	0.8	1.4	4.9
E	0.6	0.6	0.7	9.7
Mean ±std. dev.	1.0±0.4	0.7±0.1	1.1±0.4	7.9±2.6

[a]Station 6 samples were scraped from rocks in a partially shaded environment.

APPENDIX TABLE D-11

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
11 AUGUST 1980

	Station			
Replicate	1	3	5	6[a]
C	2.7	4.9	3.5	9.5
D	2.4	5.0	3.3	6.6
E	2.0	4.3	2.8	1.8
Mean ±std. dev.	2.4±0.4	4.7±0.4	3.2±0.4	6.0±3.8

[a]Station 6 samples were scraped from rocks in a partially shaded environment.

APPENDIX TABLE D-12

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
2 NOVEMBER 1980

	Station			
Replicate	1	3	5	6[a]
C	6.5	5.4	5.0	2.9
D	3.7	6.7	5.6	1.3
E	5.2	7.4	4.8	3.2
Mean ±std. dev.	5.1±1.4	6.5±1.0	5.1±0.4	2.5±1.0

[a]Station 6 samples were scraped from rocks in a partially shaded environment.

APPENDIX TABLE E-1

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
26 MARCH 1980

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	-	10	5.0
ANNELIDA subtotal	1(<0.001)	0(0.0)	0.5(<0.001)	0(0.0)	10(0.003)	5.0(0.002)
MOLLUSCA						
Pelecypoda						
Corbicula fluminea	-	-	-	-	1	0.5
MOLLUSCA subtotal	0(0.0)	0(0.0)	0.0(0.0)	0(0.0)	1(0.148)	0.5(0.074)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	-	2	1.0
ARTHROPODA subtotal	0(0.0)	0(0.0)	0(0.0)	0(0.0)	2(0.009)	1.0(0.004)
Total individuals	1	0	0.5	0	13	6.5
Total biomass (g)	<0.001	0.0	<0.001	0.0	0.16	0.080
Density (no./m^2)			10			124
Biomass (g/m^2)			0.019			1.530
Index of diversity			0.00			0.99
Equitability			1.00			0.79

APPENDIX TABLE E-2

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
26 MARCH 1980

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						
Nais communis	1	-	0.5	-	-	-
immature tubificids	6	-	3	8	12	10
ANNELIDA subtotal	7(0.006)	0(0.0)	3.5(0.003)	8(0.007)	12(0.004)	10(0.006)
ARTHROPODS						
Crustacea						
Lirceus fontinalis	1	-	0.5	-	-	-
Insecta						
Diptera						
Cricotopus sp.	-	1	0.5	-	-	-
ARTHROPODS subtotal	1(0.003)	1(0.001)	1.0(0.002)	0(0.0)	0(0.0)	0(0.0)
Total individuals	8	1	4.5	8	12	10
Total biomass (g)			0.005			0.006
Density (no./m^2)			86			191
Biomass (g/m^2)			0.096			0.115
Index of diversity			1.45			0.00
Equitability			0.85			1.00

APPENDIX TABLE E-3

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
26 MARCH 1980

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	-	-	-	113	118	115.5
ANNELIDA subtotal	0(0.0)	0(0.0)	0(0.0)	113(0.063)	118(0.126)	115.5(0.095)
ARTHROPODS						
Insecta						
Plecoptera						
Isoperla sp.	-	-	-	-	1	0.5
ARTHROPODA subtotal	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(0.004)	0.5(0.002)
Total individuals	0	0	0	113	119	116
Total biomass (g)	0.0	0.0	0.0	0.063	0.130	0.097
Density (no./m^2)			0			2218
Biomass (g/m^2)			0			1.855
Index of diversity			0			0.04
Equitability			0			0.52

APPENDIX TABLE E-4

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
28 MAY 1980

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	2	-	1.0	-	-	-
ANNELIDA subtotal	2(0.001)	0(0.0)	1.0(<0.001)	0(0.0)	0(0.0)	0(0.0)
MOLLUSCA						
Pelecypoda						
Corbicula fluminea	-	-	-	-	1	0.5
MOLLUSCA subtotal	0(0.0)	0(0.0)	0(0.0)	0(0.0)	1(0.001)	0.5(<0.001)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	3	-	1.5	20	14	17.0
Insecta						
Diptera						
Procladius sp.	-	-	-	-	1	0.5
Trichoptera						
Symphytopsyche sp.	-	-	-	2	6	4.0
Ephemeroptera						
Stenonema exiguum	-	-	-	1	-	0.5
ARTHROPODA subtotal	3(0.001)	0(0.0)	1.5(<0.001)	23(0.007)	21(0.012)	22.0(0.010)

APPENDIX TABLE E-4
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
28 MAY 1980

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	5	0	2.5	23	22	22.5
Total biomass (g)	0.002	0.000	0.001	0.007	0.013	0.010
Density (no./m^2)			49			430
Biomass (g/m^2)			0.019			0.191
Index of diversity			0.97			1.11
Equitability			1.10			0.52

APPENDIX TABLE E-5

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
28 MAY 1980

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
Limnodrilus hoffmeisteri	95	34	64.5	6	10	8.0
immature Tubificidae	105	187	146.0	-	-	-
Hirudinia						
unidentified leech	-	-	-	-	1	0.5
ANNELIDA subtotal	200(0.066)	221(0.056)	210.5(0.061)	6(0.002)	12(0.005)	9.0(0.004)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	-	-	3	-	1.5
Pelecypoda						
Corbicula fluminea	-	-	-	1	4	2.5
Sphaerium (Musculium) sp.	-	-	-	2	8	5.0
MOLLUSCA subtotal	0(0.0)	0(0.0)	0(0.0)	6(0.010)	12(0.014)	9.0(0.012)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	6	3	4.5

APPENDIX TABLE E-5
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
28 MAY 1980

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (cont'd)						
Insecta						
Diptera						
Chironomus attenuatus	1	-	0.5	-	-	-
Cryptochironomus fulvus	-	1	0.5	-	1	0.5
Limnophora sp.	1	-	0.5	-	-	-
Orthocladius sp.	-	-	-	2	-	1.0
Ephemeroptera						
Hexagenia limbata	-	1	0.5	-	-	-
ARTHROPODA subtotal	2(0.001)	2(0.027)	2.0(0.014)	8(0.002)	4(0.001)	6.0(0.002)
Total individuals	202	223	212.5	20	28	24.0
Total biomass (g)	0.067	0.083	0.075	0.014	0.020	0.018
Density (no./m^2)			4063			459
Biomass (g/m^2)			1.434			0.344
Index of diversity			0.98			2.58
Equitability			0.37			0.91

APPENDIX TABLE E-6

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
28 MAY 1980

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	-	-	-
Limnodrilus hoffmeisteri	168	40	104.0	-	-	-
Pristina breviseta	-	2	1.0	-	-	-
immature Tubificidae	-	90	45.0	1	-	0.5
ANNELIDA subtotal	169(0.082)	133(0.028)	151.0(0.055)	1(0.003)	0(0.0)	0.5(0.002)
MOLLUSCA						
Gastropoda						
Helisoma sp.	1	-	0.5	-	-	-
MOLLUSCA subtotal	1(0.001)	0(0.0)	0.5(<0.001)	0(0.0)	0(0.0)	0(0.0)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	2	1	1.5	-	-	-
Lirceus fontinalis	2	-	1.0	-	-	-

APPENDIX TABLE E-6
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
28 MAY 1980

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (cont'd)						
Insecta						
Diptera						
Chaoborus punctipennis	1	1	0.5	-	-	-
Polypedilum halterale	1	-	0.5	-	-	-
Procladius sp.	1	-	0.5	-	-	-
Rheotanytarsus sp.	5	-	2.5	-	-	-
Ephemeroptera						
Hexagenia limbata	-	1	0.5	-	-	-
ARTHROPODA subtotal	11 (0.002)	3 (0.001)	7.0 (0.002)	0 (0.0)	0 (0.0)	0 (0.0)
Total individuals	181	136	158.5	1	0	0.5
Total biomass (g)	0.085	0.029	0.057	0.003	0.000	0.002
Density (no./m^2)			3030			10
Biomass (g/m^2)			1.090			0.038
Index of diversity			1.34			0.00
Equitability			0.26			1.00

APPENDIX TABLE E-7

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
12 AUGUST 1980

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	-	3	1.5	-	-	-
Limnodrilus hoffmeisteri	-	5	2.5	2	1	1.5
ANNELIDA subtotal	0 (0.0)	8 (0.001)	4.0 (<0.001)	2 (<0.001)	1 (<0.001)	1.5 (<0.001)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	2	3	2.5	9	-	4.5
Pelecypoda						
Corbicula fluminea	4	4	4.0	10	2	6.0
MOLLUSCA subtotal	6 (0.003)	7 (0.006)	6.5 (0.005)	19 (0.007)	2 (<0.001)	10.5 (0.004)
ARTHROPODA						
Insecta						
Diptera						
Cardiocladius sp.	-	1	0.5	-	-	-
Cricotopus sp.	1	1	1.0	-	-	-

APPENDIX TABLE E-7
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
12 AUGUST 1980

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (cont'd)						
Trichoptera						
Potamyia flava	22	3	12.5	2	1	1.5
Hydropsyche orris	5	-	2.5	-	-	-
Cheumatopsyche sp.	2	-	1.0	-	-	-
Ephemeroptera						
Stenacron interpunctatum	-	-	-	1	-	0.5
ARTHROPODA subtotal	30 (0.010)	5 (0.002)	17.5 (0.006)	3 (<0.001)	1 (<0.001)	2.0 (<0.001)
Total individuals	36	20	28.0	24	4	14.0
Total biomass (g)	0.013	0.009	0.011	0.008	<0.001	0.004
Density (no./m^2)			535			268
Biomass (g/m^2)			0.210			0.076
Index of diversity			2.53			1.91
Equitability			0.88			0.98

APPENDIX TABLE E-8

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
12 AUGUST 1980

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	89	23	56.0	2	3	2.5
L. undekemianus	23	-	11.5	-	-	-
Pristina breviseta	13	1	7.0	-	-	-
immature Tubificidae	201	36	118.5	3	12	7.5
ANNELIDA subtotal	326 (0.070)	60 (0.016)	193.0 (0.043)	5 (0.001)	15 (0.002)	10.0 (0.002)
MOLLUSCA						
Pelecypoda						
Corbicula fluminea	-	3	1.5	2	11	6.5
MOLLUSCA subtotal	0 (0.0)	3 (0.001)	1.5 (<0.001)	2 (0.002)	11 (0.012)	6.5 (0.007)
ARTHROPODA						
Insecta						
Diptera						
Cryptochironomus fulvus	2	-	1.0	-	-	-
Tanypus sp.	2	1	1.5	-	-	-

APPENDIX TABLE E-8
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
11 AUGUST 1979

	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Ephemeroptera						
Stenacron interpunctatum	-	1	0.5	-	-	-
Trichoptera						
Potamyia flava	2	1	1.5	-	1	0.5
ARTHROPODA subtotal	6 (<0.001)	3 (0.003)	4.5 (0.002)	0 (0.0)	1 (<0.001)	0.5 (<0.001)
Total individuals	332	66	199.0	7	27	17.0
Total biomass (g)	0.070	0.020	0.045	0.003	0.014	0.009
Density (no./m^2)			3805			325
Biomass (g/m^2)			0.860			0.172
Index of diversity			1.59			1.61
Equitability			0.42			0.97

APPENDIX TABLE E-9

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
12 AUGUST 1980

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	69	41	55.0	2	1	1.5
L. undekemianus	12	9	10.5	-	-	-
Pristina breviseta	4	4	4.0	2	1	1.5
immature Tubificidae	237	254	245.5	8	5	6.5
ANNELIDA subtotal	322 (0.033)	308 (0.030)	315.0 (0.032)	12 (0.004)	7 (0.006)	9.5 (0.005)
MOLLUSCA						
Pelecypoda						
Corbicula fluminea	-	1	0.5	3	-	1.5
Sphaerium sp.	-	-	-	1	-	0.5
MOLLUSCA subtotal	0 (0.0)	1 (0.004)	0.5 (0.002)	4 (0.013)	0 (0.0)	2.0 (0.007)
ARTHROPODA						
Insecta						
Cryptochironomus fulvus	1	1	1.0	-	-	-
ARTHROPODA subtotal	1 (<0.001)	1 (<0.001)	1.0 (<0.001)	0 (0.0)	0 (0.0)	0 (0.0)

APPENDIX TABLE E-9
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
12 AUGUST 1980

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	323	310	316.5	16	7	11.5
Total biomass (g)	0.033	0.034	0.034	0.017	0.006	0.012
Density (no./m^2)			6052			220
Biomass (g/m^2)			0.650			0.229
Index of diversity			1.01			1.81
Equitability			0.40			0.91

APPENDIX TABLE E-10

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
COELENTERATA						
Hydrozoa						
Hydra sp. B	-	-	-	1	-	0.5
COELENTERATA subtotal	0 (0.0)	0 (0.0)	0.0 (0.0)	1 (<0.001)	0 (0.0)	0.5 (<0.001)
ANNELIDA						
Oligochaeta						
Limnodrilus hoffmeisteri	-	-	-	-	1	0.5
Pristina breviseta	-	-	-	1	-	0.5
ANNELIDA subtotal	0 (0.0)	0 (0.0)	0.0 (0.0)	1 (<0.001)	1 (<0.001)	1.0 (<0.001)
MOLLUSCA						
Gastropoda						
Pleurocera acuta	-	-	-	3	-	1.5
Pelecypoda						
Corbicula fluminea	12	8	10.0	18	26	22.0
MOLLUSCA subtotal	12 (0.009)	8 (0.010)	10.0 (0.010)	21 (0.186)	26 (0.516)	22.0 (0.351)

APPENDIX TABLE E-10
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

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						
Diptera						
Chironomus attenuatus	4	1	2.5	-	-	-
Coelotanypus scapularis	1	-	0.5	-	-	-
Cricotopus sp.	-	2	1.0	-	-	-
Dicrotendipes modestus	5	4	4.5	1	-	0.5
ARTHROPODA subtotal	10 (0.002)	7 (0.001)	8.5 (0.001)	1 (<0.001)	0 (0.0)	0.5 (<0.00))
Total individuals	22	15	18.5	24	27	25.5
Total biomass (g)	0.011	0.001	0.011	0.186	0.516	0.351
Density (no./m^2)			354			488
Biomass (g/m^2)			0.210			6.711
Index of diversity			1.73			0.87
Equitability			0.86			0.35

APPENDIX TABLE E-11

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

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	-	-	-	2	-	1.0
PLATYHELMINTHES subtotal	0 (0.0)	0 (0.0)	0.0 (0.0)	2 (0.002)	0 (0.0)	1.0 (0.001)
ANNELIDA						
Oligochaeta						
Branchiura sowerbyi	-	1	0.5	3	1	2.0
Limnodrilus hoffmeisteri	12	-	6.0	4	9	6.5
Pristina breviseta	2	-	1.0	-	-	-
immature Tubificidae	34	37	35.5	-	-	-
ANNELIDA subtotal	48 (0.012)	38 (0.016)	43.0 (0.014)	7 (0.002)	10 (0.003)	8.5 (0.003)
MOLLUSCA						
Pelecypoda						
Corbicula fluminea	45	44	44.5	22	31	26.5
Quadrula nodulosa	-	-	-	1	-	0.5
MOLLUSCA subtotal	45 (0.096)	44 (0.060)	44.5 (0.078)	23 (0.318)	31 (0.358)	27.0 (0.338)

APPENDIX TABLE E-11
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

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						
Diptera						
Ablabesmyia rhamphe	-	-	-	-	1	0.5
Chaoborus punctipennis	-	-	-	-	1	0.5
Chironomus attenuatus	-	-	-	1	1	1.0
Coelotanypus scapularis	-	-	-	1	3	2.0
Cricotopus sp.	-	1	0.5	1	2	1.5
Dicrotendipes modestus	-	-	-	1	6	3.5
Eukiefferiella sp.	-	-	-	-	2	1.0
Microtendipes sp.	-	-	-	1	3	2.0
Procladius sp.	-	-	-	-	1	0.5
Ephemeroptera						
Stenacron interpunctatum	-	1	0.5	-	-	-
Odonata						
Gomphus quadricolor	-	1	0.5	-	-	-
Macromia illinoisense	-	-	-	1	-	0.5
ARTHROPODA subtotal	0 (0.0)	3 (0.033)	1.5 (0.017)	6 (0.006)	20 (0.004)	13.0 (0.005)

APPENDIX TABLE E-11
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	93	85	89.0	38	61	49.5
Total biomass (g)	0.108	0.109	0.109	0.328	0.365	0.347
Density (no./m^2)			1702			946
Biomass (g/m^2)			2.084			6.635
Index of diversity			1.53			2.53
Equitability			0.46			0.53

APPENDIX TABLE E-12

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

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	5		5		5.0		-		-		-	
Limnodrilus hoffmeisteri	29		11		20.0		4		6		5.0	
Peloscolex sp.	8		4		6.0		-		-		-	
Pristina breviseta	5		1		3.0		-		-		-	
immature Tubificidae	86		48		67.0		18		24		21.0	
ANNELIDA subtotal	133	(0.230)	69	(0.104)	101.0	(0.167)	22	(0.008)	30	(0.008)	26.0	(0.008)
MOLLUSCA												
Pelecypoda												
Corbicula fluminea	4		3		3.5		34		31		32.5	
MOLLUSCA subtotal	4	(0.011)	3	(0.005)	3.5	(0.008)	34	(0.345)	31	(0.203)	32.5	(0.274)
ARTHROPODA												
Crustacea												
Gammarus pseudolimnaeus	-		-		-		5		-		2.5	

APPENDIX TABLE E-12
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (con't)						
Insecta						
Diptera						
Ablabesmyia rhamphe	-	-	-	1	-	0.5
Chaoborus punctipennis	-	-	-	-	1	0.5
Coelotanypus scapularis	-	-	-	-	1	0.5
Cricotopus sp.	1	-	0.5	-	1	0.5
Dicrotendipes modestus	1	-	0.5	-	-	-
Trichoptera						
Potamyia flava	-	-	-	2	-	1.0
Ephemeroptera						
Stenacron interpunctatum	-	-	-	4	1	2.5
Stenonema exiguum	-	-	-	5	-	2.5
Odonata						
Gomphus quadricolor	-	-	-	1	-	0.5
ARTHROPODA subtotal	2 (<0.001)	0 (0.0)	1.0 (<0.001)	18 (0.016)	4 (0.001)	11.0 (0.009)

APPENDIX TABLE E-12
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
4 NOVEMBER 1980

	Number of individuals (biomass in grams)					
	Shallow water			Deep water		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	139	72	105.5	74	65	69.5
Total biomass (g)	0.241	0.109	0.175	0.369	0.212	0.291
Density (no./m^2)			2017			1329
Biomass (g/m^2)			3.346			5.564
Index of diversity			1.70			2.17
Equitability			0.52			0.50

APPENDIX TABLE E-13

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
27 MARCH 1980

Species	Number of individuals (biomass in grams)					
	Riffle habitat			Pool habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Crustacea						
Lirceus fontinalis	1	3	2	1	2	1.5
Insecta						
Diptera						
Orthocladius sp.	8	15	11.5	2	11	6.5
Simulium sp.	-	-	-	1	-	0.5
Tipula sp.	1	2	1.5	-	-	-
Ephameroptera						
Baetis sp.	-	-	-	-	2	1
Stenonema exiguum	-	1	0.5	-	-	-
Plecoptera						
Isoperla sp.	1	-	0.5	-	-	-
ARTHROPODA subtotal	11(0.029)	21(0.209)	16.0(0.119)	4(0.008)	15(0.019)	9.5(0.013)
Total individuals	11	21	16.0	4	15	9.5
Total biomass (g)	0.029	0.209	0.119	0.008	0.019	0.013
Density (no./m^2)			172			102
Biomass (g/m^2)			1.281			0.140
Index of diversity			1.50			1.36
Equitability			0.71			0.79

APPENDIX TABLE E-14

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
28 MAY 1980

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 Naididae	17	54	35.5	-	1	0.5
ANNELIDA subtotal	17 (0.001)	54 (0.002)	35.5 (0.001)	0 (0.0)	1 (<0.001)	0.5 (<0.001)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	2	37	19.5	-	2	1.0
Insecta						
Diptera						
Cricotopus sp.	9	2	5.5	-	-	-
Epoicocladius sp.	1	-	0.5	-	-	-
Eukiefferiella sp.	-	1	0.5	-	-	-
Orthocladius sp.	17	11	14.0	1	6	3.5
Tanytarsus sp.	-	3	1.5	-	-	-
ARTHROPODA subtotal	29 (0.004)	54 (0.041)	41.5 (0.023)	1 (<0.001)	8 (0.008)	4.5 (0.004)

APPENDIX TABLE E-14
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
28 MAY 1980

	Number of individuals (biomass in grams)					
	Riffle habitat			Pool habitat		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	46	108	77.0	1	9	5.0
Total biomass (g)	0.005	0.043	0.024	<0.001	0.008	0.004
Density (no./m^2)			829			54
Biomass (g/m^2)			0.258			0.043
Index of diversity			1.94			1.16
Equitability			0.72			0.90

APPENDIX TABLE E-15

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
13 AUGUST 1980

Species	Number of individuals (biomass in grams)					
	Riffle habitat			Pool habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
immature Tubidicidae	-	-	-	-	2	1.0
ANNELIDA subtotal	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (<0.001)	1.0 (<0.001)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	21	3	12.0	2	3	2.5
Orconectes sloanii	1	-	0.5	-	-	-
Insecta						
Diptera						
Cardiocladius sp.	-	-	-	1	-	0.5
Tanypus sp.	-	1	0.5	-	-	-
Trichoptera						
Ochrotrichia viesi	1	-	0.5	-	-	-
Ephemeroptera						
Stenonema exiguum	1	-	0.5	-	-	-
ARTHROPODA subtotal	24 (0.203)	4 (0.004)	14.0 (0.104)	3 (0.001)	3 (0.002)	3.0 (0.002)

APPENDIX TABLE E-15
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
13 AUGUST 1980

	Number of individuals (biomass in grams)					
	Riffle habitat			Pool habitat		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	24	4	14.0	3	5	4.0
Total biomass (g)	0.203	0.004	0.104	0.001	0.002	0.002
Density (no./m^2)			151			43
Biomass (g/m^2)			0.640			0.012
Index of diversity			0.88			1.30
Equitability			0.43			0.99

APPENDIX TABLE E-16

BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
5 NOVEMBER 1980

	Number of individuals (biomass in grams)							
	Riffle habitat				Pool habitat			
Species	Replicate A		Replicate B		$\bar{x}$			
ANNELIDA								
Oligochaeta								
Limnodrilus maumeensis	1		4		2.5		4	-	2.0	
Nais communis	-		-		-		-	2	1.0	
Pristina breviseta	-		5		2.5		1	5	3.0	
ANNELIDA subtotal	1	(0.003)	9	(0.009)	5.0	(0.006)	5	(0.001)	7	(0.001)	6.0	(0.001)
MOLLUSCA								
Gastropoda								
Somatogyrus sp.	3		4		3.5		1	-	0.5	
MOLLUSCA subtotal	3	(0.007)	4	(0.004)	3.5	(0.006)	1	(0.001)	0	(0.0)	0.5	(<0.001)
ARTHROPODA								
Crustacea								
Lirceus fontinalis	79		63		71.0		47	13	30.0	
Insecta								
Cardiocladius sp.	-		-		-		1	1	1.0	
Chironomus attenuatus	-		-		-		-	1	0.5	
Cricotopus sp.	-		-		-		-	1	0.5	
Eukiefferiella sp.	-		-		-		5	1	3.0	
Micropsectra sp.	-		-		-		1	-	0.5	

APPENDIX TABLE E-16
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
5 NOVEMBER 1980

Species	Number of individuals (biomass in grams)					
	Riffle habitat			Pool habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Microtendipes sp.	-	-	-	2	4	3.0
Polypedilum halterale	-	-	-	4	1	2.5
Stictochironomus sp.	-	-	-	3	7	5.0
Tipula sp.	3	2	2.5	-	-	-
Trichoptera						
Cheumatopsyche sp.	17	6	11.5	-	-	-
Hydropsyche orris	9	6	7.5	-	-	-
Ochrotrichia (viesi?)	1	2	1.5	-	-	-
Potamyia flava	7	1	4.0	-	-	-
Symphitopsyche sp.	6	-	3.0	-	-	-
Plecoptera						
Isoperla clio	-	1	0.5	-	-	-
Ephemeroptera						
Stenacron interpunctatum	-	1	0.5	-	-	-
Stenonema exiguum	3	5	4.0	2	-	1.0
Coleoptera						
Psephenus herricki	1	-	0.5	-	-	-
ARTHROPODA subtotal	126 (0.233)	87 (0.165)	106.5 (0.199)	65 (0.165)	29 (0.059)	47.0 (0.012)

APPENDIX TABLE E-16
(continued)
BENTHOS COMPOSITION, ABUNDANCE AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
5 NOVEMBER 1980

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	130	100	115	71	36	53.5
Total biomass (g)	0.243	0.178	0.211	0.167	0.060	0.114
Density (no./m^2)			2198			1023
Biomass (g/m^2)			4.034			2.180
Index of diversity			2.19			2.44
Equitability			0.44			0.53

APPENDIX TABLE E-17

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
26 MARCH 1980

	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									
Pristina breviseta	-	-	-	-	-	-	1	-	0.5
immature tubificids	-	-	-	-	-	-	-	1	0.5
ANNELIDA subtotal	-	-	-	0(0.0)	0(0.0)	0(0.0)	1(0.001)	1(<0.001)	1.0(0.001)
ARTHROPODA									
Insecta									
Diptera									
Eukiefferiella sp.	-	-	-	2	-	1.0	-	-	-
Orthocladius sp.	-	-	-	-	-	-	-	1	0.5
Polypedilum halterale	-	-	-	-	-	-	2	2	2
Psectrocladius sp.	-	-	-	-	-	-	-	1	0.5
Rheocricotopus sp.	-	-	-	-	-	-	-	1	0.5
Rheotanytarsus sp.	-	-	-	-	-	-	2	-	1.0
Ephemeroptera									
Stenonema sp.	-	-	-	-	-	-	1	-	0.5
ARTHROPODA subtotal	-	-	-	2(0.002)	0(0.0)	1.0(0.001)	5(0.003)	5(0.001)	5.0(0.002)
Total individuals	-	-	-	2	0	1.0	6	6	6.0
Total biomass (g)				0.002	0.0	0.001	0.004	0.002	0.003
Density (no./m^2)			-			6			37
Biomass (g/m^2)			-			0.006			0.018
Index of diversity			-			0.00			2.75
Equitability			-			1.0			1.17

[a]No samples recovered at Station 1.

APPENDIX TABLE E-18

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
26 MAY 1980

	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							3	-	1.5
Limnodrilus hoffmeisteri	-	-	-	-	-	-	-	-	-
Nais communis	-	-	-	9	12	10.5			
ANNEDLIA subtotal	0(0.0)	0(0.0)	0(0.0)	9(<0.001)	12(<0.001)	10.5(<0.001)	3(<0.001)	0(0.0)	1.5(<0.001)
MOLLUSCA									
Gastropoda							1	-	0.5
Somatogyrus sp.	-	-	-	-	-	-			
Pelecypoda							6	-	3.0
Corbicula fluminea	-	-	-	-	-	-			
MOLLUSCA subtotal	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	7(0.001)	0(0.0)	3.5(<0.001)
ARTHROPODA									
Crustacea							45	15	30
Gammarus pseudolimnaeus	-	-	-	-	1	0.5			
Insecta									
Diptera									
Cricotopus sp.	-	3	1.5	7	-	3.5	-	-	-
Eukiefferiella sp.	1	-	0.5	-	-	-	-	-	-
Orthocladius sp.	1	11	6.0	4	8	6.0	-	1	0.5
Polypedilum halterale	20	4	12.0	15	8	11.5	5	4	4.5
Procladius sp.	-	1	0.5	3	1	2.0	-	-	-
Pseudochironomus sp.	2	2	2.0	2	-	1.0	-	-	-
Tanytarsus sp.	1	1	1.0	1	17	9.0	-	-	-
Trichoptera									
Hydropsyche orris	18	-	9.0	6	1	3.5	-	1	0.5
Neureclipsis crepuscularis	-	-	-	3	-	1.5	-	-	-
Symphytopsyche sp.	-	-	-	6	5	5.5	1	-	0.5
unidentified specimen	-	2	1.0	-	-	-	-	-	-
Ephemeroptera									
Stenacron interpunctatum	94	65	79.5	51	67	59.0	24	9	16.5
Plecoptera									
Isoperla clio	-	1	0.5	2	-	1.0	-	-	-
Megaloptera									
Nigronia serricornis	-	-	-	-	1	0.5	-	-	-
Odonata									
Macromia illinoisense	-	-	-	-	-	-	1	-	0.5
ARTHROPODA subtotal	137(0.133)	90(0.130)	113.5(0.132)	100(0.123)	109(0.105)	104.5(0.114)	76(0.156)	30(0.012)	53.0(0.085)
Total individuals	137	90	113.5	109	121	115.0	86	30	58.0
Total biomass (g)	0.133	0.130	0.132	0.123	0.105	0.114	0.157	0.012	0.085
Density (no./m^2)			698			707			357
Biomass (g/m^2)			0.812			0.701			0.523
Index of diversity			1.63			2.54			1.95
Equitability			0.36			0.57			0.50

APPENDIX TABLE E-19

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
11 AUGUST 1980

	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	$\bar{x}$
ARTHROPODA									
Insecta									
Diptera									
Cricotopus sp.	-	3	1.5	3	1	2.0	1	6	3.5
Cryptochironomus fulvus	-	-	-	1	2	1.5	-	3	1.5
Eukiefferiella sp.	1	2	1.5	-	-	-	-	-	-
Hemerodromia sp.	1	6	3.5	-	-	-	3	3	3.0
Polypedilum halterale	3	5	4.0	2	3	2.5	3	13	8.0
Trichoptera									
Cyrnellus fraternus	6	3	4.5	2	6	4.0	17	62	39.5
Cheumatopsyche sp.	1	2	1.5	-	-	-	-	-	-
Hydropsyche orris	67	99	83.0	23	91	57.0	23	112	67.5
Potamyia flava	366	549	457.5	185	551	368.0	142	634	338.0
Ephemeroptera									
Callibaetis sp.	-	-	-	-	-	-	1	-	0.5
Stenacron interpunctatum	67	51	59.0	39	108	73.5	79	73	76.0
Stenonema exiguum	30	25	27.5	20	32	26.0	41	28	34.5
Total individuals	542	745	643.5	275	794	534.5	310	934	622.0
Total biomass (g)	0.179	0.422	0.301	0.131	0.391	0.261	0.157	0.302	0.230
Density (no./m^2)			3958			3287			3825
Biomass (g/m^2)			1.851			1.605			1.415
Index of diversity			1.44			1.46			1.82
Equitability			0.34			0.43			0.46

APPENDIX TABLE E-20

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
3 NOVEMBER 1980

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 Tubificidae	5	2	3.5	4	3	3.5	4	4	4.0
ANNELIDA subtotal	5 (0.001)	2 (<0.001)	3.5 (<0.001)	4 (<0.001)	3 (<0.001)	3.5 (<0.001)	4 (0.001)	4 (0.001)	4.0 (0.001)
COELENTERATA									
Hydrozoa									
Hydra sp. B	-	-	-	-	-	-	5	3	4.0
COELENTERATA subtotal	0 (0.0)	0 (0.0)	0.0 (0.0)	0 (0.0)	0 (0.0)	0.0 (0.0)	5 (0.001)	3 (0.001)	4.0 (0.001)
MOLLUSCA									
Pelecypoda									
Corbicula fluminea	-	-	-	-	-	-	-	1	0.5
MOLLUSCA subtotal	0 (0.0)	0 (0.0)	0.0 (0.0)	0 (0.0)	0 (0.0)	0.0 (0.0)	0 (0.0)	1 (0.001)	0.5 (<0.001
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	5	2	3.5	2	1	1.5	-	11	5.5
Insecta									
Diptera									
Chironomus attenuatus	-	-	-	-	-	-	1	-	0.5
Cricotopus sp.	22	17	19.5	15	5	10.0	17	3	10.0
Crytochironomus fulvus	16	-	8.0	-	-	-	-	-	-
Dicrotendipes modestus	67	41	54.0	19	36	27.5	9	4	6.5
Eukiefferiella sp.	19	28	23.5	12	12	12.0	1	3	2.0
Microtendipes sp.	7	3	5.0	3	-	1.5	5	2	3.5
Polypedilum halterale	9	3	6.0	6	10	8.0	1	-	0.5
Procladius sp.	3	2	2.5	-	2	1.0	1	-	0.5
Rheotanytarsus sp.	26	19	22.5	13	4	8.5	1	1	1.0
Trichoptera									
Cyrnellus fraternus	3	-	1.5	-	-	-	1	2	1.5
Neureclipsis crepuscularis	10	2	6.0	3	-	1.5	2	2	2.0
Potamyia flava	15	17	16.0	19	2	10.5	18	28	23.0
Ephemeroptera									
Caenis sp.	-	1	0.5	-	-	-	-	-	-
Stenacron interpunctatum	33	43	38.0	15	6	10.5	-	13	6.5
Stenonema exiguum	6	8	7.0	-	-	-	-	2	1.0
ARTHROPODA subtotal	231 (0.067)	196 (0.075)	213.5 (0.071)	107 (0.073)	78 (0.015)	92.5 (0.044)	57 (0.047)	71 (0.074)	64.0 (0.061)
Total individuals	236	198	217.0	111	81	96.0	66	79	72.5
Total biomass (g)	0.068	0.075	0.072	0.073	0.015	0.044	0.049	0.077	0.063
Density (no./m^2)			1335			590			446
Biomass (g/m^2)			0.443			0.271			0.387
Index of diversity			3.30			3.06			3.27
Equitability			0.88			0.98			0.81

APPENDIX TABLE E-21

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 26 MARCH 1980

Species	Number of individuals (biomass in grams) Replicate A	Replicate B[a]	$\bar{x}$
ARTHROPODA			
Crustacea			
Synurella dentata	9	-	-
Lirceus fontinalis	16	-	-
Insecta			
Diptera			
Cricotopus sp.	8	-	-
Larsia sp.	1	-	-
Orthocladius sp.	15	-	-
Tribelos sp.	1	-	-
Plecoptera			
Isoperla sp.	2	-	-
ARTHROPODA subtotal	52(0.254)	-	-
Total individuals	52	-	-
Total biomass (g)	0.254		
Density (no./m^2)	320		
Biomass (g/m^2)	1.562		
Index of diversity	2.29		
Equitability	0.94		

[a]Only one sampler was recovered at Station 6.

APPENDIX TABLE E-22

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 26 MAY 1980

	Number of individuals (biomass in grams)		
Species	Replicate A	Replicate B	$\bar{x}$
ANNELIDA			
Oligochaeta			
immature Naididae	63	15	39.0
ANNELIDA subtotal	63(0.001)	15(<0.001)	39.0(<0.001)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	19	34	26.5
Synurella dentata	1	-	0.5
Insecta			
Diptera			
Ablabesmyia rhamphe	2	-	1.0
Cladotanytarsus sp.	-	3	1.5
Hemerodromia sp.	-	1	0.5
Orthocladius sp.	4	4	4.0
Rheotanytarsus sp.	1	-	3.0
Tanytarsus sp.	6	-	3.0
Thienemaniella sp.	-	1	0.5
Plecoptera			
Isoperla clio	1	-	0.5
Ephemeroptera			
Stenonema exiguum	-	1	0.5
ARTHROPODA subtotal	34(0.021)	44(0.050)	39.0(0.036)
Total individuals	97	59	78.0
Total biomass (g)	0.022	0.050	0.036
Density (no./m^2)			480
Biomass (g/m^2)			0.221
Index of diversity			1.90
Equitability			0.41

APPENDIX TABLE E-23

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 11 AUGUST 1980

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
ARTHROPODA			
Crustacea			
Lirceus fontinalis	30	58	44.0
Insecta			
Diptera			
Cardiocladius sp.	2	3	2.5
Chironomus attenuatus	1	-	0.5
Cricotopus sp.	5	2	3.5
Cryptochironomus fulvus	13	3	8.0
Polypedilum halterale	1	1	1.0
Tanypus sp.	1	2	1.5
Hemerodromia sp.	1	1	1.0
Ephemeroptera			
Callibaetis sp.	1	1	1.0
Stenonema exiguum	1	7	4.0
Odonata			
Nehalennia sp.	-	1	0.5
Coleoptera			
Stenelmis (*sexlineata*?)	-	1	0.5
Ectopria nervosa	-	1	0.5
Megaloptera			
Sialis sp.	1	-	0.5
ARTHROPODA subtotal	57(0.029)	81(0.072)	69.0(0.051)
Total individuals	57	81	69.0
Total biomass (g)	0.029	0.072	0.051
Density (no./m^2)			424
Biomass (g/m^2)			0.314
Index of diversity			2.05
Equitability			0.39

APPENDIX TABLE E-24

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 5 NOVEMBER 1980

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
ANNELIDA			
Oligochaeta			
immature Tubificidae	-	3	1.5
ANNELIDA subtotal	0 (0.0)	3 (<0.001)	1.5 (<0.001)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	18	21	19.5
Insecta			
Diptera			
Cardiocladius sp.	1	1	1.0
Chironomus attenuatus	-	1	0.5
Coelotanypus scapularis	2	3	2.5
Stictochironomus sp.	1	-	0.5
Tricoptera			
Cheumatopsyche sp.	2	1	1.5
Potamyia flava	-	2	1.0
Symphitopsyche (*bifida*)?	1	-	0.5
Ephemeroptera			
Stenonema (*exiguum*)?	3	1	2.0
ARTHROPODA subtotal	28 (0.009)	30 (0.011)	29.0 (0.010)
Total individuals	28	33	30.5
Total biomass (g)	0.009	0.011	0.010
Density (no./m^2)			188
Biomass (g/m^2)			0.062
Index of diversity			2.01
Equitability			0.53

APPENDIX TABLE E-25

RESULTS OF DRIFT MACROINVERTEBRATE SAMPLING
MARBLE HILL PLANT SITE
26 MARCH 1980

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	2	26	14.0	80.0		7	3.5	53.8	14	8	11.0	88.0
	Crustacea												
	Gammarus pseudolimnaeus	-	3	1.5	8.5	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Ablabesmyla rhamphe	-	-	-	-	-	1	0.5	7.7	-	1	0.5	4.0
	Chaoborus punctipennis	-	-	-	-	-	-	-		1	1	1.0	8.0
	Cricotopus sp.	-	-	-	-	2	-	1.0	15.4	-	-	-	-
	Cryptochironomus fulvus	-	1	0.5	2.9	-	-	-	-	-	-	-	-
	Harnischia sp.	-	-	-	-	-	1	0.5	7.7	-	-	-	-
	Orthocladius sp.	-	-	-	-	1	-	0.5	7.7	-	-	-	-
	Stenochironomus sp.	1	-	0.5	2.9		1	0.5	7.7	-	-	-	-
	Ephemeroptera												
	Stenacron interpunctatum	-	2	1.0	5.7	-	-	-	-	-	-	-	-
	Total individuals	3	32	17.5		3	10	6.5		15	10	12.5	
	Volume filtered (m^3)	31.6	32.6	32.1		32.4	33.3	32.9		32.2	33.2	32.7	
	Individuals/m^3	0.1	1.0	0.6		0.1	0.3	0.2		0.5	0.3	0.4	
Mid-depth	Oligochaeta												
	immature tubificids	5	2	3.5	58.4	4	9	6.5	81.4	9	11	10.0	95.2
	Insecta												
	Diptera												
	Epoicocladius sp.	1	-	0.5	8.3	-	-	-	-	-	-	-	-
	Orthocladius sp.	-	1	0.5	8.3	1	-	0.5	6.2	-	-	-	-
	Rheotanytarsus sp.	1	1	1.0	16.7	-	-	-	-	-	-	-	-
	Plecoptera												
	Isogenus sp.	-	-	-	-	-	1	0.5	6.2	-	-	-	-
	Megaloptera												
	Ephemeroptera												
	Stenacron interpunctatum	-	1	0.5	8.3	1	-	0.5	6.2	-	1	0.5	4.8
	Total individuals	7	5	6.0		6	10	8.0		9	12	10.5	
	Volume filtered (m^3)	32.5	33.6	33.1		32.9	33.9	33.4		25.8	26.4	26.1	
	Individuals/m^3	0.2	0.1	0.2		0.2	0.3	0.3		0.3	0.5	0.4	
Bottom	Oligochaeta												
	Limnodrilus hoffmeisteri	-	1	0.5	4.3	-	-	-	-	-	-	-	-
	Nais communis	-	1	0.5	4.3	-	-	-	-	-	-	-	-
	immature tubificids	9	1	5.0	43.6	9	6	7.5	93.7	6	-	3.0	37.5
	Crustacea												
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	-	1	0.5	6.3
	Hyalella azteca	-	1	0.5	4.3	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	-	0.5	4.3	-	-	-	-	-	-	-	-
	Eukiefferiella sp.	1	-	0.5	4.3	-	-	-	-	-	-	-	-
	Orthocladius sp.	-	1	0.5	4.3	-	-	-	-	-	-	-	-
	Stenochinonomus sp.	2	-	1.0	8.8	-	-	-	-	-	-	-	-
	Collembola												
	Isotomurus palustris	1	-	0.5	4.3	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenacron interpunctatum	2	2	2.0	17.5	-	-	-	-	-	5	2.5	31.2
	Odonata												
	Macromia illinoisensis	-	-	-	-	-	-	-	-	-	1	0.5	6.3
	Trichoptera												
	Neureclipsis crepuscularis	-	-	-	-	1	-	0.5	6.3	-	3	1.5	18.7
	Total individuals	16	7	11.5		10	6	8.0		6	10	8.0	
	Volume filtered (m^3)	27.1	27.5	27.3		27.3	28.1	27.7		26.8	26.9	26.9	
	Individuals/m^3	0.6	0.2	0.4		0.4	0.2	0.3		0.2	0.4	0.3	

APPENDIX TABLE E-26

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGG AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
29 MAY 1980

Depth	Species	Station 1 A	Station 1 B	Station 1 $\bar{x}$	Station 1 RA	Station 3 A	Station 3 B	Station 3 $\bar{x}$	Station 3 RA	Station 5 A	Station 5 B	Station 5 $\bar{x}$	Station 5 RA
Surface	Insecta												
	Diptera												
	Polypedilum halterale	-	10	5.0	100.0	-	-	-	-	-	2	1.0	100.0
	Procladius sp.	-	-	-	-	-	1	0.5	100.0	-	-	-	-
	Total individuals	0	10	5.0		0	1	0.5		0	2	1.0	
	Volume filtered (m^3)	30.4	30.7	30.6		23.0	22.6	22.8		31.8	32.5	32.2	
	Individuals/m^3	0.0	0.3	0.2		0.0	<0.1	<0.1		0.0	0.1	0.1	
Mid-depth	Crustacea												
	Gammarus pseudolimnaeus	1	1	1.0	100.0	-	-	-	-	-	3	1.5	17.6
	Insecta												
	Trichoptera												
	Neureclipsis crepuscularis	-	-	-	-	-	-	-	-	1	-	-	-
	Diptera												
	Chironomus attenuatus	-	-	-	-	-	1	0.5	100.0	-	-	-	-
	Cryptochironomus fulvus	-	-	-	-	-	-	-	-	5	1	3.0	35.3
	Epicocladius sp.	-	-	-	-	-	-	-	-	1	-	0.5	5.8
	Polypedilum halterale	-	-	-	-	-	-	-	-	4	2	3.0	35.3
	Total individuals	1	1	1.0		0	1	0.5		11	6	8.5	
	Volume filtered (m^3)	2[illegible]	25.5	26.0		26.6	27.8	27.2		29.2	29.4	29.3	
	Individuals/m^3	<0.1	<0.1	<0.1		0.0	<0.1	<0.1		0.4	0.2	0.3	
Bottom	Oligochaeta												
	Immature tubificids	-	1	0.5	2.9	-	-	-	-	-	-	-	-
	Crustacea												
	Gammarus pseudolimnaeus	16	12	14.0	82.4	11	10	10.5	91.3	6	7	6.5	59.2
	Insecta												
	Trichoptera												
	Neureclipsis crepuscularis	-	-	-	-	-	2	1.0	8.7	1	5	3.0	27.3
	Hydropsyche orris	-	-	-	-	-	-	-	-	1	-	0.5	4.5
	Plecoptera												
	Isoperla clio	1	-	0.5	2.9	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenonema exiguum	3	1	2.0	11.8	-	-	-	-	-	-	-	-
	Diptera												
	Cryptochironomus fulvus	-	-	-	-	-	-	-	-	-	1	0.5	4.5
	Polypedilum halterale	-	-	-	-	-	-	-	-	1	-	0.5	4.5
	Total individuals	20	14	17.0		11	12	11.5		9	13	11.0	
	Volume filtered (m^3)	25.2	23.9	24.6		31.9	32.6	32.3		26.9	26.2	26.6	
	Individuals/m^3	0.8	0.5	0.7		0.3	0.4	0.4		0.3	0.5	0.4	

APPENDIX TABLE E-27

RESULTS OF DRIFT MACROINVERTEBRATE SAMPLING
MARBLE HILL PLANT SITE
12 AUGUST 1980

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	ANNELIDA												
	Oligochaeta												
	immature Tubificidae	1	-	0.5	14.3	-	-	-	-	-	-	-	-
	MOLLUSCA												
	Pelecypoda												
	Sphaerium sp.	-	-	-	-	-	-	-	-	1	-	0.5	16.7
	ARTHROPODA												
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	2	1.0	50.0	-	1	0.5	16.7
	Ephemeroptera												
	Hydropsyche orris	3	3	3.0	85.7	1	-	0.5	25.0	-	3	1.5	50.0
	Potamyia flava	-	-	-	-	-	1	0.5	25.0	-	1	0.5	16.7
	Total Individuals	4	3	3.5		1	3	2.0		1	5	3.0	
	Volume filtered (m^3)	27.0	27.8	27.4		28.4	27.7	28.1		27.5	29.2	28.3	
	Individuals/m^3	0.1	0.1	0.1		<0.1	0.1	<0.1		<0.1	0.2	0.1	
Mid-depth	ANNELIDA												
	Oligochaeta												
	immature Tubificidae	-	-	-	-	1	-	0.5	16.7	-	-	-	-
	MOLLUSCA												
	Pelecypoda												
	Sphaerium sp.	-	-	-	-	-	1	0.5	16.7	1	-	0.5	8.3
	ARTHROPODA												
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	1	-	0.5	16.7	1	1	1.0	16.7
	Cryptochironomus fulvus	1	-	0.5	6.7	-	-	-	-	1	-	0.5	8.3
	Ephemeroptera												
	Hydropsyche orris	5	4	4.5	60.0	-	1	0.5	16.7	4	3	3.5	58.4
	Potamyia flava	-	5	2.5	33.3	2	-	1.0	33.3	1	-	0.5	8.3
	Total Individuals	6	9	7.5		4	2	3.0		8	4	6.0	
	Volume filtered (m^3)	24.3	24.9	24.6		24.8	25.2	25.0		30.5	31.0	30.8	
	Individuals/m^3	0.2	0.4	0.3		0.2	0.1	0.2		0.3	0.1	0.2	
Bottom	ARTHROPODA												
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	-	0.5	9.1	-	-	-	-	-	-	-	-
	Cryptochironomus fulvus	-	1	0.5	9.1	-	-	-	-	1	1	1.0	12.5
	Probezzia sp.	1	-	0.5	9.1	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Hydropsyche orris	1	-	0.5	9.1	1	1	1.0	100.0	3	4	3.5	43.7
	Neureclipsis crepuscularis	-	-	-	-	-	-	-	-	-	1	0.5	6.3
	Potamyia flava	2	5	3.5	63.6	-	-	-	-	5	1	3.0	37.5
	Total Individuals	5	6	5.5		1	1	1.0		9	7	8.0	
	Volume filtered (m^3)	28.2	29.1	28.7		23.4	24.0	23.7		30.3	30.9	30.6	
	Individuals/m^3	0.2	0.2	0.2		<0.1	<0.1	<0.1		0.3	0.2	0.3	

APPENDIX TABLE E-28

RESULTS OF DRIFT MACROINVERTEBRATE SAMPLING
MARBLE HILL PLANT SITE
4 NOVEMBER 1980

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. A	-	-	-	-	2	4	3.0	75.0	2	-	1.0	25.0
	Hydra sp. B	2	-	1.0	100.0	-	-	-	-	-	4	2.0	50.0
	Arachnida												
	Hydrachna sp.	-	-	-	-	-	2	1.0	25.0	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	2	-	1.0	25.0
	Total Individuals	2	0	1.0		2	6	4.0		4	4	4.0	
	Volume filtered (m^3)	12.5	12.7	12.6		17.2	17.6	17.4		17.4	17.8	17.6	
	Individuals/m^3	0.2	0.0	0.1		0.1	0.3	0.2		0.2	0.2	0.2	
Mid-depth	Hydrozoa												
	Hydra sp. A	2	2	2.0	50.0	2	-	1.0	33.3	-	2	1.0	14.3
	Hydra sp. B	-	4	2.0	50.0	-	4	2.0	66.7	8	-	4.0	57.1
	Pelecypoda												
	Corbicula fluminea	-	-	-	-	-	-	-	-	-	2	1.0	14.3
	Insecta												
	Ephemeroptera												
	Stenacron interpunctatum	-	-	-	-	-	-	-	-	2	-	1.0	14.3
	Total Individuals	2	6	4.0		2	4	3.0		10	4	7.0	
	Volume filtered (m^3)	14.0	14.0	14.0		13.0	13.6	13.3		17.2	18.0	17.6	
	Individuals/m^3	0.1	0.4	0.3		0.2	0.3	0.2		0.6	0.2	0.4	
Bottom	Hydrozoa												
	Hydra sp. A	2	-	1.0	3.9	2	-	1.0	12.5	-	-	-	-
	Hydra sp. B	6	30	18.0	88.3	4	10	7.0	87.5	8	6	7.0	70.0
	Pelecypoda												
	Corbicula fluminea	-	2	1.0	3.9	-	-	-	-	-	4	2.0	20.0
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	2	1.0	3.9	-	-	-	-	2	-	1.0	10.0
	Total Individuals	8	34	21.0		6	10	8.0		10	10	10.0	
	Volume filtered (m^3)	15.4	15.8	15.6		13.0	13.0	13.0		15.4	15.4	15.4	
	Individuals/m^3	0.5	2.2	1.4		0.5	0.8	0.7		0.6	0.6	0.6	

APPENDIX TABLE F-1A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
24-25 MARCH 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	nothing collected	-	-	-
3A	nothing collected	-	-	-
3B	mooneye	192	50	0.71
	Individuals/replicate	1		
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	highfin carpsucker	445	1300	1.48
	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
25-26 MARCH 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	mooneye	195	55	0.74
	sauger	268	170	0.88
	Individuals/replicate	2		
3A	nothing collected	-	-	-
3B	nothing collected	-	-	-
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	nothing collected	-	-	-

APPENDIX TABLE F-2A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
25-26 MAY 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	longnose gar	560	300	0.17
	silver redhorse	356	555	1.23
	channel catfish	450	850	0.93
	Individuals/replicate	3		
3A	flathead catfish	500	1375	1.10
	Individuals/replicate	1		
3B	longnose gar	790	1250	0.25
		591	350	0.17
	goldeye	357	350	0.77
	freshwater drum	265	250	1.34
		337	450	1.18
	Individuals/replicate	5		
5A	longnose gar	702	780	0.23
	flathead catfish	399	510	0.80
		531	1440	0.96
	freshwater drum	250	150	0.96
	Individuals/replicate	4		
5B	longnose gar	574	340	0.18
		844	1480	0.25
		811	1450	0.27
	gizzard shad	292	240	0.96
		212	90	0.94
	goldeye	375	370	0.70
		345	360	0.88
	black buffalo	246	235	1.58

APPENDIX TABLE F-2A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
25-26 MAY 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
5B (continued)	freshwater drum	328	390	1.11
		240	150	1.09
		256	190	1.13
		242	140	0.99
		233	150	1.19
	Individuals/replicate	13		
14A	longnose gar	603	390	0.18
		559	250	0.14
		725	-[a]	-
	freshwater drum	255	190	1.15
		253	170	1.05
		268	210	1.09
		189	70	1.04
		232	140	1.12
	Individuals/replicate	8		
14B	longnose gar	943	2200	0.26
	freshwater drum	294	310	1.22
		270	220	1.12
		261	190	1.07
		240	150	1.09
	Individuals/replicate	5		

[a]Fish escaped before weight could be determined.

APPENDIX TABLE F-2B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
26-27 MAY 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	longnose gar	598	350	0.16
	channel catfish	380	370	0.67
	freshwater drum	273	200	0.98
	Individuals/replicate	3		
1B	goldfish	422	1000	1.33
	longear sunfish	160	100	2.44
	freshwater drum	350	420	0.98
	Individuals/replicate	3		
3A	nothing collected	-	-	-
3B	longnose gar	923	1600	0.20
		600	440	0.20
	freshwater drum	250	170	1.09
		197	80	1.05
	Individuals/replicate	4		
5A	carp	565	2350	1.30
	quillback	438	1000	1.19
	freshwater drum	267	240	1.26
	Individuals/replicate	3		
5B	longnose gar	815	1550	0.29
		715	850	0.23
		559	250	0.14
	gizzard shad	197	60	0.78
	channel catfish	513	1600	1.19
	flathead catfish	364	440	0.91
	white bass	182	85	1.41
	Individuals/replicate	7		

APPENDIX TABLE F-2B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
26-27 MAY 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
14A	freshwater drum	263	220	1.21
	Individuals/replicate	1		
14B	longnose gar	980	2700	0.29
		852	1575	0.25
		888	1725	0.25
	goldeye	400	500	0.78
	channel catfish	602	2500	1.15
	flathead catfish	468	1100	1.07
	freshwater drum	248	180	1.18
	Individuals/replicate	7		

APPENDIX TABLE F-3A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
11-12 AUGUST 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	white bass	212	120	1.26
	longnose gar	729	650	0.17
	Individuals/replicate	2		
1B	white bass	227	150	1.28
	longnose gar	589	400	0.20
		595	400	0.19
		595	385	0.18
	channel catfish	390	450	0.76
		456	675	0.71
	Individuals/replicate	6		
3A	carp	361	625	1.33
	longnose gar	590	350	0.17
		596	400	0.19
	Individuals/replicate	3		
3B	channel catfish	475	975	0.91
	flathead catfish	304	275	0.98
	Individuals/replicate	2		
5A	white bass	174	60	1.14
		218	120	1.16
		306	375	1.31
	smallmouth buffalo	312	425	1.40
	Individuals/replicate	4		
5B	white bass	272	250	1.24
	carp	576	3250	1.70
	Individuals/replicate	2		
14A	nothing collected	-	-	-
14B	longnose gar	815	1125	0.21
	Individuals/replicate	1		

APPENDIX TABLE F-3B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
12-13 AUGUST 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	flathead catfish	720	4900	1.31
	longnose gar	671	600	0.20
		708	650	0.18
	Individuals/replicate	3		
1B	freshwater drum	210	110	1.19
	longnose gar	780	1200	0.25
	Individuals/replicate	2		
3A	nothing collected	-	-	-
3B	freshwater drum	321	400	1.21
	longnose gar	556	325	0.19
	Individuals/replicate	2		
5A	carp	463	1225	1.23
	smallmouth buffalo	270	300	1.52
	Individuals/replicate	2		
5B	longnose gar	833	1300	0.22
	Individuals/replicate	1		
14A	carp	555	2500	1.46
	Individuals/replicate	1		
14B	channel catfish	472	1000	0.95
	Individuals/replicate	1		

APPENDIX TABLE F-4A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
3-4 NOVEMBER 1980

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
1A	skipjack herring	367	520	1.05
	gizzard shad	258	175	1.02
	smallmouth buffalo	278	320	1.49
		355	720	1.61
	channel catfish	388	415	0.71
		502	1280	1.01
	sauger	366	495	1.01
	freshwater drum	256	205	1.22
		258	160	0.93
	Individuals/replicate	9		
1B	longnose gar	583	380	0.19
		795	1160	0.23
	skipjack herring	218	60	0.58
		231	75	0.61
		354	480	1.08
		356	440	0.98
		366	525	1.07
	gizzard shad	230	115	0.95
		231	100	0.81
		251	145	0.92
		259	135	0.78
		260	150	0.85
		267	140	0.74
		271	200	1.00
		290	240	0.98
		311	310	1.03
		335	410	1.09
	goldeye	227	70	0.60
		238	95	0.70
		310	260	0.87
		335	395	1.05
	smallmouth buffalo	365	795	1.63
	golden redhorse	320	410	1.25
	flathead catfish	586	2200	1.09
	freshwater drum	242	130	0.92
		259	150	0.86
	Individuals/replicate	26		

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
3-4 NOVEMBER 1980

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
3A	longnose gar	732	890	0.23
	gizzard shad	275	280	1.35
		301	305	1.12
		322	380	1.14
	goldeye	405	740	1.11
	smallmouth buffalo	333	460	1.25
	channel catfish	457	770	0.81
	freshwater drum	226	85	0.74
		245	130	0.88
	Individuals/replicate	9		
3B	gizzard shad	231	120	0.97
		244	110	0.76
		256	150	0.89
		269	175	0.90
		275	215	1.03
		324	360	1.06
	golden redhorse	311	350	1.16
	channel catfish	410	580	0.84
	sauger	317	230	0.72
		400	495	0.77
	freshwater drum	372	830	1.61
	Individuals/replicate	11		
5A	skipjack herring	210	55	0.59
	gizzard shad	250	145	0.93
		266	155	0.82
		280	205	0.93
		301	380	1.39
		303	350	1.26
		305	290	1.02
		305	285	1.00
		338	440	1.14
	golden redhorse	303	350	1.26
		381	660	1.19
	channel catfish	333	275	0.74
		402	560	0.86
		485	1075	0.94
	sauger	302	210	0.76
	Individuals/replicate	15		

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
3-4 NOVEMBER 1980

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
5B	gizzard shad	240	130	0.94
		246	120	0.81
		248	145	0.95
		250	155	0.99
		251	145	0.92
		259	145	0.83
		262	155	0.86
		262	175	0.97
		274	185	0.90
		302	270	0.98
		305	275	0.97
		339	410	1.05
	channel catfish	401	520	0.81
		433	840	1.03
	sauger	347	320	0.77
		368	365	0.73
	Individuals/replicate	16		
14A	gizzard shad	169	20	0.41
		238	105	0.78
		243	140	0.98
		271	195	0.98
	channel catfish	358	375	0.82
		378	420	0.78
		439	710	0.84
		478	1030	0.94
	sauger	280	130	0.59
		355	365	0.82
	freshwater drum	231	185	1.50
		270	200	1.02
		335	385	1.02
	Individuals/replicate	13		

APPENDIX TABLE F-4A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
3-4 NOVEMBER 1980

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
14B	skipjack herring	411	830	1.20
	gizzard shad	239	185	1.36
		260	240	1.37
		295	360	1.40
		300	380	1.41
	channel catfish	357	360	0.79
		363	410	0.86
		420	560	0.76
	Individuals/replicate	8		

APPENDIX TABLE F-4B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
4-5 NOVEMBER 1980

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
1A	skipjack herring	244	75	0.52
		404	780	1.18
		422	875	1.16
	gizzard shad	250	120	0.77
		329	340	0.95
		333	465	1.26
	smallmouth buffalo	373	880	1.70
	golden redhorse	401	820	1.27
	spotted sucker	412	875	1.25
	white bass	313	385	1.20
	freshwater drum	275	165	0.79
	Individuals/replicate	11		
1B	gizzard shad	231	145	1.18
		244	130	0.89
		245	140	0.95
		246	120	0.81
		260	170	0.97
		262	170	0.95
		277	185	0.87
		288	235	0.98
	golden redhorse	299	265	0.99
		301	260	0.95
		306	310	1.08
		345	410	1.00
		446	1160	1.31
	channel catfish	472	980	0.93
	largemouth bass	272	215	1.07
	freshwater drum	281	230	1.04
	Individuals/replicate	16		
3A	gizzard shad	246	125	0.84
		247	120	0.80
		271	180	0.90
		284	205	0.89
		302	315	1.14
		336	385	1.01
	freshwater drum	252	140	0.87
	Individuals/replicate	7		

APPENDIX TABLE F-4B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
4-5 NOVEMBER 1979

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
3B	skipjack herring	378	605	1.12
	gizzard shad	198	45	0.58
		242	115	0.81
		243	110	0.71
		257	150	0.88
		258	150	0.87
		274	190	0.92
		298	255	0.96
	goldeye	345	315	0.77
	golden redhorse	407	810	1.20
	sauger	342	285	0.71
	Individuals/replicate	11		
5A	longnose gar	844	1830	0.30
	gizzard shad	247	115	0.76
		261	135	0.76
		307	290	1.00
		346	470	1.13
	goldeye	244	75	0.52
		338	290	0.75
	channel catfish	536	1470	0.95
		540	1300	0.83
	Individuals/replicate	9		
5B	gizzard shad	228	95	0.80
		230	115	0.95
		240	110	0.80
		243	110	0.77
		280	220	1.00
		330	430	1.20
		333	445	1.21
	goldeye	410	205	1.02
	sauger	311	225	0.75
	freshwater drum	375	590	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
4-5 NOVEMBER 1979

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
14A	gizzard shad	260	160	0.91
		269	180	0.92
		271	190	0.95
		279	185	0.85
		280	200	0.91
		285	230	0.99
		299	270	1.01
	freshwater drum	260	160	0.91
	Individuals/replicate	8		
14B	gizzard shad	202	40	0.49
		274	195	0.95
		295	265	1.03
		355	485	1.08
	golden redhorse	400	800	1.25
	channel catfish	530	1680	1.13
	sauger	260	105	0.60
	Individuals/replicate	7		

APPENDIX TABLE F-5

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
26 MARCH 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	mooneye	225	100	0.88
1B	nothing collected	-	-	-
3A	nothing collected	-	-	-
3B	freshwater drum	154	80	2.19
		254	200	1.22
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	mooneye	123	20	1.07
		-[a]	-	-
		-[a]	-	-

[a]Fish escaped before length and weight could be determined.

APPENDIX TABLE F-6

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
26 MAY 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	emerald shiner	47	1	N/A
		58	2	N/A
		64	2	N/A
1B	gizzard shad	237	80	0.60
	carp	464	1370	1.37
	emerald shiner	42	1	N/A
		59	2	N/A
3A	nothing collected	-	-	-
3B	nothing collected	-	-	-
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	nothing collected	-	-	-

APPENDIX TABLE F-7

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
11 AUGUST 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	gizzard shad	88	10	1.47
		208	100	1.11
		209	100	1.10
		243	175	1.22
3A	gizzard shad	87	10	1.52
3B	gizzard shad	88	10	1.47
5A	nothing collected	-	-	-
5B	nothing collected	-	-	-
14A	gizzard shad	75	5	1.19
	freshwater drum	386	800	1.39
14B	nothing collected	-	-	-

APPENDIX TABLE F-8

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
3 NOVEMBER 1980

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	nothing collected	-	-	-
3A	emerald shiner	<50	-	-
3B	emerald shiner	<50	-	-
5A	carp	608	3600	1.60
	quillback	429	1175	1.49
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	nothing collected	-	-	-

APPENDIX TABLE F-9

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
26 MARCH 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	stoneroller	1	95	15
		8	53-65	18
		2	30-48	3
	creek chub	7	54-79	25
		5	20-49	6
	white sucker	1	64	4
	bluegill	1	51	2
		1	48	2
B	stoneroller	1	100	17
		41	51-79	109
		6	20-49	8
	shiner (Notropis sp.)	2	30-40	2
	mimic shiner	2	53-57	4
	bluntnose minnow	1	53	2
		2	20-49	2
	blacknose dace	2	61-65	6
	creek chub	1	190	100
		1	177	66
		4	140-150	151
		10	92-125	197
		47	51-80	168
		15	20-49	19
	white sucker	4	52-82	17
	black bullhead	1	90	10
	bluegill	1	51	2
		3	20-49	5
	fantail darter	2	51-55	5
Total		172		965
Mean of replicates		86		482.5

APPENDIX TABLE F-10

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
28 MAY 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	blacknose dace	1	52	2
	creek chub	6	50-61	15
	black bullhead	1	130	36
	fantail darter	1	78	5
B	blacknose dace	1	35	1
	creek chub	5	47-61	10
Total		15		69
Mean of replicates		7.5		34.5

APPENDIX TABLE F-11

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
13 AUGUST 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	stoneroller	39	32-54	36
	blacknose dace	2	21-27	1
		1	50	2
	emerald shiner	1	48	1
	creek chub	1	89	8
		72	32-56	56
B	stoneroller	1	112	14
		1	106	9
		44	32-52	36
	blacknose dace	2	25-30	1
	creek chub	1	91	9
		83	30-69	73
	bluegill	1	42	1
	white sucker	1	40	1
Total		250		248
Mean of replicates		125		124

APPENDIX TABLE F-12

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
5 NOVEMBER 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	creek chub	2	63-65	7
B	bluntnose minnow	7	37-52	7
	blacknose dace	5	32-51	5
	Total	14		19
	Mean of replicates	7		9.5

APPENDIX TABLE F-13

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
26 MARCH 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	creek chub	1	20	<1
B	nothing collected	-	-	-
Total		1		<1
Mean of replicates		0.5		<1

APPENDIX TABLE F-14

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
28 MAY 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	stoneroller	2	54-55	4
	emerald shiner	3	51-56	5
	creek chub	9	48-67	20
	white sucker	1	81	7
	bluegill	1	56	3
B	creek chub	3	51-72	10
Total		19		49
Mean of replicates		9.5		24.5

APPENDIX TABLE F-15

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
13 AUGUST 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	creek chub	9	25-38	4
	mimic shiner	3	27-41	1
B	emerald shiner	2	30-43	1
	creek chub	1	82	9
		1	71	5
		7	26-51	8
	stoneroller	9	39-47	10
Total		32		38
Mean of replicates		16		19

APPENDIX TABLE F-16

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
5 NOVEMBER 1980

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	creek chub	26	37-67	42
	bluntnose minnow	22	34-77	29
	mimic shiner	15	31-58	14
	emerald shiner	8	39-46	6
	stoneroller	6	39-60	9
	blacknose dace	3	26-47	2
B	creek chub	48	35-62	67
	emerald shiner	12	40-50	9
	mimic shiner	7	30-41	3
	bluntnose minnow	8	31-65	7
	blacknose dace	7	30-44	4
	stoneroller	1	48	1
	golden redhorse	1	61	3
Total		164		196
Mean of replicates		82		98

APPENDIX TABLE G- 1

RESULTS OF FIRST FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
9 APRIL 1990

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	NO LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 1
(CONTINUED)
RESULTS OF FIRST FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
9 APRIL 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	VIABLE 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./M3)
MARBLE HILL PLANT
23 APRIL 1980

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	NO LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	SAUGER	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	0.04	0.00	0.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	NO LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 2
(CONTINUED)
RESULTS OF SECOND FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
23 APRIL 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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./M3)
MARBLE HILL PLANT
7 MAY 1980

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	MINNOWS	0.00	0.00	0.00	0.12	0.00	0.06	0.00	0.04	0.02
	SUCKERS	0.13	0.00	0.07	0.12	0.07	0.09	0.00	0.11	0.06
	WHITE BASS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.13	0.00	0.07	0.23	0.11	0.17	0.00	0.14	0.07
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	MINNOWS	0.03	0.03	0.03	0.04	0.07	0.05	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.11	0.03	0.07	0.11	0.07	0.09
	SUNFISHES	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SAUGER	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.04	0.02
	DAMAGED LARVAE	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.03	0.10	0.07	0.18	0.10	0.14	0.11	0.11	0.11
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	MINNOWS	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	0.26	0.35	0.31	0.16	0.18	0.17

APPENDIX TABLE G- 3
(CONTINUED)
RESULTS OF THIRD FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
7 MAY 1980

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	SAUGER	0.00	0.00	0.00	0.04	0.07	0.05	0.00	0.00	0.00
	DAMAGED LARVAE	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.03	0.03	0.03	0.33	0.42	0.38	0.16	0.19	0.17
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	MINNOWS	0.00	0.06	0.03	0.00	0.06	0.03	0.00	0.04	0.02
	SUCKERS	0.00	0.00	0.00	0.13	0.10	0.12	0.16	0.26	0.21
	SUNFISHES	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SAUGER	0.00	0.00	0.00	0.13	0.06	0.10	0.00	0.07	0.04
	DAMAGED LARVAE	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.04	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.03	0.06	0.05	0.30	0.23	0.26	0.16	0.41	0.28
	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./M3)
MARBLE HILL PLANT
14 MAY 1980

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	HERRINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
	MINNOWS	0.04	0.07	0.05	0.07	0.03	0.05	0.00	0.04	0.02
	SHINERS	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	SAUGER	0.00	0.00	0.00	0.03	0.00	0.02	0.04	0.04	0.04
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.04	0.07	0.05	0.10	0.03	0.07	0.12	0.11	0.11
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	0.03	0.00	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	MINNOWS	0.20	0.00	0.10	0.11	0.24	0.17	0.04	0.00	0.02
	SUCKERS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUNFISHES	0.03	0.00	0.02	0.00	0.03	0.02	0.00	0.00	0.00
	SAUGER	0.00	0.03	0.02	0.07	0.00	0.04	0.08	0.00	0.04
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.27	0.07	0.17	0.22	0.27	0.24	0.12	0.00	0.06
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	HERRINGS	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00

APPENDIX TABLE G- 4
(CONTINUED)
RESULTS OF FOURTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
14 MAY 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
5	MINNOWS	0.22	0.09	0.16	0.09	0.06	0.07	0.00	0.00	0.00
	SUCKERS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.03	0.02
	WHITE BASS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUNFISHES	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	SAUGER	0.00	0.00	0.00	0.00	0.12	0.06	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.29	0.15	0.22	0.09	0.20	0.15	0.00	0.07	0.03
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	0.17	0.07	0.12	0.07	0.13	0.10	0.11	0.03	0.07
	CARP	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	WHITE BASS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	SAUGER	0.00	0.00	0.00	0.10	0.10	0.10	0.04	0.00	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.20	0.07	0.13	0.20	0.22	0.21	0.14	0.07	0.10
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 5

RESULTS OF FIFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
26 MAY 1980

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	HERRINGS	0.25	0.19	0.22	0.31	0.21	0.26	0.00	0.00	0.00
	GIZZARD SHAD	0.19	0.00	0.09	0.03	0.06	0.05	0.00	0.04	0.02
	MINNOWS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.02
	CARP	0.41	0.35	0.38	0.31	0.37	0.34	0.14	0.18	0.16
	CARPSUCKERS	0.44	0.72	0.58	0.28	0.34	0.31	0.36	0.87	0.61
	WHITE BASS	0.03	0.00	0.02	0.03	0.00	0.02	0.00	0.00	0.00
	PERCHES	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	SAUGER	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.35	1.29	1.32	0.98	1.01	1.00	0.51	1.12	0.81
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	0.60	0.51	0.55	0.48	0.19	0.34	0.31	0.14	0.22
	GIZZARD SHAD	0.09	0.19	0.14	0.03	0.00	0.02	0.07	0.00	0.03
	MOONEYE	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	CARP	0.38	0.60	0.49	0.73	0.55	0.64	0.31	0.21	0.26
	SHINERS	0.03	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.02
	EMERALD SHINER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	SUCKERS	0.09	0.03	0.06	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./M3)
MARBLE HILL PLANT
26 MAY 1980

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	CARPSUCKERS	0.16	0.35	0.25	0.54	0.29	0.42	0.55	0.03	0.29
	WHITE BASS	0.03	0.00	0.02	0.00	0.03	0.02	0.00	0.03	0.02
	SAUGER	0.00	0.00	0.00	0.16	0.03	0.10	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.45	0.22
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.39	1.68	1.54	1.97	1.16	1.57	1.28	0.89	1.09
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	HERRINGS	1.41	1.39	1.40	0.60	0.47	0.53	0.34	0.71	0.52
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.06	0.03	0.00	0.00	0.00
	MOONEYE	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	MINNOWS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.98	0.71	0.84	0.82	1.03	0.93	0.88	0.95	0.91
	SUCKERS	0.63	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
	CARPSUCKERS	0.00	0.71	0.36	0.47	0.41	0.44	0.68	0.61	0.64
	WHITE BASS	0.03	0.06	0.04	0.00	0.00	0.00	0.03	0.00	0.02
	SAUGER	0.00	0.00	0.00	0.22	0.06	0.14	0.03	0.03	0.03
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE 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./M3)
MARBLE HILL PLANT
26 MAY 1980

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	TOTAL LARVAE	3.05	2.90	2.97	2.11	2.07	2.09	1.96	2.34	2.15
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.80	0.36	0.58	0.56	0.43	0.50	0.27	0.40	0.33
	MOONEYE	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.00	0.02
	CARP	0.57	0.59	0.58	0.93	1.24	1.08	0.57	0.53	0.55
	SHINERS	0.23	0.14	0.18	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	5.17	3.26	4.22	0.56	0.49	0.53	0.40	0.00	0.20
	CARPSUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.28
	WHITE BASS	0.06	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00
	PERCHES	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02
	SAUGER	0.00	0.00	0.00	0.06	0.12	0.09	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.03	0.01	0.00	0.00	0.00	0.10	0.00	0.05
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	6.85	4.40	5.63	2.11	2.32	2.21	1.41	1.49	1.45
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00

APPENDIX TABLE G- 6

RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
29 MAY 1980

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	HERRINGS	0.17	0.25	0.21	0.10	0.04	0.07	0.08	0.00	0.04
	MINNOWS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.13	0.08	0.11	0.00	0.08	0.04
	SUCKERS	0.73	0.74	0.73	0.13	0.25	0.19	0.37	0.25	0.31
	WHITE BASS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.04
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.04	0.02
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.90	1.04	0.97	0.35	0.38	0.36	0.45	0.41	0.43
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.04	0.02
3	HERRINGS	0.53	0.46	0.50	0.04	0.04	0.04	0.22	0.00	0.11
	MINNOWS	0.03	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.04	0.14	0.09	0.09	0.00	0.04
	SHINERS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.38	0.25	0.31	0.30	0.22	0.26	0.39	0.31	0.35
	DAMAGED LARVAE	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.08	0.00	0.04	0.04	0.04	0.04
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.97	0.86	0.91	0.38	0.40	0.39	0.70	0.31	0.50

APPENDIX TABLE G- 6
(CONTINUED)
RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
29 MAY 1980

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 $\bar{X}$
3	TOTAL EGGS	0.00	0.00	0.00	0.08	0.00	0.04	0.04	0.04	0.04
5	HERRINGS	0.47	0.65	0.56	0.24	0.20	0.22	0.15	0.04	0.09
	MINNOWS	0.16	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.03	0.00	0.02	0.17	0.24	0.20	0.11	0.15	0.13
	SHINERS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	1.32	0.80	1.06	0.17	0.41	0.29	0.00	0.76	0.38
	CARPSUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.26
	WHITE BASS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.98	1.47	1.73	0.58	0.89	0.73	0.78	0.99	0.89
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.49	0.55	0.52	0.08	0.12	0.10	0.04	0.21	0.12
	MINNOWS	0.07	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.38	0.12	0.25	0.16	0.17	0.16
	SUCKERS	0.72	0.39	0.56	0.87	0.39	0.63	0.55	0.63	0.59
	WHITE BASS	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 6
(CONTINUED)
RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
29 MAY 1980

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	PERCHES	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.35	1.04	1.19	1.33	0.63	0.98	0.75	1.00	0.88
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 7

RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
6 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	HERRINGS	0.24	0.08	0.16	0.09	0.08	0.09	0.17	0.09	0.13
	MINNOWS	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00
	CARP	0.35	0.45	0.40	0.03	0.11	0.07	0.03	0.09	0.06
	SUCKERS	0.38	0.37	0.37	0.15	0.22	0.19	0.38	0.22	0.30
	FRESHWATER DRUM	0.16	0.26	0.21	0.03	0.00	0.02	0.03	0.06	0.05
	DAMAGED LARVAE	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.09	0.05
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.14	1.15	1.14	0.33	0.48	0.40	0.62	0.56	0.59
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	0.03	0.06	0.04	0.15	0.03	0.09	0.16	0.25	0.20
	CARP	0.11	0.17	0.14	0.15	0.12	0.14	0.00	0.15	0.08
	SUCKERS	0.39	0.23	0.31	0.67	0.77	0.72	0.60	0.83	0.72
	FRESHWATER DRUM	0.08	0.12	0.10	0.12	0.09	0.11	0.06	0.15	0.11
	DAMAGED LARVAE	0.00	0.06	0.03	0.03	0.03	0.03	0.00	0.06	0.03
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.62	0.63	0.62	1.15	1.03	1.08	0.83	1.44	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- 7
(CONTINUED)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
6 JUNE 1980

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	HERRINGS	0.28	0.58	0.43	0.21	0.16	0.19	0.17	0.16	0.16
	MOONEYE	0.03	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.34	0.40	0.37	0.12	0.11	0.11	0.07	0.12	0.10
	SUCKERS	1.36	1.45	1.41	0.86	0.68	0.77	0.00	0.96	0.48
	CARPSUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.38
	WHITE BASS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.80	1.27	1.03	0.09	0.00	0.04	0.03	0.09	0.06
	DAMAGED LARVAE	0.14	0.00	0.07	0.00	0.00	0.00	0.03	0.03	0.03
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	2.96	3.78	3.37	1.28	0.95	1.11	1.06	1.37	1.21
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.47	0.54	0.51	0.21	0.08	0.15	0.06	0.18	0.12
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02
	MOONEYE	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.00
	CARP	0.50	0.51	0.51	0.16	0.15	0.16	0.09	0.03	0.06
	SHINERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
	SUCKERS	1.34	1.30	1.32	0.00	0.03	0.01	0.00	0.00	0.00

APPENDIX TABLE G- 7
(CONTINUED)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
6 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	CARPSUCKERS	0.00	0.00	0.00	0.80	0.48	0.64	0.59	0.36	0.47
	TEMPERATE BASSES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
	SMALLMOUTH BASS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
	FRESHWATER DRUM	0.91	0.82	0.86	0.03	0.05	0.04	0.09	0.00	0.05
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.03
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	3.22	3.23	3.23	1.23	0.79	1.01	0.93	0.65	0.79
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 8

RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
12 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	HERRINGS	0.13	0.12	0.12	0.00	0.00	0.00	0.04	0.00	0.02
	GIZZARD SHAD	0.38	0.15	0.26	0.00	0.03	0.02	0.00	0.00	0.00
	CARP	0.13	0.12	0.12	0.11	0.07	0.09	0.00	0.11	0.05
	CARPSUCKERS	0.06	0.09	0.08	0.04	0.03	0.04	0.12	0.07	0.09
	FRESHWATER DRUM	0.09	0.21	0.15	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.79	0.70	0.74	0.14	0.14	0.14	0.15	0.18	0.17
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	0.06	0.45	0.25	0.03	0.00	0.02	0.04	0.07	0.05
	GIZZARD SHAD	0.27	0.00	0.14	0.03	0.00	0.02	0.00	0.03	0.02
	CARP	0.15	0.12	0.14	0.06	0.15	0.11	0.04	0.00	0.02
	CARPSUCKERS	0.30	0.45	0.37	0.03	0.06	0.05	0.15	0.17	0.16
	FRESHWATER DRUM	0.30	0.12	0.21	0.00	0.03	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.03	0.01	0.00	0.00	0.00	0.04	0.00	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.09	1.16	1.13	0.16	0.24	0.20	0.25	0.28	0.27
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 8
(CONTINUED)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
12 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
5	HERRINGS	0.18	0.00	0.09	0.03	0.00	0.02	0.00	0.04	0.02
	GIZZARD SHAD	0.35	0.46	0.41	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.12	0.06	0.09	0.10	0.03	0.07	0.00	0.00	0.00
	CARPSUCKERS	0.00	0.26	0.13	0.07	0.16	0.12	0.08	0.11	0.09
	BUFFALO	0.35	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
	WHITE BASS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.06	0.12	0.09	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.08	0.89	0.99	0.21	0.20	0.20	0.08	0.18	0.13
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.48	0.44	0.46	0.03	0.00	0.02	0.00	0.08	0.04
	GIZZARD SHAD	0.00	0.00	0.00	0.07	0.07	0.07	0.00	0.00	0.00
	MOONEYE	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.15	0.35	0.25	0.03	0.10	0.07	0.04	0.04	0.04
	CARPSUCKERS	0.12	0.03	0.07	0.10	0.07	0.08	0.04	0.04	0.04
	FRESHWATER DRUM	0.18	0.15	0.16	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 8
(CONTINUED)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
12 JUNE 1980

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	0.96	1.00	0.98	0.24	0.23	0.24	0.08	0.16	0.12
	TOTAL EGGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 9

RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
19 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	HERRINGS	0.54	0.15	0.35	0.03	0.13	0.08	0.06	0.00	0.03
	CARP	0.16	0.06	0.11	0.20	0.10	0.15	0.09	0.09	0.09
	SUCKERS	0.13	0.06	0.09	0.07	0.07	0.07	0.09	0.16	0.12
	WHITE CRAPPIE	0.00	0.03	0.02	0.03	0.00	0.02	0.00	0.00	0.00
	FRESHWATER DRUM	0.03	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.03	0.02	0.03	0.00	0.02	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.07	0.03	0.00	0.03	0.02
	VIABLE EGGS	0.06	0.00	0.03	0.00	0.03	0.02	0.00	0.00	0.00
	TOTAL LARVAE	0.86	0.40	0.63	0.37	0.29	0.33	0.25	0.25	0.25
	TOTAL EGGS	0.06	0.00	0.03	0.00	0.10	0.05	0.00	0.03	0.02
3	HERRINGS	0.60	0.53	0.56	0.14	0.00	0.07	0.07	0.14	0.10
	CARP	0.12	0.18	0.15	0.31	0.10	0.20	0.11	0.17	0.14
	SUCKERS	0.09	0.12	0.10	0.10	0.13	0.12	0.07	0.07	0.07
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.03	0.05
	NONVIABLE EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.81	0.82	0.82	0.55	0.23	0.39	0.32	0.41	0.36
	TOTAL EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G- 9
(CONTINUED)
RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
19 JUNE 1980

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	HERRINGS	0.84	1.35	1.10	0.19	0.12	0.15	0.12	0.09	0.11
	MINNOWS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.06	0.36	0.21	0.37	0.28	0.33	0.09	0.12	0.10
	SUCKERS	0.22	0.14	0.18	0.16	0.18	0.17	0.18	0.24	0.21
	SUNFISHES	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.08	0.19	0.14	0.00	0.00	0.00	0.00	0.03	0.01
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.03	0.01
	TOTAL LARVAE	1.27	2.04	1.65	0.72	0.58	0.65	0.39	0.48	0.43
	TOTAL EGGS	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.03	0.01
14	HERRINGS	1.13	2.83	1.98	0.06	0.00	0.03	0.00	0.03	0.02
	MINNOWS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.11	0.58	0.35	0.39	0.38	0.39	0.13	0.03	0.08
	SUCKERS	0.57	0.25	0.41	0.06	0.19	0.13	0.19	0.25	0.22
	WHITE BASS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.03	0.14	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.84	3.91	2.88	0.52	0.58	0.55	0.32	0.32	0.32
14	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02

APPENDIX TABLE G-10

RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
26 JUNE 1980

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	HERRINGS	1.11	0.59	0.85	0.00	0.00	0.00	0.06	0.10	0.08
	MINNOWS	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.02
	CARP	0.03	0.00	0.01	0.33	0.30	0.32	1.88	1.80	1.84
	EMERALD SHINER	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.08	0.03	0.06	0.03	0.08	0.05	0.75	0.64	0.69
	FRESHWATER DRUM	0.06	0.00	0.03	0.03	0.03	0.03	0.00	0.00	0.00
	DAMAGED LARVAE	0.03	0.06	0.04	0.09	0.09	0.09	0.00	0.03	0.02
	NONVIABLE EGGS	0.03	0.00	0.01	0.00	0.03	0.02	0.15	0.16	0.15
	VIABLE EGGS	0.00	0.00	0.00	0.15	0.00	0.08	0.11	0.10	0.10
	TOTAL LARVAE	1.36	0.70	1.03	0.48	0.58	0.53	2.70	2.60	2.65
	TOTAL EGGS	0.03	0.00	0.01	0.15	0.03	0.09	0.26	0.26	0.26
3	HERRINGS	5.18	5.16	5.17	0.15	0.09	0.12	0.07	0.03	0.05
	MINNOWS	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.07	0.03
	CARP	0.05	0.16	0.11	0.27	0.15	0.21	0.21	0.24	0.22
	SUCKERS	0.03	0.00	0.01	0.00	0.03	0.01	0.03	0.10	0.07
	FRESHWATER DRUM	0.03	0.08	0.05	0.03	0.00	0.01	0.24	0.14	0.19
	NONVIABLE EGGS	0.03	0.11	0.07	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00
	TOTAL LARVAE	5.32	5.43	5.37	0.45	0.27	0.36	0.55	0.59	0.57

APPENDIX TABLE G-10
(CONTINUED)
RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
26 JUNE 1980

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 $\bar{X}$
3	TOTAL EGGS	0.03	0.11	0.07	0.00	0.09	0.04	0.00	0.00	0.00
5	LONGNOSE GAR	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.48	0.41	0.44	0.06	0.16	0.11	0.45	0.00	0.22
	CARP	0.03	0.00	0.01	0.06	0.03	0.05	0.03	0.10	0.07
	SUCKERS	0.03	0.05	0.04	0.00	0.00	0.00	0.07	0.03	0.05
	FRESHWATER DRUM	0.00	0.00	0.00	0.15	0.31	0.23	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.03	0.00	0.02	0.03	0.00	0.02
	VIABLE EGGS	0.05	0.00	0.03	0.00	0.12	0.06	0.00	0.03	0.02
	TOTAL LARVAE	0.53	0.49	0.51	0.28	0.50	0.39	0.55	0.14	0.34
	TOTAL EGGS	0.05	0.00	0.03	0.03	0.12	0.08	0.03	0.03	0.03
14	HERRINGS	0.54	0.41	0.48	0.15	0.09	0.12	0.00	0.03	0.02
	CARP	0.03	0.03	0.03	0.31	0.09	0.20	0.81	0.73	0.77
	SUCKERS	0.03	0.00	0.01	0.00	0.03	0.01	0.03	0.30	0.17
	FRESHWATER DRUM	0.05	0.05	0.05	0.03	0.03	0.03	0.00	0.03	0.02
	DAMAGED LARVAE	0.00	0.03	0.01	0.03	0.06	0.05	0.09	0.12	0.11
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-10
(CONTINUED)
RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
26 JUNE 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	TOTAL LARVAE	0.65	0.52	0.59	0.52	0.30	0.41	0.93	1.21	1.07
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-11

RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
1 JULY 1980

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	HERRINGS	1.70	2.02	1.86	0.03	0.03	0.03	-[a]	0.00	0.00
	CARP	0.32	0.20	0.26	0.61	0.00	0.30	-	1.35	1.35
	SUCKERS	0.09	0.00	0.04	0.06	0.00	0.03	-	0.43	0.43
	FRESHWATER DRUM	0.00	0.00	0.00	0.37	0.00	0.18	-	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.03	0.00	0.02	-	0.00	0.00
	VIABLE EGGS	0.03	0.00	0.01	0.00	0.00	0.00	-	0.00	0.00
	TOTAL LARVAE	2.10	2.22	2.16	1.07	0.03	0.55	-	1.78	1.78
	TOTAL EGGS	0.03	0.00	0.01	0.03	0.00	0.02	-	0.00	0.00
3	HERRINGS	1.46	1.43	1.44	0.03	0.03	0.03	0.19	0.23	0.21
	CARP	0.30	0.16	0.23	0.67	0.77	0.72	0.68	0.72	0.70
	SUCKERS	0.00	0.05	0.03	0.00	0.06	0.03	0.23	0.10	0.16
	FRESHWATER DRUM	0.00	0.00	0.00	0.06	0.10	0.08	0.00	0.03	0.02
	NONVIABLE EGGS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.76	1.65	1.70	0.76	0.97	0.86	1.10	1.09	1.09
	TOTAL EGGS	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
5	HERRINGS	1.66	1.95	1.81	0.06	0.03	0.05	0.10	0.03	0.07

[a]Sample lost in transit.

APPENDIX TABLE G-11
(CONTINUED)
RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
1 JULY 1980

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	CARP	0.17	0.23	0.20	0.48	0.32	0.40	0.78	0.89	0.84
	SUCKERS	0.06	0.17	0.12	0.06	0.03	0.05	0.07	0.26	0.16
	WHITE BASS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.03	0.01	0.03	0.03	0.03	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.92	2.39	2.16	0.64	0.42	0.53	0.95	1.18	1.07
	TOTAL EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	1.42	2.51	1.96	0.06	0.06	0.06	0.10	0.14	0.12
	CARP	0.13	0.08	0.11	0.41	0.38	0.40	0.31	0.41	0.36
	SUCKERS	0.38	0.33	0.35	0.00	0.00	0.00	0.10	0.24	0.17
	SUNFISHES	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.09	0.04	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.03	0.01	0.00	0.03	0.01	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.03
	TOTAL LARVAE	1.93	3.00	2.46	0.47	0.53	0.50	0.51	0.79	0.65
	TOTAL EGGS	0.00	0.03	0.01	0.00	0.03	0.01	0.07	0.00	0.03

APPENDIX TABLE G-12

RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
10 JULY 1980

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	HERRINGS	1.16	0.92	1.04	0.00	0.03	0.02	0.00	0.07	0.04
	CARP	0.03	0.12	0.07	0.09	0.06	0.08	0.04	0.04	0.04
	SUCKERS	0.09	0.06	0.07	0.00	0.12	0.06	0.14	0.07	0.11
	CARPSUCKERS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.06	0.03	0.16	0.12	0.14	0.00	0.04	0.02
	NONVIABLE EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.28	1.18	1.23	0.25	0.34	0.30	0.18	0.21	0.20
	TOTAL EGGS	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	1.06	1.11	1.09	0.14	0.03	0.09	0.08	0.04	0.06
	GIZZARD SHAD	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.09	0.03	0.06	0.04	0.10	0.07	0.00	0.04	0.02
	SUCKERS	0.15	0.03	0.09	0.21	0.17	0.19	0.30	0.29	0.30
	SUNFISHES	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.03	0.02	0.04	0.03	0.03	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.07	0.00	0.04	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.39	1.21	1.30	0.49	0.34	0.42	0.38	0.37	0.37

APPENDIX TABLE G-12
(CONTINUED)
RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
10 JULY 1980

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 $\bar{x}$
3	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	HERRINGS	0.93	1.06	0.99	0.14	0.14	0.14	0.05	0.00	0.02
	CARP	0.07	0.00	0.03	0.11	0.14	0.12	0.00	0.00	0.00
	SUCKERS	0.24	0.06	0.15	0.25	0.24	0.24	0.29	0.05	0.17
	FRESHWATER DRUM	0.17	0.03	0.10	0.00	0.03	0.02	0.10	0.00	0.05
	DAMAGED LARVAE	0.00	0.00	0.00	0.07	0.00	0.04	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	1.41	1.14	1.28	0.56	0.55	0.56	0.44	0.05	0.24
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.39	0.00	0.19	0.04	0.04	0.04	0.07	0.03	0.05
	GIZZARD SHAD	1.01	0.88	0.94	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.03	0.00	0.01	0.04	0.00	0.02	0.00	0.00	0.00
	EMERALD SHINER	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	SUNFISHES	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.18	0.00	0.09	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-12
(CONTINUED)
RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT
10 JULY 1980

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	TOTAL LARVAE	1.48	0.91	1.19	0.25	0.04	0.14	0.07	0.03	0.05
	TOTAL EGGS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00