AB-232

CONSTRUCTION PHASE

ECOLOGICAL MONITORING PROGRAM

MARBLE HILL

NUCLEAR GENERATING STATION

UNITS 1 AND 2

FINAL REPORT

FEBRUARY - NOVEMBER 1979

APPENDIX: VOLUME 2

FEBRUARY 1980

APPLIED BIOLOGY, INC.

ATLANTA, GEORGIA

APPENDIX TABLES

APPENDIX TABLES
(continued)

APPENDIX TABLE A-1

WATER CHEMISTRY PARAMETERS AND PROCEDURES
MARBLE HILL PLANT SITE

Parameter	1 liter preservative	Holding time	95% confidence level on detection limit	Method	Page[a]
pH	none	none[b]	0.1 pH	Electronic pH meter	424
Alkalinity	none	6 hours	1.0 mg/l as $CaCo_3$	Potentiometric titration	278
Dissolved oxygen	none	none[b]	0.1 mg/l	Electronic dissolved oxygen meter	84
Specific conductance	none	7 days[b]	1 umho/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

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

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
19 MARCH 1979

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	0.05	1.10	0.03	0.18	0.01
1B	0.08	1.30	0.03	0.25	0.01
Avg.	0.07	1.20	0.03	0.22	0.01
3A	0.15	1.28	0.03	0.20	0.01
3B	0.22	1.25	0.03	0.25	0.01
Avg.	0.19	1.27	0.03	0.23	0.01
5A	0.03	1.20	0.03	0.30	0.01
5B	0.04	1.24	0.03	0.22	0.02
Avg.	0.04	1.22	0.03	0.26	0.02
6A	0.03	1.55	<0.01	0.12	0.02
6B	0.07	1.58	<0.01	0.08	0.02
Avg.	0.05	1.57	<0.01	0.10	0.02

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	12.6	1.63	68.2	14.7	<0.002
1B	12.1	1.75	66.7	12.8	<0.002
Avg.	12.4	1.69	67.5	13.8	<0.002
3A	11.7	1.73	66.1	10.9	<0.002
3B	12.1	1.75	65.4	10.1	<0.002
Avg.	11.9	1.74	65.8	10.5	<0.002
5A	12.1	1.78	66.1	9.8	<0.002
5B	13.1	1.77	66.7	13.8	<0.002
Avg.	12.6	1.78	66.4	11.8	<0.002
6A	14.6	1.82	66.1	10.7	<0.002
6B	14.6	1.80	64.7	9.1	<0.002
Avg.	14.6	1.81	65.4	9.9	<0.002

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	45.6	<0.01	<0.01
1B	44.2	<0.01	<0.01
Avg.	44.9	<0.01	<0.01
3A	45.3	<0.01	<0.01
3B	45.4	<0.01	<0.01
Avg.	45.4	<0.01	<0.01
5A	45.5	<0.01	<0.01
5B	45.3	<0.01	<0.01
Avg.	45.4	<0.01	<0.01
6A	213.2	<0.01	<0.01
6B	213.2	<0.01	<0.01
Avg.	213.2	<0.01	<0.01

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	14	4.9	4.8
1B	16	4.7	4.1
Avg.	15	4.8	4.5
3A	12	4.3	3.7
3B	14	4.1	4.0
Avg.	13	4.2	3.9
5A	12	4.4	4.3
5B	10	3.8	4.4
Avg.	11	4.1	4.4
6A	9	1.5	1.7
6B	14	1.9	1.3
Avg.	12	1.7	1.5
$6A_1$			1.4
$6A_2$			1.7
Avg.			1.6
$6B_1$			1.8
$6B_2$			1.7
Avg.			1.8
8[a]			

[a]No water at Station 8.

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	304	144
1B	223	146
Avg.	264	145
3A	221	149
3B	209	146
Avg.	215	148
5A	202	138
5B	251	139
Avg.	227	139
6A	391	57
6B	411	40
Avg.	401	49
$6A_1$		86
$6A_2$		71
Avg.		79
$6B_1$		82
$6B_2$		63
Avg.		73
8[a]		-

[a]No water at Station 8.

APPENDIX TABLE A-2
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific Conductance (μmho/cm)
1	11.1	96	7.25	188
3	11.6	100	7.35	185
5	11.5	100	7.30	200
6	12.1	108	7.70	390

APPENDIX TABLE A-3

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

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	<0.03	0.57	0.12	0.20	0.02
1B	0.22	0.50	0.09	0.15	0.02
Avg.	0.12	0.54	0.11	0.18	0.02
3A	0.13	0.48	0.08	0.12	0.02
3B	0.17	0.43	0.08	0.10	0.02
Avg.	0.15	0.46	0.08	0.11	0.02
5A	<0.03	0.35	0.08	0.12	0.02
5B	<0.03	0.37	0.08	0.12	0.02
Avg.	<0.03	0.36	0.08	0.12	0.02
6A	<0.03	0.48	0.03	0.07	0.01
6B	0.04	0.54	0.03	0.06	0.01
Avg.	0.03	0.51	0.03	0.07	0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble materials (mg/l)	Phenols (mg/l)
1A	17.8	1.65	77.9	12.6	0.006
1B	17.4	1.59	78.6	13.5	0.006
Avg.	17.6	1.62	78.3	13.1	0.006
3A	17.8	1.56	71.0	10.3	0.003
3B	17.4	1.69	80.0	9.4	0.003
Avg.	17.6	1.63	75.5	9.9	0.003
5A	17.4	1.61	74.4	9.1	0.002
5B	17.8	1.56	71.0	13.4	0.006
Avg.	17.6	1.59	72.7	11.3	0.004
6A	29.9	1.60	87.7	12.1	<0.002
6B	30.4	1.67	84.9	13.9	<0.002
Avg.	30.2	1.64	86.3	13.0	<0.002

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	52.0	<0.01	<0.01
1B	52.0	<0.01	<0.01
Avg.	52.0	<0.01	<0.01
3A	47.8	<0.01	<0.01
3B	52.3	<0.01	<0.01
Avg.	50.1	<0.01	<0.01
5A	51.3	<0.01	<0.01
5B	51.5	<0.01	<0.01
Avg.	51.4	<0.01	<0.01
6A	216.0	<0.01	<0.01
6B	218.0	<0.01	<0.01
Avg.	217.0	<0.01	<0.01

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	6	3.9	3.6
1B	8	3.4	3.7
Avg.	7	3.7	3.7
3A	12	2.7	3.1
3B	15	3.1	3.2
Avg.	14	2.9	3.2
5A	25	3.1	3.2
5B	17	4.2	3.6
Avg.	21	3.7	3.4
6A	25	2.2	4.4
6B	19	2.2	2.5
Avg.	22	2.2	3.5
$6A_1$			1.0
$6A_2$			1.7
Avg.			1.4
$6B_1$			0.9
$6B_2$			1.7
Avg.			1.3
8[a]			

[a]No water at Station 8.

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	21.6	3.5	4.9
1B	21.4	3.7	7.1
Avg.	21.5	3.6	6.0
3A	22.7	3.5	7.4
3B	21.3	3.4	4.7
Avg.	22.0	3.5	6.1
5A	21.6	3.6	4.9
5B	22.3	3.1	4.5
Avg.	22.0	3.4	4.7
6A	45.8	20.4	4.6
6B	51.2	22.5	5.0
Avg.	48.5	21.5	4.8

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	156	88
1B	165	80
Avg.	161	84
3A	157	24
3B	160	23
Avg.	159	24
5A	183	29
5B	149	26
Avg.	166	28
6A	357	27
6B	366	18
Avg.	362	23
$6A_1$		4
$6A_2$		7
Avg.		6
$6B_1$		77
$6B_2$		49
Avg.		63
8[a]		

[a]No water at Station 8.

APPENDIX TABLE A-3
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific conductance (µmho/cm)
1	9.2	100	7.4	267
3	8.9	97	7.4	268
5	8.8	98	7.4	270
6	10.9	116	8.0	580

APPENDIX TABLE A-4

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorus (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.34	1.11	0.03	0.14	0.02
1B	0.22	1.47	0.01	0.17	0.05
Avg.	0.28	1.29	0.02	0.16	0.04
3A	0.33	1.43	0.06	0.12	0.02
3B	0.48	1.42	0.06	0.18	0.05
Avg.	0.41	1.43	0.06	0.15	0.04
5A	0.73	1.50	0.06	0.14	0.02
5B	0.70	1.54	0.03	0.13	0.05
Avg.	0.72	1.52	0.05	0.14	0.04
6A	0.36	1.05	0.03	0.03	<0.01
6B	0.40	1.89	0.02	<0.01	<0.01
Avg.	0.38	0.97	0.03	<0.02	<0.01

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble analysis (mg/l)	Phenols (mg/l)
1A	23.7	3.39	83.5	<1.0	<0.002
1B	23.2	2.62	79.3	1.1	<0.002
Avg.	23.5	3.01	81.4	<1.0	<0.002
3A	23.2	3.41	80.0	4.4	<0.002
3B	23.2	2.72	80.0	6.6	<0.002
Avg.	23.2	3.07	80.0	5.5	<0.002
5A	23.7	3.03	76.5	4.9	<0.002
5B	23.2	3.02	77.9	7.8	<0.002
Avg.	23.5	3.03	77.2	6.4	<0.002
6A	44.6	5.37	117.6	6.1	<0.002
6B	45.5	4.95	111.3	5.2	<0.002
Avg.	45.1	5.16	114.5	5.7	<0.002

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	78.8	<0.01	<0.01
1B	79.0	<0.01	<0.01
Avg.	78.9	<0.01	<0.01
3A	77.8	<0.01	<0.01
3B	77.5	<0.01	<0.01
Avg.	77.7	<0.01	<0.01
5A	83.5	<0.01	<0.01
5B	83.0	<0.01	<0.01
Avg.	83.3	<0.01	<0.01
6A	210.0	<0.01	<0.01
6B	211.5	<0.01	<0.01
Avg.	210.8	<0.01	<0.01

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate[a]	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	3.0	3.2	4.9
1B	4.0	3.6	4.7
Avg.	3.5	3.4	4.8
3A	7.0	2.9	5.1
3B	9.0	1.2	4.6
Avg.	8.0	2.1	4.9
5A	11.0	3.4	4.8
5B	10.0	2.8	5.3
Avg.	10.5	3.1	5.1
6A	14.0	0.3	2.7
6B	10.0	0.6	2.4
Avg.	12.0	0.5	2.6
$6A_1$			2.5
$6A_2$			2.6
Avg.			2.6

[a] Samples $6B_1$ and $6B_2$ were lost in transit.

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	11.1	14.7	11.1
1B	13.4	18.9	15.8
Avg.	12.3	16.8	13.5
3A	7.6	23.0	25.7
3B	7.6	23.0	24.8
Avg.	7.6	23.0	25.3
5A	7.7	24.5	27.6
5B	7.7	23.6	28.0
Avg.	7.7	24.1	27.8
6A	13.3	76.6	30.1
6B	13.8	69.2	31.6
Avg.	13.6	72.9	30.9

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	249	59
1B	203	56
Avg.	226	58
3A	257	51
3B	258	49
Avg.	258	50
5A	200	33
5B	185	49
Avg.	193	41
6A	407	57
6B	509	53
Avg.	458	55
$6A_1$		29
$6A_2$		25
Avg.		27

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
$6B_1$		47
$6B_2$		30
Avg.		39
8A		235
8B		492
Avg.		364

APPENDIX TABLE A-4
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
13 AUGUST 1979

Station	Dissolved oxygen (ppm)	% Saturation	pH	Specific conductance (µmho)
1	7.2	87	7.4	490
3	7.2	87	7.4	490
5	7.2	87	7.4	490
6	9.2	99	8.2	[a]

[a] Meter out of order.

APPENDIX TABLE A-5

RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Organic nitrogen (mg/l)	Nitrate nitrogen (NO_3-N mg/l)	Ammonia nitrogen (NH_3-N mg/l)	Total phosphorous (PO_4-P mg/l)	Ortho-phosphate (PO_4-P mg/l)
1A	0.39	1.10	0.07	0.01	<0.01
1B	0.39	1.10	0.07	0.01	0.01
Avg.	0.39	1.10	0.07	0.01	<0.01
3A	0.22	1.09	0.06	0.02	0.01
3B	0.31	1.11	0.07	<0.01	<0.01
Avg.	0.27	1.10	0.07	0.01	<0.01
5A	0.34	1.12	0.08	0.01	0.01
5B	0.34	1.09	0.07	0.01	0.01
Avg.	0.34	1.11	0.08	0.01	0.01
6A	0.31	1.29	0.02	<0.01	<0.01
6B	0.22	1.30	0.01	<0.01	<0.01
Avg.	0.27	1.30	0.02	<0.01	<0.01

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Chlorides (mg/l)	Silica (SiO_2 mg/l)	Sulfate (mg/l)	Hexane-soluble analysis (mg/l)	Phenols (mg/l)
1A	20.6	7.1	53.0	15.8	<0.002
1B	15.4	6.7	41.2	7.0	<0.002
Avg.	18.0	6.9	47.1	11.4	<0.002
3A	14.9	5.9	78.6	9.4	<0.002
3B	15.4	4.5	72.7	5.5	0.002
Avg.	15.2	5.2	75.7	7.5	<0.002
5A	16.5	5.9	83.8	11.2	<0.002
5B	15.4	5.3	72.3	8.3	<0.002
Avg.	15.9	5.6	78.1	9.8	<0.002
6A	29.8	5.8	83.4	9.2	0.002
6B	31.9	7.6	72.6	9.9	<0.002
Avg.	30.9	6.7	78.0	9.6	<0.002

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Alkalinity (mg/l)	Free residual chlorine (mg/l)	Chloramines (mg/l)
1A	75.5	<0.01	<0.01
1B	75.0	<0.01	<0.01
Avg.	75.3	<0.01	<0.01
3A	76.0	<0.01	<0.01
3B	76.0	<0.01	<0.01
Avg.	76.0	<0.01	<0.01
5A	75.0	<0.01	<0.01
5B	78.0	<0.01	<0.01
Avg.	76.5	<0.01	<0.01
6A	207.0	<0.01	<0.01
6B	206.0	<0.01	<0.01
Avg.	206.5	<0.01	<0.01

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Chemical oxygen demand (mg/l)	Biochemical oxygen demand (mg/l)	Total organic carbon (mg/l)
1A	4.4	4.1	6.7
1B	16.0	3.8	3.5
Avg.	10.2	4.0	5.1
3A	34.0	3.9	5.0
3B	19.5	3.6	5.2
Avg.	26.8	3.8	5.1
5A	7.7	3.8	7.7
5B	5.7	3.5	5.4
Avg.	6.7	3.7	6.6
6A	29.0	3.6	12.3
6B	7.7	3.4	7.5
Avg.	18.8	3.5	9.9
$6A_1$			10.3
$6A_2$			5.0
Avg.			7.7
$6B_1$			4.9
$6B_2$			5.3
Avg.			5.1

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)
1A	55.6	13.8	25.9
1B	59.3	13.7	25.5
Avg.	57.5	13.8	25.7
3A	60.6	14.9	25.3
3B	58.9	15.2	25.0
Avg.	59.8	15.1	25.2
5A	55.8	15.6	25.6
5B	56.3	15.1	25.0
Avg.	56.1	15.4	25.3
6A	96.3	62.3	26.5
6B	99.5	61.4	26.6
Avg.	97.9	61.8	26.6

APPENDIX TABLE A-5
(continued)
RESULTS OF WATER CHEMISTRY ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Total dissolved solids (mg/l)	Total suspended solids (mg/l)
1A	264	21
1B	440	19
Avg.	352	20
3A	265	16
3B	249	18
Avg.	257	17
5A	266	17
5B	266	18
Avg.	266	18
6A	374	54
6B	551	4
Avg.	463	29
$6A_1$		5
$6A_2$		5
Avg.		5
$6B_1$		6
$6B_2$		2
Avg.		4

APPENDIX TABLE A-6

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
19 MARCH 1979

Parameter	Station 1	3	5	6	8
Temperature (°C)	9.0	9.1	9.2	10.5	-[a]
Current velocity (cm/sec)	70	70	75	45	-[a]
Secchi depth (cm)	20	21	20	bottom visible	-[a]
Water depth (m)	8.0	7.1	8.3	0.8	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	-[b]

[a]Not required.

[b]No water at station.

APPENDIX TABLE A-7

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
18 MAY 1979

Parameter	Station 1	3	5	6	8
Temperature (°C)	19.8	20.0	20.5	18.5	-[a]
Current velocity (cm/sec)	42	37	61	<10	-[a]
Secchi depth (cm)	43	55	60	bottom visible	-[a]
Water depth (m)	6.3	6.0	6.6	0.5	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	-[b]

[a]Not required.

[b]No water at station.

APPENDIX TABLE A-8

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT
13 AUGUST 1979

Parameter	Station 1	3	5	6	8
Temperature (°C)	26.0	26.0	26.0	19.0	-[a]
Current velocity (cm/sec)	40	30	30	<10	-[a]
Secchi depth (cm)	30	30	30	bottom visible	-[a]
Water depth (m)	6.0	6.7	6.0	0.5	-[a]
Turbidity (JTU)	-[a]	-[a]	-[a]	-[a]	136.0

[a]Not required.

APPENDIX TABLE A-9

RESULTS OF PHYSICAL PARAMETER MEASUREMENTS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Parameter	Station 1	3	5	6	8
Temperature (°C)	13.0	13.0	13.0	11.1	-[a]
Current velocity (cm/sec)	20	25	25	<10	-[a]
Secchi depth (cm)	60	55	75	bottom visible	-[a]
Water depth (m)	4.4	5.1	5.5	0.5	-[a]
Turbidity (NTU)	-[a]	-[a]	-[a]	-[a]	10.5

[a]Not required.

APPENDIX TABLE B-1

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
19 MARCH 1979

Station and replicate	Total coliforms (counts/ 100/ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	69,000	600	190	3.16
1B	74,000	600	170	3.53
Avg.	71,500	600	180	3.35
3A	72,000	1300	160	8.13
3B	79,000	2000	270	7.41
Avg.	75,500	1650	215	7.77
6A	780	<20	<20	
6B	640	<20	<20	
Avg.	710	<20	<20	
$6A_1$	710	<20	<20	
$6A_2$	540	<20	<20	
Avg.	625	<20	<20	
$6B_1$	800	<20	<20	
$6B_2$	690	<20	<20	
Avg.	745	<20	<20	
8[a]				

[a]No water at Station 8.

APPENDIX TABLE B-2

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
18 MAY 1979

Station and replicate	Total coliforms (counts/ 100/ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	21,000	6,400	200	32.00
1B	25,000	5,900	330	17.88
Avg.	23,000	6,150	265	23.21
3A	18,000	5,400	2,000	2.70
3B	12,000	5,100	2,700	1.89
Avg.	15,000	5,250	2,350	2.23
6A	43,000	<20	2,100	<0.01
6B	49,000	<20	600	<0.04
Avg.	46,000	<20	1,350	<0.02
$6A_1$	40,000	<20	900	<0.03
$6A_2$	57,000	<20	570	<0.04
Avg.	48,500	<20	735	<0.03
$6B_1$	35,000	<20	470	<0.05
$6B_2$	45,000	<20	500	<0.04
Avg.	40,000	<20	485	<0.05
8Aa				
8Ba				
Avg.a				

[a]No water at station.

APPENDIX TABLE B-3

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
18 AUGUST 1979

Station and replicate	Total coliforms (counts/ 100/ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	23,000	800	150	5.33
1B	47,000	540	110	4.91
Avg.	35,000	670	130	5.15
3A	23,000	290	180	1.61
3B	24,000	370	110	3.33
Avg.	23,500	330	145	2.28
6A	26,000	570	2100	0.27
6B	21,000	450	1100	0.41
Avg.	23,500	510	1600	0.32
$6A_1$	18,000	390	1500	0.26
$6A_2$	23,000	530	1000	0.53
Avg.	20,500	460	1250	0.37
$6B_1$	24,000	340	2800	0.12
$6B_2$	14,000	600	1000	0.60
Avg.	19,000	470	1900	0.25
8A	45,000	3000	2500	1.20
8B	56,000	2200	2300	0.96
Avg.	50,500	2600	2400	1.08

APPENDIX TABLE B-4

RESULTS OF BACTERIAL ANALYSIS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Station and replicate	Total coliforms (counts/ 100 ml)	Fecal coliforms (counts/ 100 ml)	Fecal streptococcus (counts/ 100 ml)	FC/FS
1A	63,000	2100	1200	1.75
1B	69,000	14,000	1100	12.73
Avg.	66,000	8050	1150	7.00
3A	>80,000	1700	1100	1.55
3B	>80,000	2700	2700	1.00
Avg.	>80,000	2200	1900	1.16
6A	>80,000	430	1700	0.25
6B	>80,000	640	2400	0.27
Avg.	>80,000	535	2050	0.26
$6A_1$	>80,000	350	2800	0.13
$6A_2$	>80,000	360	1900	0.19
Avg.	>80,000	355	2350	0.15
$6B_1$	>80,000	420	2500	0.17
$6B_2$	>80,000	420	2400	0.18
Avg.	>80,000	420	2450	0.17
8A	>80,000	70	800	0.09
8B	>80,000	40	920	0.04
Avg.	>80,000	55	860	0.06

APPENDIX TABLE C.1-1

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
19 MARCH 1979

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												
Coscinodiscus lacustris				0.0	23.6	11.8						
Cyclotella glomerata	0.0	39.9	19.9	96.5	47.2	71.8	30.2	31.9	31.1	1.5	0.0	0.8
C. Meneghiniana	0.0	54.1	27.1	11.7	23.6	17.7	14.7	6.4	10.5			
C. pseudostelligera	55.9	14.2	35.1	11.7	23.6	17.7	44.9	44.6	44.8	0.0	4.1	2.0
C. stelligera				0.0	12.4	6.2	7.8	0.0	3.9			
Cyclotella sp. 1	28.6	74.0	51.3	60.0	23.6	41.8	52.7	25.5	39.1	1.5	0.0	0.8
Melosira distans	28.6	0.0	14.3	60.0	59.6	59.8	59.6	35.0	47.3	10.9	16.0	13.4
M. granulata	69.5	88.3	78.9	84.7	65.8	75.3	56.2	47.8	52.0	29.6	31.1	30.3
M. granulata v. angustissima	13.6	19.9	16.8	6.5	0.0	3.3	22.5	6.4	14.4			
M. islandica subsp. helvetica	20.4	27.1	23.7									
M. varians	13.6	14.2	13.9	11.7	0.0	5.9						
Stephanodiscus astraea	252.1	216.4	234.3	216.4	189.9	203.1	89.9	82.0	86.0			
Pennales												
Achnanthes fragilarioides							7.8	0.0	3.9			
A. lanceolata	28.6	39.9	34.2	11.7	23.6	17.7	14.7	6.4	10.5	3.0	1.5	2.2
A. minutissima	140.4	81.2	110.8	96.5	47.2	71.8	75.2	62.9	69.1	4.2	12.5	8.4
Achnanthes sp. 1	42.2	81.2	61.7	60.0	12.4	36.2	14.7	25.5	20.1	0.0	1.5	0.7
Achnanthes sp. 2										1.5	1.5	1.5
Achnanthes sp. 3				0.0	23.6	11.8	7.8	0.0	3.9			
Amphora sp. 1	0.0	14.2	7.1	0.0	23.6	11.8	0.0	19.1	9.6	0.0	4.1	2.0
Asterionella formosa	13.6	14.2	13.9	11.7	12.4	12.1						
A. formosa v. gracillima	13.6	14.2	13.9				7.8	0.0	3.9			
Capartogramma crucicula				0.0	12.4	6.2	7.8	6.4	7.1			
Cocconeis placentula v. lineata				0.0	12.4	6.2	7.8	6.4	7.1			
Cymbella delicatula	0.0	27.1	13.5	0.0	12.4	6.2						
C. minuta	13.6	0.0	6.8									
C. minuta f. latens	13.6	0.0	6.8				7.8	0.0	3.9			
C. minuta v. silesiaca							0.0	6.4	3.2			
C. prostrata v. auerswaldii	13.6	0.0	6.8							3.0	0.0	1.5
Diatoma vulgare	0.0	54.1	27.1	11.7	0.0	5.9	0.0	19.1	9.6			
D. vulgare v. linearis	0.0	14.2	7.1							3.0	1.5	2.2
Eunotia exigua	13.6	14.2	13.9	0.0	47.2	23.6	0.0	12.7	6.4	1.5	0.0	0.8

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
19 MARCH 1979

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)												
Fragilaria crotonensis	42.2	27.1	34.7							3.0	0.0	1.5
F. pinnata v. lancettula				0.0	12.4	6.2						
Frustulia rhomboides v. ?				11.7	0.0	5.9						
Gomphonema olivaceum	28.6	0.0	14.3	0.0	12.4	6.2	7.8	0.0	3.9	1.5	2.6	2.1
G. parvulum	13.6	27.1	20.3	60.0	70.7	65.4	22.5	12.7	17.6	25.9	24.7	25.3
Gyrosigma acuminatum				0.0	12.4	6.2						
Hantzschia sp. 1	28.6	14.2	21.4	23.5	12.4	17.9	0.0	12.7	6.4			
Meridion circulare				0.0	12.4	6.2	7.8	0.0	3.9	28.7	15.1	21.9
Navicula bacillum	13.6	0.0	6.8	11.7	12.4	12.1	0.0	12.7	6.4			
N. contenta	0.0	14.2	7.1							0.0	1.5	0.7
N. cryptocephala				23.5	36.0	29.7	37.2	44.6	40.9			
N. cryptocephala v. veneta	55.9	14.2	35.1	0.0	23.6	11.8	7.8	6.4	7.1	1.5	1.5	1.5
N. gysingensis				11.7	0.0	5.9	0.0	19.1	9.6	1.5	0.0	0.8
N. mutica	0.0	14.2	7.1	23.5	12.4	17.9						
N. rhyncocephala	111.8	66.9	89.3	36.5	47.2	41.8	37.2	25.5	31.3			
N. tripuctata	0.0	39.9	19.9	23.5	0.0	11.7	7.8	6.4	7.1			
N. viridula v. avenacea	42.4	39.9	41.1	23.5	12.4	17.9	44.9	6.4	25.7			
Navicula sp. 2	28.6	27.1	27.8	23.5	23.6	23.5	14.7	6.4	10.5	4.2	5.5	4.9
Navicula sp. 3	13.6	0.0	6.8							0.0	4.1	2.0
Navicula sp. 4				23.5	12.4	17.9	0.0	19.1	9.6			
Navicula sp. 5												
Nitzschia acicularis v. closterioides	0.0	14.2	7.1	23.5	12.4	17.9	22.5	6.4	14.4	3.0	0.0	1.5
N. amphibia										24.4	19.2	21.8
N. communis	28.6	0.0	14.3	0.0	23.6	11.8	14.7	0.0	7.3			
N. communis v. abbreviata				11.7	23.6	17.7	7.8	6.4	7.1			
N. dissipata	13.6	66.9	40.3	36.5	36.0	36.2	22.5	31.9	27.2	15.7	15.1	15.4
N. gandersheimiensis							14.7	12.7	13.7	5.7	0.0	2.9
N. palea	98.1	108.2	103.2	84.7	83.2	83.9	14.7	62.9	38.8	31.7	12.5	22.1
N. sublinearis										10.0	7.0	8.5

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
19 MARCH 1979

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)												
Nitzschia sp. 2				23.5	0.0	11.7	0.0	6.4	3.2			
Pinnularia obscura				0.0	23.6	11.8	7.8	0.0	3.9			
Rhoicosphenia curvata				0.0	12.4	6.2	0.0	6.4	3.2	1.5	1.5	1.5
Stauroneis sp. 1							7.8	0.0	3.9			
Surirella angustata	13.6	0.0	6.8				0.0	6.4	3.2	4.2	4.1	4.1
S. ovalis							0.0	6.4	3.2			
S. ovata	0.0	14.2	7.1	23.5	0.0	11.7	7.8	19.1	13.4	79.0	102.0	90.5
Synedra delicatissima	13.6	0.0	6.8									
S. radians				11.7	12.4	12.1	7.8	6.4	7.1	1.5	0.0	0.8
S. socia	42.2	39.9	41.1	23.5	12.4	17.9	14.7	6.4	10.5			
S. ulna							0.0	6.4	3.2			
S. ulna v. contracta				11.7	0.0	5.9	7.8	0.0	3.9	0.0	1.5	0.7
TOTAL BACILLARIOPHYTA	1363.5	1430.8	1397.3	1297.2	1248.8	1272.9	868.2	800.7	834.6	302.7	291.7	297.1
CHRYSOPHYTA												
Dinobryon sociale	9.7	9.7	9.7	40.7	60.5	50.6						
Mallomonas ? sp. 1							8.3	0.0	4.2			
TOTAL CHRYSOPHYTA	9.7	9.7	9.7	40.7	60.5	50.6	8.3	0.0	4.2	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata				0.0	10.1	5.1						
cryptophyto sp. 1	77.4	19.4	48.4	20.4	30.3	25.4	8.3	8.2	8.3			
cryptophyte sp. 2	9.7	19.4	14.6							3.6	1.4	2.5
TOTAL CRYPTOPHYTA	87.1	38.8	63.0	20.4	40.4	30.5	8.3	8.2	8.3	3.6	1.4	2.5
CHLOROPHYTA												
Ankistrodesmus convolutus	9.7	0.0	4.9	0.0	10.1	5.1						
A. falcatus	38.7	19.4	29.1	30.6	30.3	30.4	16.5	16.4	16.5			
A. falcatus v. mirabilis	9.7	0.0	4.9							2.2	4.2	3.2
Carteria Klebsii	9.7	0.0	4.9									
C. multifilis				30.6	0.0	15.3						
Characium obtusum							8.3	0.0	4.2			
Characium ? sp.										0.7	0.0	0.4
Chlamydomonas globosa	48.4	38.7	43.6	51.0	10.1	30.6	0.0	8.2	4.1			
Chlamydomonas sp. 3										12.1	6.2	9.2

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
19 MARCH 1979

	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 sp. 5	38.7	48.4	43.6	91.7	60.6	76.2	41.2	57.5	49.4	10.7	11.7	11.2
Chlorella ? sp.				0.0	10.1	5.1	33.0	8.2	20.6			
Chlorogonium elongatum	19.3	0.0	9.7									
Dictyosphaerium Ehrenbergianum				10.2	10.1	10.2						
Gloeocystis planctonica	9.7	0.0	4.9									
Micractinium pusillum				0.0	10.1	5.1						
Oocystis Borgei	0.0	9.7	4.9							0.7	0.7	0.7
Pediastrum tetras				10.2	0.0	5.1						
Scenedesmus dimorphus							8.3	0.0	4.2			
S. quadricauda	9.7	9.7	9.7	20.4	10.1	15.3	0.0	8.2	4.1			
Tetrastrum heteracanthum										0.0	0.7	0.4
Wislouchiella planctonica				10.2	20.2	15.2						
TOTAL CHLOROPHYTA	193.6	125.9	160.2	254.9	171.7	213.6	107.3	98.5	103.1	26.4	23.5	25.1
CYANOPHYTA												
Chroococcus dispersus v. minor	19.4	9.7	14.6	20.4	40.4	30.4	0.0	8.2	4.1			
C. limneticus	0.0	9.7	4.9									
Dactylococcopsis fascicularis?	9.7	0.0	4.9	40.8	0.0	20.4						
D. Smithii	9.7	0.0	4.9	20.4	0.0	10.2						
Lyngbya contorta	2.9	0.0	1.5	0.0	3.1	1.6						
L. limnetica	0.0	15.5	7.8									
Microcystis incerta	9.7	0.0	4.9	0.0	10.1	5.1	16.5	16.4	16.5			
Oscillatoria amphibia?				0.0	4.1	2.1						
O. limosa										1.9	0.0	1.0
O. subbrevis							0.0	2.5	1.3			
Oscillatoria sp. (1,2)	70.6	47.5	59.1	32.6	43.4	38.0	45.3	60.8	53.1	2.6	2.1	2.4
Oscillatoria sp. 3	3.9	21.3	12.6	20.4	41.4	30.9	2.5	2.5	2.5	1.4	0.7	1.1
Rhabdoderma irregulare				0.0	20.2	10.1						
R. lineare	9.7	9.7	9.7	10.2	20.2	15.2	0.0	8.2	4.1			
TOTAL CYANOPHYTA	135.6	113.4	124.9	144.8	182.9	164.0	64.3	98.6	81.6	5.9	2.8	4.5

APPENDIX TABLE C.1-1
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
19 MARCH 1979

	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												
Euglena sp. 3							8.3	0.0	4.2	0.0	0.7	0.4
Trachelomonas dubia	0.0	19.4	9.7									
T. volvocina							8.3	0.0	4.2			
Trachelomonas sp. 1	87.0	67.8	77.4	20.4	80.8	50.6	41.2	16.4	28.8			
Trachelomonas sp. 3							0.0	8.2	4.1			
Trachelomonas sp. 6							8.3	8.2	8.3			
Trachelomonas sp. 8	0.0	9.7	4.9									
TOTAL EUGLENOPHYTA	87.0	96.9	92.0	20.4	80.8	50.6	66.1	32.8	49.6	0.0	0.7	0.4
OTHERS												
colonial phytoflagellate sp.1							0.0	8.2	4.1			
phytoflagellate sp. 3	9.7	0.0	4.9									
phytoflagellate sp. 4							57.6	73.9	65.8			
phytoflagellate sp. 6	9.7	0.0	4.9	20.4	20.2	20.3						
TOTAL OTHERS	19.4	0.0	9.8	20.4	20.2	20.3	57.6	82.1	69.9			
TOTAL PHYTOPLANKTON	1895.9	1815.5	1856.9	1798.8	1805.3	1802.5	1180.1	1120.9	1151.3	338.6	320.1	329.6
std. dev.			±62.6			±162.0			±116.5			±22.2

APPENDIX TABLE C.1-2

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

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 glomerata	433.4	433.5	433.5	192.9	282.2	237.5	190.8	255.2	233.0			
C. Meneghiniana	27.3	127.3	77.3	90.0	52.9	71.4	27.3	18.4	22.8	0.0	0.4	0.2
C. pseudostelligera	528.4	216.8	372.6	218.5	582.4	400.5	197.5	264.0	230.8	0.4	0.0	0.2
C. stelligera				13.0	0.0	6.5	27.3	0.0	13.6			
Cyclotella sp. 1	244.0	191.4	217.7	45.1	211.6	128.4	109.2	236.8	173.0			
Coscinodiscus lacustris	54.0	0.0	27.0	38.6	52.9	45.8	13.5	36.3	24.9			
Melosira distans	257.1	255.0	256.1	128.6	35.3	81.9	13.5	0.0	6.7			
M. granulata	203.1	216.8	209.9	115.9	176.4	146.1	54.6	91.1	72.8			
M. granulata v. angustissima	0.0	127.3	63.6	0.0	35.3	17.6	27.3	72.7	50.0			
M. Islandica subsp. helvetica	27.3	153.1	90.2	77.3	70.5	73.9	40.8	0.0	20.4			
M. varians										1.1	1.4	1.3
Stephanodiscus astraea	1652.3	1784.8	1718.5	1041.9	1182.0	1111.9	1117.7	1293.6	1205.6	0.4	0.0	0.2
unidentified centric sp. 1	67.7	127.3	97.5	45.1	70.5	57.8	102.1	27.2	64.6			
unidentified centric sp. 2	135.4	127.3	131.3	77.3	176.4	126.8	68.1	145.8	106.9	0.0	0.4	0.2
Pennales												
Achnanthes minutissima	27.3	51.2	39.3	13.0	0.0	6.5	40.8	36.3	38.6	4.2	5.0	4.6
Achnanthes sp. 1	27.3	25.3	26.3				13.5	18.4	15.9			
Asterionella formosa	1381.6	867.0	1124.3	347.4	811.6	579.5	613.4	874.6	744.0	0.4	0.4	0.4
Cocconeis pediculus	0.0	25.3	12.7							0.8	0.7	0.7
Cymbella affinis										0.0	0.7	0.4
C. minuta v. silesiaca	0.0	25.3	12.7							0.0	1.1	0.5
C. tumidula										0.4	0.4	0.4
Diatoma tenue v. elongatum	244.0	255.0	249.5	90.0	141.1	115.5	81.9	145.8	113.8			
D. vulgare	27.3	0.0	13.7							3.4	4.6	4.0
Fragilaria capucina v. mesolepta										0.4	1.1	0.7
Gomphonema affine										1.5	1.1	1.3
G. olivaceum				13.0	0.0	6.5				1.1	2.1	1.6
G. parvulum										24.5	8.8	16.7
Hantzschia sp. 1	0.0	25.3	12.7				13.5	0.0	6.7			
Meridion circulare										0.0	0.4	0.2

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

	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)												
Navicula bicon :a										0.8	1.1	0.9
N. contenta	27.3	0.0	13.7									
N. cryptocephala v. veneta	54.0	25.3	39.7	25.7	35.3	30.5	13.5	0.0	6.7	0.4	0.0	0.2
N. graciloides										10.3	5.3	7.8
N. rhyncocephala							27.3	36.3	31.8	0.8	0.7	0.7
N. viridula v. avenacea	0.0	25.3	12.7	0.0	35.3	17.6	27.3	0.0	13.6			
Navicula sp. 2	54.0	0.0	27.0				0.0	18.4	9.2	0.8	0.0	0.4
Navicula sp. 5				13.0	17.6	15.3	13.5	0.0	6.7	0.4	0.0	0.2
Nitzschia acicularis v. closterioides	81.3	0.0	40.7	0.0	52.9	26.5	40.8	0.0	20.4	0.4	1.8	1.1
N. amphibia										3.8	8.5	6.2
N. communis										0.8	0.7	0.7
N. communis v. abbreviata	0.0	25.3	12.7									
N. dissipata	27.3	51.2	39.3	25.7	17.6	21.6	40.8	72.7	56.7	0.4	0.7	0.5
N. linearis										0.4	2.1	1.3
N. palea	0.0	127.3	63.6	38.6	70.5	54.6	40.8	18.4	29.6	5.0	15.2	10.1
N. paradoxa										0.4	1.1	0.7
N. sigma										1.1	2.8	2.0
Pinnularia subcapitata							0.0	18.4	9.2			
Rhoicosphenia curvata										2.3	1.1	1.7
Surirella angustata										0.0	0.4	0.2
S. ovata				0.0	17.6	8.8	13.5	54.7	34.1	0.4	2.1	1.3
Synedra delicatissima	27.3	25.3	26.3	13.0	17.6	15.3				1.9	5.0	3.4
S. fasciculata v. truncata										6.5	0.7	3.6
S. pulchella										0.8	0.0	0.4
S. radians	54.0	76.6	65.3	13.0	35.3	24.1	13.5	0.0	6.7			
S. socia	27.3	0.0	13.7	25.7	17.6	21.6	40.8	18.4	29.6	0.0	0.4	0.2
S. ulna							13.5	54.7	34.1			
S. ulna v. contracta							0.0	18.4	9.2	0.8	0.0	0.4
unidentified pennate sp. 2							27.3	0.0	13.6	0.4	1.4	0.9
TOTAL BACILLARIOPHYTA	5690.0	5391.3	5541.1	2702.3	4198.4	3450.0	3065.4	3826.6	3445.3	77.5	79.7	78.4

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHRYSOPHYTA												
Dinobryon cylindricum							7.8	0.0	3.9			
Mallomonas ? sp. 1	0.0	7.1	3.6				15.5	0.0	7.8			
TOTAL CHRYSOPHYTA	0.0	7.1	3.6	0.0	0.0	0.0	23.3	0.0	11.7	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata	36.0	35.6	35.8	31.4	42.3	36.9	31.8	58.0	44.9			
cryptophyte sp. 1	28.8	0.0	14.4	47.1	26.4	36.8	0.0	16.6	8.3	4.3	3.2	3.8
cryptophyte sp. 2	165.6	92.6	129.1	47.1	95.1	71.1	62.7	99.4	81.1	0.8	2.1	1.5
TOTAL CRYPTOPHYTA	230.4	128.2	179.3	125.6	163.8	144.8	94.5	174.0	134.3	5.1	5.3	5.3
CHLOROPHYTA												
Actinastrum gracilimum	7.2	0.0	3.6									
A. hantzschii v. fluviatile				5.3	10.6	8.0	23.3	8.3	15.8			
Ankistrodesmus convolutus	21.6	64.1	42.9	0.0	31.7	15.9	39.2	16.6	27.9			
A. falcatus	108.0	71.3	89.7	47.1	74.0	60.6	133.1	173.9	153.5	0.4	0.2	0.3
A. falcatus v. acicularis				0.0	5.3	2.7						
A. falcatus v. mirabilis	7.2	7.1	7.2	0.0	5.3	2.7	7.8	16.6	12.2			
Carteria multifilis										0.2	0.2	0.2
Characium ? sp.										0.4	0.8	0.6
Chlamydomonas globosa	14.4	42.7	28.6	20.9	26.5	23.7	8.0	49.7	28.9			
Chlamydomonas sp. 3										1.2	1.2	1.2
Chlamydomonas sp. 5	72.0	71.2	71.6	57.6	21.2	39.4	38.9	82.8	60.9	2.5	2.9	2.7
Chlamydomonas resting stage	0.0	7.1	3.6	0.0	5.3	2.7						
Chlorella ? sp.	216.0	192.3	204.2	47.1	52.8	50.0	117.4	207.0	162.2			
Cosmarium sp. 3	50.4	64.1	57.3	36.7	31.7	34.2	38.7	49.7	44.2			
Crucigenia quadrata				0.0	5.3	2.7						
C. tetrapedia	7.2	0.0	3.6									
Dictyosphaerium pulchellum							0.0	8.3	4.2			
Golenkinia radiata	0.0	14.3	7.2									
Kentrosphaera ? sp.										0.7	0.5	0.6

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Kirchneriella lunaris							8.0	0.0	4.0			
K. lunaris v. *Dianae*							15.7	8.3	12.0			
K. obesa	43.2	92.6	67.9	20.9	31.7	26.3	31.6	16.6	24.1	0.0	0.2	0.1
K. subsolitaria	28.8	57.0	42.9	21.0	21.2	21.1	23.5	49.7	36.6			
Lagerheimia quadriseta	28.8	78.4	53.6	10.5	31.7	21.1	31.4	41.4	36.4			
Micractinium pusillum	28.8	49.9	39.4	10.5	31.8	21.2	47.3	58.0	52.7			
Oocystis Borgei	14.4	7.1	10.8	5.3	10.6	8.0	15.9	0.0	8.0			
Oocystis sp.				10.5	10.6	10.6	8.0	0.0	4.0	0.2	0.0	0.1
Pteromonas angulosa							0.0	8.3	4.2			
Quadrigula Chodatii	0.0	7.1	3.6				0.0	8.3	4.2			
Scenedesmus abundans v. *longicauda*	14.4	14.3	14.4	15.7	0.0	7.9	15.5	33.2	24.4			
S. acuminatus				5.3	0.0	2.7						
S. Bernardii	0.0	7.1	3.6									
S. dimorphus				10.5	10.6	10.6	15.9	24.9	20.4			
S. opoliensis ?	0.0	14.3	7.2									
S. quadricauda	7.2	49.9	28.6	5.3	42.3	23.8	39.2	41.4	40.3			
Scenedesmus sp. 2	7.2	0.0	3.6	5.3	10.6	8.0						
Selenastrum gracile	21.6	21.4	21.5	0.0	5.3	2.7						
Tetraedron caudatum	0.0	7.1	3.6									
Tetrastrum anomalum	7.2	0.0	3.6	5.3	0.0	2.7						
Tetrastrum elegans	36.0	21.4	28.7	0.0	10.6	5.3						
T. glabrum				0.0	10.6	5.3						
T. heteracanthum							0.0	8.3	4.2			
T. staurogeniaeforme	7.2	21.4	14.3				23.3	8.3	15.8			
T. triacanthum	14.4	0.0	7.2									
Treubaria setigerum	7.2	0.0	3.6	0.0	5.3	2.7	0.0	8.3	4.2			
coccoid green sp. 8										0.3	0.3	0.3
unidentified green 2	7.2	21.4	14.3	0.0	5.3	2.7	23.7	24.9	24.3			
TOTAL CHLOROPHYTA	777.6	1004.6	891.9	340.8	507.9	425.3	705.4	952.8	829.6	5.9	6.3	6.1

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CYANOPHYTA												
Anabaena sp. 1										0.0	0.1	0.1
Aphanizomenon sp.	15.1	30.0	22.6	1.6	0.0	0.8						
Chroococcus dispersus v. *minor*	194.4	142.5	168.5	157.1	169.0	163.1	438.6	372.7	405.7			
C. limneticus	7.2	0.0	3.6	5.3	5.3	5.3				1.2	1.0	1.1
Dactylococcopsis fascicularis ?	14.4	21.4	17.9	31.4	31.7	31.6	15.7	24.9	20.3			
D. Smithii	0.0	7.1	3.6									
Gomphosphaeria lacustris	7.2	0.0	3.6							0.2	0.0	0.1
Lyngbya contorta										0.2	0.3	0.3
Oscillatoria amphibia ?	7.2	0.0	3.6									
O. limnetica										0.3	0.1	0.2
O. limosa										0.4	0.6	0.5
Oscillatoria sp. (1,2)	11.5	27.8	19.7	0.0	3.7	1.9	4.7	9.1	6.9	1.0	1.3	1.2
Oscillatoria sp. 3	0.0	1.4	0.7							0.3	0.6	0.5
Rhabdoderma lineare	14.4	0.0	7.2							1.0	0.2	0.6
filamentous blue-green sp. 1										0.3	0.1	0.2
TOTAL CYANOPHYTA	271.4	230.2	251.0	195.4	209.7	202.7	459.0	406.7	432.9	4.9	4.3	4.8
EUGLENOPHYTA												
Euglena sp. 1				10.5	0.0	5.3						
Euglena sp. 2	0.0	21.4	10.7									
Euglena sp. 3	0.0	28.5	14.3				0.0	8.3	4.2			
Phacus asymmetrica	0.0	14.3	7.2				0.0	8.3	4.2			
Trachelomonas cylindrica	0.0	7.1	3.6									
T. hispida	14.4	7.1	10.8				15.9	0.0	8.0			
Trachelomonas sp. 1	72.0	99.7	85.9	52.4	58.1	55.3	52.5	58.0	60.3			
Trachelomonas sp. 3							0.0	8.3	4.2	0.2	0.0	0.1
Trachelomonas sp. 7										0.0	0.2	0.1
euglenoid sp. 1	50.4	35.6	43.0	5.3	89.8	47.6	0.0	16.6	8.3	0.2	0.0	0.1
TOTAL EUGLENOPHYTA	136.8	213.7	175.5	68.2	147.9	108.2	78.4	99.5	89.2	0.4	0.2	0.3

APPENDIX TABLE C.1-2
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
PYRRHOPHYTA												
Glenodinium pulviscuius dinoflagellate sp. 1	7.2	0.0	3.6				0.0	8.3	4.2			
TOTAL PYRRHOPHYTA	7.2	0.0	3.6	0.0	0.0	0.0	0.0	8.3	4.2	0.0	0.0	0.0
OTHERS												
phytoflagellate sp. 3	0.0	7.1	3.6	0.0	5.3	2.7	7.8	0.0	3.9			
phytoflagellate sp. 8										0.5	0.0	0.3
TOTAL OTHERS	0.0	7.1	3.6	0.0	5.3	2.7	7.8	0.0	3.9	0.5	0.0	0.3
TOTAL PHYTOPLANKTON	7113.4	6982.2	7049.6	3432.3	5233.0	4333.7	4433.8	5467.9	4951.1	94.3	95.8	95.2
std. dev.			±1400.9			±1094.9			±638.0			±8.8

APPENDIX TABLE C.1-3

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
13 AUGUST 1979

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												
Coscinodiscus lacustris	34.4	0.0	17.2									
Cyclotella glomerata	431.6	709.9	570.7	733.1	750.6	741.8	654.1	742.5	698.3			
C. Meneghiniana	69.0	118.4	93.7	81.6	87.2	84.4	128.1	88.3	108.2			
C. pseudostelligera	34.4	118.4	76.4	56.9	130.9	93.9	49.8	70.8	60.3	2.0	0.0	1.0
C. stelligera				16.2	17.5	16.9	14.3	17.5	15.9			
Melosira granulata	120.8	342.9	231.8	228.1	165.9	197.0	191.8	247.5	219.7			
M. granulata v. angustissima	0.0	142.1	71.0	48.7	87.2	68.0	92.3	132.5	112.4			
M. islandica subsp. helvetica	17.3	94.6	56.0	73.4	288.1	180.8	227.3	229.6	228.5			
M. varians				16.2	0.0	8.1						
Stephanodiscus astraea	448.7	520.6	484.6	619.0	768.1	693.5	682.3	742.5	712.4			
unidentified centric sp. 1	189.8	272.0	230.9	513.1	410.3	461.7	376.7	265.0	320.8	2.0	0.0	1.0
unidentified centric sp. 2	155.4	142.1	148.7	179.0	366.5	272.8	142.0	300.4	221.2			
Pennales												
Achnanthes deflexa	0.0	23.7	11.9									
A. fragilarioides				16.2	0.0	8.1	14.3	0.0	7.1			
A. lanceolata	0.0	47.2	23.6							2.0	0.0	1.0
A. minutissima	34.4	118.4	76.4	16.2	52.5	34.4	28.5	52.9	40.7	26.4	35.0	30.7
Achnanthes sp. 1				16.2	35.0	25.6	14.3	17.5	15.9	8.1	8.3	8.2
Amphora perpusilla	34.4	0.0	17.2	32.5	17.5	25.0	28.5	35.4	32.0	22.4	30.8	26.6
Amphora sp. 1										0.0	2.1	1.0
Asterionella formosa	17.3	23.7	20.5	16.2	17.5	16.9	56.8	17.5	37.1			
Cocconeis placentula	0.0	47.2	23.6	16.2	0.0	8.1	0.0	35.4	17.7	2.0	4.1	3.1
Cymbella minuta				0.0	17.5	8.8				2.0	0.0	1.0
C. minuta v. silesiaca	17.3	0.0	8.7							4.1	2.1	3.1
Fragilaria crotonensis				0.0	17.5	8.8	14.3	35.4	24.8			
Gomphonema olivaceum	34.4	0.0	17.2	16.2	0.0	8.1	0.0	35.4	17.7	0.0	6.2	3.1
G. parvulum	51.7	23.7	37.7	179.0	17.5	98.3	28.5	52.9	40.7	16.3	12.3	14.3
Gyrosigma nodiferum							0.0	17.5	8.8	0.0	2.1	1.0
Hantzschia amphioxys	0.0	23.7	11.9									
Meridion circulare				0.0	17.5	8.8						
Navicula biconica	0.0	23.7	11.9	16.2	0.0	8.1	14.3	0.0	7.1	4.1	2.1	3.1
N. contenta				16.2	17.5	16.9	0.0	17.5	8.8			
N. cryptocephala v. veneta	17.3	23.7	20.5	48.7	0.0	24.4	85.3	52.9	69.1	0.0	4.1	2.1

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
13 AUGUST 1979

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)												
Navicula gysingensis				0.0	17.5	8.8	14.3	0.0	7.1			
N. mutica	17.3	0.0	8.7							8.1	0.0	4.1
N. radiosa v. parva										0.0	2.1	1.0
N. rhyncocephala	17.3	94.6	56.0	48.7	69.7	59.2	28.5	35.4	32.0	6.1	6.2	6.1
N. tripunctata							0.0	17.5	8.8	22.4	51.5	36.9
N. viridula v. avenacea	86.4	23.7	55.0							6.1	4.1	5.1
Navicula sp. 2	0.0	23.7	11.9				14.3	0.0	7.1	2.0	2.1	2.0
Navicula sp. 3												
Nitzschia acicularis v. closterioides	17.3	0.0	8.7									
N. acuta				0.0	17.5	8.8						
N. amphibia										6.1	0.0	3.1
N. apiculata										2.0	0.0	1.0
N. communis				0.0	52.5	26.3	42.5	0.0	21.2	8.1	20.6	14.4
N. communis v. abbreviata	17.3	23.7	20.5	16.2	17.5	16.9	14.3	35.4	24.8			
N. dissipata	86.4	23.7	55.0	32.5	69.7	51.1	14.3	35.4	24.8	18.3	14.4	16.4
N. palea	69.0	94.6	81.8	114.1	192.2	153.1	142.0	176.7	159.4	59.0	72.1	65.5
Nitzschia sp. 2										16.3	8.2	12.2
Pinnularia subcapitata	17.3	0.0	8.7									
Rhoicosphenia curvata				16.2	0.0	8.1				10.2	4.1	7.1
Surirella ovata	0.0	23.7	11.9	48.7	17.5	33.1	14.3	35.4	24.8	0.0	2.1	1.0
Synedra delicatissima				16.2	52.5	34.4	0.0	70.8	35.4			
S. pulchella										0.0	2.1	1.0
Synedra rumpens							14.3	17.5	15.9			
S. rumpens v. familiaris				0.0	17.5	8.8	14.3	0.0	7.1			
S. ulna							14.3	17.5	15.9	4.1	0.0	2.1
unidentified pennate sp. 2										6.1	2.1	4.1
TOTAL BACILLARIOPHYTA	2036.5	3123.7	2580.3	3247.7	3806.4	3527.8	3170.9	3648.5	3409.5	264.3	303.0	283.4
CHRYSOPHYTA												
Mallomonas ? sp.1							8.2	0.0	4.1			
TOTAL CHRYSOPHYTA	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	4.1	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata	8.0	0.0	4.0	8.0	16.5	12.3	24.4	8.2	16.3			
cryptophyte sp. 1	79.9	159.6	119.8	120.1	90.9	105.5	32.5	56.9	44.7	10.6	8.2	9.4
cryptophyte sp. 2	47.9	60.8	54.4	80.0	0.0	40.0	40.7	113.9	77.3	37.7	30.4	34.1
TOTAL CRYPTOPHYTA	135.8	220.4	178.2	208.1	107.4	157.8	97.6	179.0	138.3	48.3	38.6	43.5

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
13 AUGUST 1979

	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												
Actinastrum hantzschii v. *fluviatile*	0.0	7.6	3.8				8.2	0.0	4.1	2.4	1.2	1.8
Ankistrodesmus convolutus							8.2	0.0	4.1	1.2	0.0	0.6
A. falcatus										1.2	1.2	1.2
Characium ? sp.	32.0	7.6	19.8	72.1	41.3	56.7	16.3	24.4	20.4	0.0	1.2	0.6
Chlamydomonas globosa										0.0	1.2	0.6
Chlamydomonas sp. 3	0.0	22.8	11.4	88.1	74.3	81.2	105.7	113.8	109.8	5.9	10.5	8.2
Chlamydomonas sp. 5				32.0	0.0	16.0	138.2	48.8	93.5			
Chlorella ? sp.	32.0	0.0	16.0	24.0	41.3	32.7	16.3	16.3	16.3	3.5	0.0	1.8
Cosmarium sp. 3	8.0	0.0	4.0									
Crucigenia apiculata v.	8.0	0.0	4.0				0.0	8.2	4.1			
C. fenestrata	0.0	30.4	15.2				24.4	0.0	12.2			
C. tetrapedia	8.0	22.8	15.4									
Dictyosphaerium Ehrenbergianum				8.0	8.3	8.2				0.0	3.5	1.8
D. pulchellum												
Gloeocystis planctonica				0.0	8.3	4.2	16.3	8.2	12.3			
Gloeosystis sp.	8.0	30.4	19.2									
Golenkinia radiata				16.0	8.3	12.2	8.2	0.0	4.1			
Kirchneriella contorta	24.0	45.6	34.8	56.0	24.8	40.4	32.6	16.3	24.5			
K. lunaris				8.0	8.3	8.2						
K. lunaris v. *irregularis*	32.0	53.2	42.6	24.0	16.5	20.3	0.0	16.3	8.2			
Lagerheimia quadriseta	0.0	7.6	3.8				0.0	8.2	4.1			
Micractinium pusillum	32.0	7.6	19.8	8.0	16.5	12.3	32.5	8.2	20.4			
Oocystis Borgei	8.0	0.0	4.0									
Oocystis sp.				8.0	0.0	4.0						
Pediastrum obtusum	8.0	0.0	4.0	8.0	0.0	4.0	8.2	0.0	4.1			
Pteromonas angulosa	0.0	7.6	3.8									
Quadrigula Chodatii							0.0	8.2	4.1			
Quadrigula sp.												
Scenedesmus abundans v. *brevicauda*	0.0	7.6	3.8	0.0	8.3	4.2	16.3	0.0	8.2			
S. acuminatus	0.0	7.6	3.8									
S. bijuga v.				24.0	16.5	20.3	8.2	0.0	4.1			
S. opoliensis ?				8.0	16.5	12.3						

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
13 AUGUST 1979

Species	Station and replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
CHLOROPHYTA (continued)												
Scenedesmus quadricauda	24.0	7.6	15.8	40.0	8.3	24.2	8.2	24.4	16.3			
Scenedesmus sp. 2							0.0	8.2	4.1			
Schroederia setigera										1.2	0.0	0.6
Tetraedron caudatum							8.2	0.0	4.1			
T. minimum	8.0	15.2	11.6				16.3	0.0	8.2			
T. pentaedricum				8.0	8.3	8.2	0.0	8.2	4.1			
Tetrastrum glabrum	8.0	0.0	4.0	8.0	0.0	4.0						
T. heteracanthum	8.0	0.0	4.0	8.0	0.0	4.0	16.3	0.0	8.2			
T. staurogeniaeforme	16.0	22.8	19.4	16.0	16.5	16.3	0.0	8.2	4.1			
coccoid green 2										12.9	4.7	8.8
coccoid green 7				0.0	16.5	8.3	40.7	40.7	40.7			
unidentified green 2	87.9	60.8	74.4	48.0	82.6	65.3	187.0	122.0	154.5			
TOTAL CHLOROPHYTA	351.9	364.8	358.4	512.2	421.4	467.3	716.3	488.6	602.9	28.3	23.5	26.0
CYANOPHYTA												
Aphanothece sp.							16.3	0.0	8.2			
Chroococcus minor							8.2	0.0	4.1			
Dactylococcopsis fascicularis ?				8.0	0.0	4.0						
D. Smithii							8.2	0.0	4.1			
Gomphosphaeria lacustris	71.9	38.0	55.0	16.0	33.0	24.5	24.4	8.2	16.3			
Lyngbya limnetica										0.0	3.1	1.6
Marssoniella elegans	16.0	60.8	38.4	8.0	49.5	28.8	81.3	40.7	61.0			
Merismopedia tenuissima	8.0	7.6	7.8	8.0	0.0	4.0	16.3	0.0	8.2			
Microcystis incerta										0.0	2.4	1.2
Oscillatoria limnetica	0.0	2.3	1.2	0.0	1.7	0.9						
O. tenuis							0.0	4.1	2.1			
Oscillatoria sp. (1,2)	0.0	6.1	3.1	0.0	6.6	3.3	0.8	4.9	2.9	8.2	7.2	7.7
Oscillatoria sp. 3										7.7	11.8	9.8
Rhabdoderma lineare							16.3	0.0	8.2	0.0	1.2	0.6
coccoid blue-green 1				8.0	57.8	32.9	24.4	48.8	36.6	2.4	1.2	1.8
TOTAL CYANOPHYTA	95.9	114.8	105.5	48.0	148.6	98.4	196.2	106.7	151.7	18.3	26.9	22.7

APPENDIX TABLE C.1-3
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
13 AUGUST 1979

	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												
Euglena sp. 1	8.0	0.0	4.0									
Euglena sp. 3							0.0	8.2	4.1	4.7	1.2	3.0
Euglena sp. 4							0.0	8.2	4.1	0.0	1.2	0.6
Trachelomonas hispida							8.2	0.0	4.1			
T. varians	0.0	7.6	3.8									
Trachelomonas sp. 1	16.0	0.0	8.0	32.0	16.5	24.3	24.4	24.4	24.4			
Trachelomonas sp. 2	39.9	7.6	23.8				0.0	8.2	4.1			
Trachelomonas sp. 6	0.0	7.6	3.8									
Trachelomonas sp. 7										2.4	2.4	2.4
Trachelomonas sp. 8				8.0	0.0	4.0						
Trachelomonas sp. 9							8.2	0.0	4.1			
euglenoid sp. 1				8.0	8.3	8.2						
TOTAL EUGLENOPHYTA	63.9	22.8	43.4	48.0	24.8	36.5	40.8	49.0	44.9	7.1	4.8	6.0
PYRRHOPHYTA												
Glenodinium pulvisculus	0.0	7.6	3.8	24.0	8.3	16.2				2.4	2.3	2.4
dinoflagellate sp. 2				0.0	8.3	4.2	8.2	8.2	8.2			
TOTAL PYRRHOPHYTA	0.0	7.6	3.8	24.0	16.6	20.4	8.2	8.2	8.2	2.4	2.3	2.4
OTHERS												
phytoflagellate sp. 6							8.2	0.0	4.1			
phytoflagellate sp. 8				8.0	0.0	4.0	0.0	8.2	4.1			
TOTAL OTHERS	0.0	0.0	0.0	8.0	0.0	4.0	8.2	8.2	8.2	0.0	0.0	0.0
TOTAL PHYTOPLANKTON	2684.2	3854.1	3269.6	4096.0	4525.2	4312.4	4246.4	4488.2	4367.8	368.7	399.1	384.0
std. dev.			±709.4			±252.6			±467.1			±26.0

APPENDIX TABLE C.1-4

PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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												
Attheya zachariasi							0.0	5.1	2.6			
Coscinodiscus lacustris	47.3	20.0	33.6	73.3	55.6	64.4	0.0	26.5	13.2			
Cyclotella comta	23.4	0.0	11.7									
C. glomerata	518.8	329.5	424.1	293.6	375.2	334.4	370.4	371.8	371.1			
C. Meneghiniana	118.0	79.9	98.9	58.8	125.1	91.9	44.3	199.1	121.7			
C. pseudostelligera	306.7	99.9	203.3	132.1	97.2	114.6	103.8	13.2	58.5			
C. stelligera				29.4	0.0	14.7	14.8	13.2	14.0	0.0	2.0	1.0
Melosira granulata	294.7	179.6	237.2	176.2	291.7	234.0	385.2	172.7	279.0			
M. granulata v. angustissima	35.4	15.0	25.2	14.7	27.6	21.2	0.0	13.2	6.6			
M. islandica subsp. helvetica	82.6	5.0	43.8	44.1	55.6	49.8	89.0	92.8	90.9			
M. varians	23.4	0.0	11.7									
Stephanodiscus astraea	943.0	339.4	641.2	557.9	527.9	542.9	696.5	730.5	713.5			
centric sp. 1	200.6	119.9	160.2	168.8	104.3	136.5	155.5	73.0	114.3			
centric sp. 2	330.1	199.8	264.9	278.9	319.6	299.3	355.7	358.6	357.1			
Pennales												
Achnanthes exigua										0.0	2.0	1.0
A. fragilarioides				0.0	14.0	7.0						
A. lanceolata							29.6	0.0	14.8	5.5	0.0	2.7
A. minutissima	94.2	29.9	62.0	73.3	97.2	85.2	29.6	13.2	21.4	49.2	70.3	59.8
Achnanthes sp. 1				14.7	14.0	14.3	14.8	0.0	7.4	18.2	16.5	17.4
Amphora ovalis v. pediculus	0.0	9.9	5.0	0.0	41.6	20.8	14.8	0.0	7.4	16.4	24.8	20.6
Amphora sp. 1										1.8	0.0	0.9
Asterionella formosa	212.1	89.8	151.0	88.0	152.7	120.4	118.6	159.5	139.0			
A. formosa v. gracillima	23.4	0.0	11.7	14.7	14.0	14.3						

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

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)												
Cocconeis pediculus	23.4	0.0	11.7									
C. placentula				0.0	14.0	7.0						
Cymbella prostrata v. auerswaldii										9.1	4.1	6.6
Diatoma vulgare										0.0	2.0	1.0
Fragilaria crotonensis	0.0	9.9	5.0	0.0	14.0	7.0	0.0	13.2	6.6			
Gomphonema augustatum										7.3	2.0	4.7
G. olivaceum							29.6	0.0	14.8			
G. parvulum	23.4	0.0	11.7	14.7	27.6	21.2	14.8	26.5	20.6	12.8	22.7	17.8
Gyrosigma acuminatum	0.0	9.9	5.0							1.8	0.0	0.9
Hantzschia amphioxys										1.8	0.0	0.9
Hantzschia sp. 1				14.7	0.0	7.4	14.8	0.0	7.4			
Navicula biconica										7.3	8.3	7.8
N. cryptocephala				14.7	14.0	14.3	14.8	0.0	7.4	1.8	0.0	0.9
N. cryptocephala v. veneta	23.4	9.9	16.7				29.6	0.0	14.8	18.2	20.7	19.5
N. gastingensis										1.8	2.0	1.9
N. mutica							29.6	0.0	14.8	0.0	2.0	1.0
N. rhyncocephala	0.0	29.9	14.9	0.0	14.0	7.0	29.6	53.2	41.4	3.6	12.4	8.0
N. tripuncta	23.4	9.9	16.7	14.7	0.0	7.4	14.8	0.0	7.4	1.8	0.0	0.9
N. viridula v. avenacea							14.8	0.0	7.4	0.0	4.0	2.0
N. viridula v. rostellata										0.0	2.0	1.0
Navicula sp. 2	0.0	9.9	5.0				29.6	13.3	21.4	10.9	12.4	11.7
Navicula sp. 3										3.6	0.0	1.8
Nitzschia acicularis v. closterlodes	0.0	29.9	14.9	0.0	14.0	7.0	0.0	13.2	6.6	0.0	2.0	1.0
N. amphibia										12.8	10.3	11.5
N. apiculata										7.3	0.0	3.6
N. communis				14.7	0.0	7.4				9.1	20.7	14.9
N. communis v. abbreviata	23.4	0.0	11.7				29.6	13.2	21.4	7.3	6.2	6.7

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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 dissipata	70.7	20.0	45.3	44.1	14.0	29.0	148.1	79.6	113.9	56.5	55.8	56.2
N. linearis										7.3	14.5	10.9
N. palea	118.0	49.9	83.9	44.1	111.1	77.6	89.0	66.4	77.7	23.7	26.9	25.3
Nitzschia sp. 2				14.7	0.0	7.4	14.8	0.0	7.4	5.5	6.2	5.8
Rhoicosphenia curvata	47.3	0.0	23.6							0.0	2.0	1.0
Stauroneis livingstonii							29.6	0.0	14.8	0.0	2.0	1.0
Surirella ovata	0.0	9.9	5.0				0.0	13.2	6.6	1.8	4.1	3.0
Synedra delicatissima				0.0	69.5	34.8	0.0	13.2	6.6	0.0	4.1	2.1
S. rumpens v. familiaris										1.8	0.0	0.9
S. ulna				0.0	14.0	7.0						
Synedra sp. 1				0.0	14.0	7.0						
TOTAL BACILLARIOPHYTA	3606.7	1706.7	2656.6	2194.9	2633.5	2414.2	2955.7	2547.4	2751.5	306.0	365.0	335.8
CHRYSOPHYTA												
Dinobryon sociale	12.0	0.0	6.0									
Mallomonas ? sp. 1	12.0	0.0	6.0				24.9	5.1	15.0			
TOTAL CHRYSOPHYTA	24.0	0.0	12.0	0.0	0.0	0.0	24.9	5.1	15.0	0.0	0.0	0.0
CRYPTOPHYTA												
Cryptomonas ovata				9.8	20.1	15.0	15.0	10.2	12.6	2.8	1.8	2.3
cryptophyte sp. 1	131.9	36.2	84.1	137.5	80.4	109.0	74.7	55.9	65.3	14.9	16.5	15.7
cryptophyte sp. 2	173.8	42.2	108.0	127.7	211.0	169.4	94.6	142.2	118.4	20.6	13.8	17.2
TOTAL CRYPTOPHYTA	305.7	78.4	192.1	275.0	311.5	293.4	184.3	208.3	196.3	38.3	32.1	35.2
CHLOROPHYTA												
Ankistrodesmus convolutus					9.8	10.0	9.9	0.0	5.1	2.6		
A. falcatus	30.0	6.1	18.1	19.7	10.0	14.9	20.0	10.2	15.1	1.0	1.9	1.5
A. falcatus v. acicularis	6.0	0.0	3.0									
A. falcatus v. mirabilis	12.0	0.0	6.0	0.0	5.0	2.5						
Carteria cordiformis				4.9	0.0	2.5						
C. klebsii	12.0	0.0	6.0									

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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)												
Carteria multifilis				0.0	5.0	2.5				1.9	1.8	1.9
Carteria sp. 1							5.0	10.2	7.6			
Characium ambiguum										1.0	2.8	1.9
Chlamydomonas globosa	137.8	30.2	84.0	44.2	65.3	54.8	109.5	55.9	82.7	6.5	4.6	5.6
Chlamydomonas sp. 3										18.7	23.9	21.3
Chlamydomonas sp. 5	59.9	42.3	51.1	34.4	20.1	27.3	34.9	30.5	32.7	10.3	13.8	12.1
Chlorella ? sp.	12.0	12.1	12.1				20.0	5.1	12.6			
Coelastrum sphaericum				9.8	5.0	7.4	5.0	0.0	2.5			
Cosmarium sp. 3				9.8	10.0	9.9						
Crucigenia tetrapedia				4.9	0.0	2.5	0.0	5.1	2.6			
Dictyosphaerium Ehrenbergianum	6.0	18.1	12.1	9.8	5.0	7.4						
Golenkinia radiata				0.0	5.0	2.5	5.0	0.0	2.5			
Kirchneriella lunaris v. irregularis	18.0	0.0	9.0	4.9	0.0	2.5	5.0	10.2	7.6	1.0	1.8	1.4
K. obesa										1.0	5.5	3.3
K. obesa v. aperta	18.0	0.0	9.0	9.8	10.1	10.0	5.0	0.0	2.5			
Lagerheimia quadriseta	12.0	6.1	9.1	24.6	10.1	17.4	5.0	20.3	12.7			
Micractinium pusillum	6.0	0.0	3.0									
Oocystis Borgei	12.0	0.0	6.0				10.0	0.0	5.0			
Pediastrum simplex v. duodenarium							0.0	5.1	2.6			
Scenedesmus abundans v. brevicauda	12.0	0.0	6.0									
S. abundans v. longicauda				0.0	10.0	5.0	10.0	0.0	5.0			
S. acuminatus							10.0	0.0	5.0			
S. acutiformis ?	6.0	0.0	3.0									

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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 Bernardii							5.0	0.0	2.5			
S. denticulatus				4.9	10.0	7.5						
S. dimorphus				9.8	5.0	7.4						
S. quadricauda	30.0	0.0	15.0	19.7	15.1	17.4	5.0	5.1	5.1			
Schroederia setigera				0.0	5.0	2.5	0.0	5.1	2.6	0.0	0.9	0.5
Selenastrum minutum				0.0	5.0	2.5						
Tetraedron minimum	0.0	6.1	3.1	4.9	0.0	2.5				0.0	0.9	0.5
T. pentaedricum							5.0	0.0	2.5			
T. tumidulum ?	6.0	0.0	3.0				0.0	5.1	2.6			
Tetrastrum glabrum	6.0	0.0	3.0									
T. punctatum	6.0	0.0	3.0									
T. staurogeniaeforme	18.0	0.0	9.0	4.9	0.0	2.5						
T. triacanthum	6.0	0.0	3.0	4.9	0.0	2.5						
Treubaria setigerum				4.9	0.0	2.5						
coccoid green ?	24.0	6.1	15.1									
unidentified green 2	6.0	0.0	3.0	19.6	20.1	19.9	10.0	5.1	7.6			
TOTAL CHLOROPHYTA	461.7	127.1	294.7	260.2	230.8	246.2	269.4	178.1	224.2	41.4	57.9	50.0
CYANOPHYTA												
Anabaena flos-aquae				2.0	0.0	1.0						
Chroococcus dispersus v. minor	18.0	0.0	9.0									
Dactylococcopsis fascicularis	6.0	0.0	3.0				15.0	10.2	12.6			
D. Smithii							5.0	0.0	2.5			
Gomphosphaeria lacustris				9.8	5.0	7.4	0.0	5.1	2.6			
Merismopedia tenuissima							0.0	5.1	2.6			

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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 (continued)												
Microcystis incerta				14.8	0.0	7.4				1.0	0.0	0.5
Oscillatoria amphibia	4.8	0.0	2.4									
O. limnetica	6.6	0.0	3.3	0.0	11.6	5.8				0.0	0.8	0.4
Oscillatoria sp. (1,2)										1.0	0.4	0.7
Oscillatoria sp. 3										0.4	0.9	0.7
Rhabdoderma lineare										8.4	12.9	10.7
TOTAL CYANOPHYTA	35.4	0.0	17.7	26.6	16.6	21.6	20.0	20.4	20.3	10.8	15.0	13.0
EUGLENOPHYTA												
Euglena sp. 1							0.0	10.2	5.1	1.9	0.9	1.4
Euglena sp. 3				4.9	0.0	2.5	10.0	0.0	5.0			
Euglena sp. 4	6.0	0.0	3.0									
Lepocinclis sp. 1				0.0	5.0	2.5						
Phacus sp. 1										1.9	0.0	1.0
Trachelomonas cylindrica				9.8	0.0	4.9						
T. hispida							5.0	5.1	5.1			
T. volvocina				9.8	0.0	4.9	0.0	5.1	2.6			
Trachelomonas sp. 1	60.0	6.1	33.1	49.1	0.0	24.6	19.9	15.3	17.6	5.6	0.9	3.3
Trachelomonas sp. 4				0.0	10.0	5.0						
TOTAL EUGLENOPHYTA	66.0	6.1	36.1	73.6	15.0	44.4	34.9	35.7	35.4	9.4	1.8	5.7
PYRRHOPHYTA												
Glenodinium pulvisculus							5.0	0.0	2.5			
dinoflagellate sp. 1	6.0	6.1	6.1	0.0	5.0	2.5				0.0	1.8	0.9
TOTAL PYRRHOPHYTA	6.0	6.1	6.1	0.0	5.0	2.5	5.0	0.0	2.5	0.0	1.8	0.9

APPENDIX TABLE C.1-4
(continued)
PHYTOPLANKTON COMPOSITION AND DENSITY (no./ml)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	Station and replicate											
	1			3			5			6		
Species	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS												
phytoflagellate sp. 3	12.0	6.1	9.1									
phytoflagellate sp. 4										0.0	2.8	1.4
phytoflagellate sp. 5							0.0	5.1	2.6			
phytoflagellate sp. 8				4.9	5.0	5.0						
phytoflagellate sp. 9	24.0	18.1	21.1	0.0	5.0	2.5						
phytoflagellate sp. 10										0.0	0.9	0.5
TOTAL OTHERS	36.0	24.2	30.2	4.9	10.0	7.5	0.0	5.1	2.6	0.0	3.7	1.9
TOTAL PHYTOPLANKTON	4541.5	1948.6	3245.5	2835.2	3222.4	3029.8	3494.2	3000.1	3247.8	405.9	477.3	442.5
std. dev.			±1566.4			±377.7			±510.6			±49.1

APPENDIX TABLE C.1-5

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
19 MARCH 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a](%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA									
Centrales									
Coscinodiscus lacustris	14522.8			0.6	1713.69				
Cyclotella glomerata	118.9	1.1	23.66	4.0	85.37	2.7	36.98	0.2	0.95
C. Meneghiniana	692.7	1.5	187.72	1.0	122.61	0.9	72.73		
C. pseudostelligera	88.4	1.9	31.03	1.0	15.65	3.9	39.60	0.6	1.77
C. stelligera	127.2			0.3	7.89	0.3	4.96		
Cyclotella sp. 1	95.6	2.8	49.04	2.3	39.96	3.4	37.38	0.2	0.76
Melosira distans	781.7	0.8	111.78	3.3	467.46	4.1	369.74	4.1	104.75
M. granulata	1116.4	4.2	880.84	4.2	840.65	4.5	580.53	9.2	338.27
M. granulata v. angustissima	159.0	0.9	26.71	0.2	5.25	1.2	22.90		
M. islandica subsp. helvetica	91.2	1.3	21.61						
M. varians	4580.4	0.7	636.68	0.3	270.24				
Stephanodiscus astraea	183.2	12.6	429.24	11.3	327.08	7.5	157.55		
Pennales									
Achnanthes fragilarioides	162.0					0.3	6.32		
A. lanceolata	108.0	1.8	36.94	1.0	19.12	0.9	11.34	0.7	2.38
A. minutissima	59.9	6.0	66.37	4.0	43.01	6.0	41.39	2.5	5.03
Achnanthes sp. 1	38.2	3.3	23.57	2.0	13.83	1.7	7.68	0.2	0.27
Achnanthes sp. 2	342.1							0.5	5.13
Achnanthes sp. 3	616.0			0.6	72.69	0.3	24.02		
Amphora sp. 1	190.9	0.4	13.55	0.6	22.53	0.8	18.33	0.6	3.82
Asterionella formosa	783.0	0.7	108.84	0.7	94.74				
A. formosa v. gracillima	270.0	0.7	37.53			0.3	10.53		
Carpartogramma crucicula	567.0			0.3	35.15	0.6	40.26		
Cocconeis placentula v. lineata	1319.5			0.3	81.81	0.6	93.68		
Cymbella delicatula	351.0	0.7	47.38	0.	21.76				
C. minuta	282.7	0.4	19.22						
C. minuta f. latens	467.3	0.4	31.78			0.3	18.22		
C. minuta v. silesiaca	222.7					0.3	7.13		
C. prostrata v. auerswaldii	466.5	0.4	31.72					0.5	7.00
Diatoma vulgare	1512.0	1.5	409.75	0.3	89.21	0.8	145.15		
D. vulgare v. linearis	1055.2	0.4	74.92					0.7	23.21
Eunotia exigua	106.8	0.7	14.84	1.3	25.20	0.6	6.84	0.2	0.85
Fragilaria crotonensis	1120.5	1.9	388.81					0.5	16.81
F. pinnata v. lancettula	110.3			0.3	6.84				
Frustulia rhomboides v.?	1113.8			0.3	65.71				
Gomphonema olivaceum	756.0	0.8	108.11	0.3	46.87	0.3	29.48	0.6	15.88
G. parvulum	242.1	1.1	49.15	3.6	158.33	1.5	42.61	7.7	61.25

APPENDIX TABLE C.1-5
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
19 MARCH 1979

Species	Average Biovolume (μ3)	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
CHRYSOPHYTA									
Dinobryon sociale	94.2	0.5	9.14	2.8	47.66				
Mallomonas ? sp. 1	1206.4					0.4	50.67		
TOTAL CHRYSOPHYTA		0.5	9.14	2.8	47.66	0.4	50.67	0.0	0.00
CRYPTOPHYTA									
Cryptomonas ovata	261.4			0.3	13.33				
cryptophyte sp. 1	29.3	2.6	14.18	1.4	7.44	0.7	2.43		
cryptophyte sp. 2	99.0	0.8	14.45					0.8	2.48
TOTAL CRYPTOPHYTA		3.4	28.63	1.7	20.77	0.7	2.43	0.8	2.48
CHLOROPHYTA									
Ankistrodesmus convolutus	104.7[c]	0.3	5.13	0.3	5.34				
A. falcatus	9.8[c]	1.6	2.85	1.7	2.98	1.4	1.62		
A. falcatus v. mirabilis	33.5[c]	0.3	1.64						
Carteria Klebsii	184.0	0.3	9.02					1.0	5.89
C. multifilis	2144.7			0.8	328.14				
Characium obtusum	2458.0					0.4	103.24		
Characium ? sp.	26.9							1.0	0.11
Chlamydomonas globosa	696.9	2.3	303.85	1.7	213.25	0.4	28.57		
Chlamydomonas sp. 3	46.5							2.8	4.31
Chlamydomonas sp. 5	150.8	2.3	65.75	4.2	114.91	4.3	74.50	3.4	16.89
Chlorella ? sp.	7.2			0.3	0.37	1.8	1.48		
Chlorogonium elongatum	263.9	0.5	25.60						
Dictyophaerium Ehrenbergianum	73.6[c]			0.6	7.51				
Gloeocystis planctonica	452.4[c]	0.3	22.17						
Micractinium pusillum	73.6[c]			0.3	3.75				
Oocystis Borgei	196.0[c]	0.3	9.60					0.2	1.37
Pediastrum tetras	1900.7[c]			0.3	96.94				
Scenedesmus dimorphus	26.2[c]					0.4	1.10		
S. quadricauda	237.6[c]	0.5	23.05	0.8	36.35	0.4	9.74		
Tetrastrum heteracanthum	27.7[c]							0.1	0.11
Wislouchiella planctonica	207.3			0.8	31.51				
TOTAL CHLOROPHYTA		8.7	468.66	11.8	841.05	9.1	220.25	7.6	28.68
CYANOPHYTA									
Chroococcus dispersus v. minor	4.0[c]	0.8	0.58	1.7	1.22	0.4	0.16		
C. limneticus	14.1[c]	0.3	0.69						
Dactylococcopsis fascicularis ?	5.2[c]	0.3	0.25	1.1	1.06				

APPENDIX TABLE C.1-5

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
19 MARCH 1979

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 (continued)									
O. Smithii	6.3[c]	0.3	0.31	0.6	0.64				
Lyngbya contorta	201.1[d]	0.1	3.02	0.1	3.22				
L. limetica	113.1[d]	0.4	8.82						
Microcystis incerta	1098.1[c]	0.3	53.81	0.3	56.00	1.4	181.19		
Oscillatoria amphibia ?	254.5[d]			0.1	5.34				
O. limosa	17671.5[d]							0.3	176.72
O. subbrevis	3848.5[d]					0.1	50.03		
Oscillatoria sp. (1,2)	78.5[d]	3.2	46.39	2.1	29.83	4.6	41.68	0.7	1.88
Oscillatoria sp. 3	113.1[d]	0.7	14.25	1.7	34.95	0.2	2.83	0.3	1.24
Rhabdoderma irregulare	33.0[c]			0.6	3.33				
R. lineare	18.8[c]	0.5	1.82	0.8	2.86	0.4	0.77		
TOTAL CYANOPHYTA		6.9	129.94	9.1	138.45	7.1	276.66	1.3	179.84
EUGLENOPHYTA									
Euglena sp. 3	3468.3					0.4	145.67	0.1	13.87
Trachelomonas dubia	804.2	0.5	78.01						
T. volvocina	1150.3					0.4	48.31		
Trachelomonas sp. 1	113.1	4.2	87.54	2.8	406.92	2.5	32.57		
Trachelomonas sp. 3	296.4					0.4	12.15		
Trachelomonas sp. 6	113.1					0.7	9.39		
Trachelomonas sp. 8	163.4	0.3	8.01						
TOTAL EUGLENOPHYTA		5.0	173.56	2.8	406.92	4.4	248.09	0.1	13.87
OTHERS									
colonial phytoflagellate sp. 1	113097.3[c]					0.4	4636.99		
phytoflagellate sp. 3	1001.0	0.3	49.05						
phytoflagellate sp. 4	82.4					5.7	54.22		
phytoflagellate sp. 6	7.2	0.3	0.35	1.1	1.46				
TOTAL OTHERS		0.6	49.40	1.1	1.46	6.1	4691.21	0.0	0.00
TOTAL BIOVOLUME			7823.97		8922.63		9159.14		2557.28

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate sam[illegible].
[b]Biovolume per species was derived by multiplying the average biovolume for each species by the average density o[illegible] ecies at each station.
[c]Value represents colony volume.
[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-6

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Average Biovolume (μ^3)	Station and Parameter 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(x10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(x10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(x10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(x10^2)$/ml
BACILLARIOPHYTA									
Centrales									
Cyclotella glomerata	173.2	6.1	750.82	5.5	411.35	4.5	386.24		
C. Meneghiniana	226.2	1.1	174.85	1.6	161.51	0.5	51.57	0.2	0.45
C. pseudostelligera	173.2	5.3	645.34	9.2	693.67	4.7	399.75	0.2	0.35
C. stelligera	353.4			0.1	22.97	0.3	48.06		
Cyclotella sp. 1	127.2	3.1	276.91	3.0	163.32	3.5	220.06		
Coscinodiscus lacustris	1407.4	0.4	380.00	1.1	644.59	0.5	350.44		
Melosira distans	1045.4	3.6	2677.27	1.9	856.18	0.1	70.04		
M. granulata	2770.9	3.0	5816.12	3.4	4048.28	1.5	2017.21		
M. granulata v. angustissima	169.6	0.9	107.87	0.4	29.85	1.0	84.80		
M. islandica subspec. helvetica	106.4	1.3	95.97	1.7	78.63	0.4	21.71		
M. varians	5852.8							1.4	76.09
Stephanodiscus astraea	204.1	24.4	3507.46	25.7	2269.39	24.3	2460.63	0.2	0.41
unidentified centric sp. 1	56.5	1.4	55.09	1.3	32.66	1.3	36.50		
unidentified centric sp. 2	71.6	1.9	94.01	2.9	90.79	2.2	76.54	0.2	0.14
Pennales									
Achnanthes minutissima	68.0	0.6	26.72	0.1	4.42	0.8	26.25	4.8	3.13
Achnanthes sp. 1	35.3	0.4	9.28			0.3	5.61		
Asterionella formosa	635.6	15.9	7146.05	13.4	3683.30	15.0	4728.86	0.4	2.54
Cocconeis pediculus	1696.5	0.2	215.46					0.7	11.88
Cymbella affinis	2968.8							0.4	11.87
C. minuta v. silesiaca	519.3	0.2	65.95					0.5	2.60
C. tumidula	784.0							0.4	3.14
Diatoma tenue v. elongatum	824.6	3.5	2057.38	2.7	952.41	2.3	938.39		
D. vulgare	1386.0	0.2	189.88					4.2	55.44
Fragilaria capucina v. mesolepta	378.0							0.7	2.65
Gomphonema affine	630.0							1.4	8.19
G. olivaceum	136.7			0.1	8.89			1.7	2.19
G. parvulum	283.5							17.5	47.34
Hantzschia sp.	506.3	0.2	64.30			0.1	33.92		
Meridion circulare	490.1							0.2	0.98
Navicula biconica	63.6							0.9	0.57
N. contenta	100.5	0.2	13.77						
N. cryptocephala v. veneta	270.0	0.6	107.19	0.7	82.35	0.1	18.09	0.2	0.54
N. graciloides	370.3							8.2	28.88
N. rhyncocephala	324.0					0.6	03.03	0.7	2.27
N. viridula v. avenacea	1863.0	0.2	236.60	0.4	327.89	0.3	253.37		
Navicula sp. 2	149.6	0.4	40.39			0.2	13.76	0.4	0.60
Navicula sp. 5	270.0			0.3	41.31	0.1	18.09	0.2	0.54
Nitzschia acicularis v. closterioides	389.6	0.6	158.57	0.6	103.24	0.4	79.48	1.2	4.29
N. amphibia	1183.9							6.5	73.40
N. communis	108.0							0.7	0.76
N. communis v. abbreviata	28.1	0.2	3.57						
N. dissipata	126.0	0.6	49.52	0.5	27.22	1.1	71.44	0.5	0.63

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA (continued)									
Nitzschia linearis	6165.0							1.4	80.14
N. palea	161.3	0.9	102.59	1.3	88.07	0.6	47.74	10.6	16.29
N. paradoxa	1053.0							0.7	7.37
N. sigma	587.3							2.1	11.75
Pinnularia subcapitata	207.0					0.2	19.04		
Rhoicosphenia curvata	1296.0							1.8	22.03
Surirella angustata	848.2							0.2	1.70
S. ovata	604.4			0.2	53.19	0.7	206.10	1.4	7.86
Synedra delicatissima	1378.1	0.4	362.44	0.3	210.85			3.6	46.85
S. fasciculata v. truncata	325.5							3.8	11.72
S. pulchella	936.0							0.4	3.74
S. radians	607.5	0.9	396.70	0.6	146.41	0.1	40.70		
S. socia	148.5	0.2	20.34	0.5	32.08	0.6	43.96	0.2	0.30
S. ulna	351.0					0.7	119.69		
S. ulna v. contracta	2646.0					0.2	243.43	0.4	10.58
unidentified pennate sp. 2	1328.9					0.3	180.73	0.9	11.96
TOTAL BACILLARIOPHYTA		78.0	25848.41	79.6	15264.82	69.4	13415.23	82.5	574.16
CHRYSOPHYTA									
Dinobryon cylindricum	776.1[c]					0.1	30.27		
Mallomonas ? sp. 1	661.6	0.1	23.82			0.2	51.60		
TOTAL CHRYSOPHYTA		0.1	23.82	0.0	0.00	0.3	81.87	0.0	0.00
CRYPTOPHYTA									
Cryptomonas ovata	1166.5	0.5	417.61	0.8	430.44	0.9	523.76		
cryptophyte sp. 1	62.8	0.2	9.04	0.8	23.11	0.2	5.21	4.0	2.39
cryptophyte sp. 2	78.4	1.8	101.21	1.6	55.74	1.6	63.58	1.6	1.18
TOTAL CRYPTOPHYTA		2.5	527.86	3.2	509.29	2.7	592.55	5.6	3.57
CHLOROPHYTA									
Actinastrum gracilimum	60.0[c]	0.1	2.16						
A. hantzschii v. fluviatile	137.3[c]			0.2	29.66	0.3	21.69		
Ankistsrodesmus convolutus	45.8[c]	0.6	19.65	0.4	7.28	0.6	12.78		
A. falcatus	40.0[c]	1.3	35.88	1.4	24.24	3.1	61.40	0.3	0.12
A. falcatus v. acicularis	171.6[c]			0.1	4.63				
A. falcatus v. mirabilis	139.3[c]	0.1	10.03	0.1	3.76	0.2	16.99		
Carteria multifilis	904.8							0.2	1.81
Characium ? sp.	74.1							0.6	0.44
Chlamydomonas globosa	817.3	0.4	233.75	0.5	193.70	0.6	236.20		
Chlamydomonas sp. 3	20.5							1.3	0.25
Chlamydomonas sp. 5	57.9	1.0	41.46	0.9	22.81	1.2	35.26	2.8	1.56
Chlamydomonas resting stage	354.0	0.1	12.74	0.1	9.56				
Chlorella ? sp.	112.4	2.9	229.52	1.1	56.20	3.3	182.31		
Cosmarium sp. 3	200.1	0.8	114.66	0.8	68.43	0.9	88.44		

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Average Biovolume (μ^3)	Station and Parameter 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
Crucigenia quadrata	1310.4[c]			0.1	35.38				
C. tetrapedia	47.7[c]	0.1	1.72			0.1	209.53		
Dictyosphaerium pulchellum	4988.9[c]							0.6	7.25
Golenkinia radiata	179.6	0.1	12.93						
Kentrosphaera ? sp.	1207.6					0.1	0.45		
Kirchneriella lunaris	11.2[c]					0.2	8.64		
K. lunaris v. Dianae	72.0[c]					0.5	20.46	0.1	0.08
K. obesa	84.9[c]	1.0	57.65	0.6	22.33	0.7	2.49		
K. subsolitaria	6.8[c]	0.6	2.92	0.5	1.43	0.7	14.34		
Lagerheimia quadriseta	39.4	0.8	21.12	0.5	8.31	1.1	6057.34		
Micractinium pusillum	11494.0[c]	0.6	4528.64	0.5	2436.73	0.2	21.72		
Oocystis Borgei	271.4[c]	0.1	29.31	0.2	21.71	0.1	4.88	0.1	0.12
Oocystis sp.	122.1[c]			0.2	12.94	0.1	18.74		
Pteromonas angulosa	466.1					0.1	22.00		
Quadrigula Chodatii	523.6[c]	0.1	18.86			0.5	26.16		
Scenedesmus abundans v. longicauda	107.2[c]	0.2	15.44	0.2	8.47				
S. acuminatus	968.8[c]			0.1	26.16				
S. Bernardii	529.6[c]	0.1	19.07						
S. dimorphus	1303.2[c]			0.2	138.14	0.4	265.85		
S. opoliensis ?	703.6[c]	0.1	50.66						
S. quadricauda	215.5[c]	0.4	61.63	0.5	51.29	0.8	86.85		
Scenedesmus sp. 2	158.4[c]	0.1	5.70	0.2	12.67				
Selenastrum gracile	65.5[c]	0.3	14.08	0.1	1.77				
Tetraedron caudatum	173.5[c]	0.1	6.25						
Tetrastrum anomalum	21.4[c]	0.1	0.77	0.1	0.58				
T. elegans	45.2[c]	0.4	12.97	0.1	2.40				
T. glabrum	90.0[c]			0.1	4.77				
T. heteracanthum	216.8[c]					0.1	9.11		
T. staurogeniaeforme	37.7[c]	0.2	5.39			0.3	5.96		
T. triacanthum	51.5[c]	0.1	3.71						
Treubaria setigerum	194.2	0.1	6.99	0.1	5.24	0.1	8.16		
coccoid green sp. 8	179.6							0.3	0.54
unidentified green 2	39.4[c]	0.2	5.63	0.1	1.06	0.5	9.57		
TOTAL CHLOROPHYTA		13.1	5581.29	10.0	3211.65	16.8	7447.35	6.3	12.17
CYANOPHYTA									
Anabaena sp. 1	1809.6[d]							0.1	1.81
Aphanizomenon sp.	254.5[d]	0.3	57.52	<0.05	2.04				
Chroococcus dispersus v. minor	16.9[c]	2.4	28.43	3.8	27.56	8.2	68.56		
C. limneticus	4..6[c]	0.1	1.61	0.1	2.36			1.2	0.49
Dactylococcopsis fascicularis ?	3.1[c]	0.2	0.55	0.7	0.98	0.4	0.63		
D. Smithii	18.8[c]	0.1	0.68						
Gomphosphaeria lacustris	268.1[c]	0.1	9.65					0.1	0.27

APPENDIX TABLE C.1-6
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
18 MAY 1979

Species	Average Biovolume (μ^3)	Station and Parameter 1 Relative Abundance[a] (%)	1 Biovolume[b] $\mu^3(\times10^2)$/ml	3 Relative Abundance (%)	3 Biovolume $\mu^3(\times10^2)$/ml	5 Relative Abundance (%)	5 Biovolume $\mu^3(\times10^2)$/ml	6 Relative Abundance (%)	6 Biovolume $\mu^3(\times10^2)$/ml
CYANOPHYTA (continued)									
Lyngbya contorta	201.1[d]							0.3	0.60
Oscillatoria amphibia ?	314.2[d]	0.1	11.31						
O. limnetica	380.1[d]							0.2	0.76
O. limosa	17671.5[d]							0.5	88.36
Oscillatoria sp. (1,2)	113.1[d]	0.3	22.28	<0.05	2.15	0.1	7.80	1.3	1.36
Oscillatoria sp. 3	201.1[d]	<0.05	1.41					0.5	1.01
Rhabdoderma lineare	20.4[c]	0.1	1.47					0.6	0.12
filamentous blue-green sp. 1	254.5[d]							0.2	0.51
TOTAL CYANOPHYTA		3.7	134.91	4.6	35.09	8.7	76.99	5.0	95.29
EUGLENOPHYTA									
Euglena sp. 1	3390.1			0.1	179.67				
Euglena sp. 2	794.2	0.1	84.98						
Euglena sp. 3	1891.6	0.2	270.50			0.1	79.45		
Phacus asymmetrica	6073.7	0.1	437.31			0.1	255.09		
Trachelomonas cylindrica	1061.9	0.1	38.23						
T. hispida	2493.2	0.1	269.27			0.2	199.46		
Trachelomonas sp. 1	137.3	1.2	117.94	1.3	75.93	1.2	82.79		
Trachelomonas sp. 3	366.2					0.1	15.38	0.1	0.37
Trachelomonas sp. 7	77.2							0.1	0.08
euglenoid sp. 1	1142.8	0.6	491.40	1.1	543.97	0.2	94.85	0.1	1.14
TOTAL EUGLENOPHYTA		2.4	1709.63	2.5	799.57	1.9	727.02	0.3	1.59
PYRRHOPHYTA									
Glenodinium pulvisculus	1697.4					0.1	71.29		
dinoflagellate sp. 1	2065.2	0.1	74.35						
TOTAL PYRRHOPHYTA		0.1	74.35	0.0	0.00	0.1	71.29	0.0	0.00
OTHERS									
phytoflagellate sp. 3	2533.2	0.1	91.19	0.1	68.40	0.1	98.79		
phytoflagellate sp. 8	68.1							0.3	0.20
TOTAL OTHERS		0.1	91.19	0.1	68.40	0.1	98.79	0.3	0.20
TOTAL BIOVOLUME			33991.46		19888.82		22511.09		686.98

[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 filament volume.

APPENDIX TABLE C.1-7

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
13 AUGUST 1979

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									
Coscinodiscus lacustris	1809.6	0.5	311.25						
Cyclotella glomerata	135.9	17.4	775.58	17.2	1008.11	16.0	948.99		
C. Meneghiniana	847.9	2.9	794.48	2.0	715.63	2.5	917.43		
C. pseudostelligera	127.2	2.3	97.18	2.2	119.44	1.4	76.70	0.3	1.27
C. stelligera	706.9			0.4	119.47	0.4	112.40		
Melosira granulata	2006.4	7.1	4650.83	4.6	3952.61	5.0	4408.06		
M. granulata v. angustissima	190.9	2.2	135.54	1.6	129.81	2.6	214.57		
M. islandica subsp. helvetica	468.3	1.7	462.25	4.2	846.69	5.2	1070.07		
M. varians	2770.9			0.2	224.44				
Stephanodiscus astraea	353.4	14.8	1712.58	16.1	2450.83	16.3	2517.62		
unidentified centric sp. 1	154.0	7.1	355.59	10.7	711.02	7.3	494.03	0.3	1.54
unidentified centric sp. 2	103.1	4.5	153.31	6.3	281.26	5.1	228.06		
Pennales									
Achnanthes deflexa	81.0	0.4	9.64						
A. fragilarioides	189.0			0.2	15.31	0.2	13.42		
A. lanceolata	118.2	0.7	27.89					0.3	1.18
A. minutissima	65.1	2.3	49.74	0.8	22.39	0.9	26.50	8.0	19.99
Achnanthes sp. 1	88.0			0.6	22.53	0.4	13.99	2.1	7.22
Amphora perpusilla	122.1	0.5	21.00	0.6	30.52	0.7	39.07	6.9	32.48
Amphora sp. 1	159.0							0.3	6.75
Asterionella formosa	675.0	0.6	138.38	0.4	114.08	0.8	250.42		
Cocconeis placentula	1187.5	0.7	280.25	0.2	96.19	0.4	210.19	0.8	36.81
Cymbella minuta	608.9			0.2	53.58			0.3	6.09
C. minuta v. silesiaca	693.5	0.3	60.33					0.8	21.50
Fragilaria crotonensis	1039.5			0.2	91.48	0.6	257.80		
Gomphonema olivaceum	756.0	0.5	130.03	0.2	61.24	0.4	133.81	0.8	23.44
G. parvulum	292.5	1.1	110.27	2.3	287.53	0.9	119.05	3.7	41.83
Gyrosigma nodiferum	2764.6					0.2	243.28	0.3	27.65
Hantzschia amphioxys	315.0	0.4	37.48						
Meridion circulare	1413.7			0.2	124.41				
Navicula biconica	196.3	0.4	23.36	0.2	15.90	0.2	13.94	0.8	6.08
N. contenta	70.7			0.4	11.95	0.2	6.22		
N. cryptocephala v. veneta	213.8	0.6	43.83	0.6	52.17	1.6	147.74	0.54	4.49
N. gysingensis	1413.7			0.2	124.41	0.2	100.37		
N. mutica	445.3	0.3	38.74						
N. radiosa v. parva	270.0							1.1	11.07
N. rhyncocephala	416.5	1.7	233.24	1.4	246.57	0.7	133.28	0.3	4.16
N. tripunctata	720.0					0.2	63.36	1.6	43.92

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
13 AUGUST 1979

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 (continued)									
N. viridula v. *avenacea*	537.8	1.7	295.79					9.6	198.45
Navicula sp. 2	292.2	0.4	34.77			0.2	20.75	1.3	14.90
Navicula sp. 3	213.6							0.5	4.27
Nitzschia acicularis v. *closterioides*	125.7	0.3	10.94						
N. acuta	4523.9			0.2	398.10				
N. amphibia	183.8							0.8	5.70
N. apiculata	486.0							0.3	4.86
N. communis	112.6			0.6	29.61	0.5	23.87	3.8	16.21
N. communis v. *abbreviata*	40.5	0.6	8.30	0.4	6.84	0.6	2.60		
N. dissipata	1009.2	1.7	555.06	1.2	515.70	0.6	250.28	4.3	165.51
N. palea	325.9	2.5	266.59	3.6	498.95	3.6	519.48	17.1	213.46
Nitzschia sp. 2	497.6							3.2	60.71
Pinnularia subcapitata	162.0	0.3	14.09						
Rhoicosphenia curvata	900.0			0.2	72.90			1.8	63.90
Surirella ovata	1209.5	0.4	143.93	0.8	400.34	0.6	299.96	0.3	12.10
Synedra delicatissima	1350.0			0.8	464.40	0.8	477.90		
S. pulchella	1827.0							0.3	18.27
S. rumpens	204.8					0.4	32.56		
S. rumpens v. *familiaris*	202.5			0.2	17.82	0.2	14.38		
S. ulna	627.8					0.4	99.82	0.5	13.18
unidentified pennate sp. 2	353.4							1.1	14.49
TOTAL BACILLARIOPHYTA		79.2	11,982.24	81.4	14,334.23	77.7	14501.97	73.6	1103.48
CHRYSOPHYTA									
Mallomonas ? sp. 1	607.7					0.1	24.92		
TOTAL CHRYSOPHYTA		0.0	0.00	0.0	0.00	0.1	24.92	0.0	0.00
CRYPTOPHYTA									
Cryptomonas ovata	256.6	0.1	10.26	0.3	31.56	0.4	41.83		
cryptophyte sp. 1	38.7	3.7	46.36	2.4	40.83	1.0	17.30	2.4	3.64
cryptophyte sp. 2	59.1	1.7	32.15	0.9	23.64	1.8	45.68	8.9	20.15
TOTAL CRYPTOPHYTA		5.5	88.77	3.6	96.03	3.2	104.81	11.3	23.79
CHLOROPHYTA									
Actinastrum hantzschii v. *fluviatile*	75.2[c]	0.1	2.86						
Ankistrodesmus convolutus	50.9[c]					0.1	2.09	0.5	0.92
A. falcatus	66.0[c]					0.1	2.71	0.2	0.40
Characium ? sp.	102.8							0.3	1.23
Chlamydomonas globosa	696.9	0.6	137.99	1.3	395.14	0.5	142.17	0.2	4.18
Chlamydomonas sp. 3	33.9							0.2	0.20
Chlamydomonas sp. 5	93.8	0.3	10.69	1.9	76.17	2.5	102.99	2.1	7.69
Chlorella ? sp.	14.1			0.4	2.26	2.1	13.18		
Cosmarium sp. 3	102.0	0.5	16.32	0.8	33.35	0.4	16.63	0.5	1.84

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
13 AUGUST 1979

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
CHLOROPHYTA (continued)									
Crucigenia apiculata v.	126.4[c]	0.1	5.06						
C. fenestrata	75.2[c]	0.1	3.01			0.1	3.08		
C. tetrapedia	330.5[c]	0.5	50.24			0.3	40.32		
Dictyosphaerium Ehrenbergianum	26521.8[c]	0.5	4084.36						
D. pulchellum	179.6[c]			0.2	14.73				
Gloeocystis planctonica	523.6[c]							0.5	9.42
Gloeocystis sp.	57.9[c]			0.1	2.43	0.3	7.12		
Golenkinia radiata	97.0	0.6	18.62						
Kirchneriella contorta	2.4[c]			0.3	0.29	0.1	0.10		
K. lunaris	50.6[c]	1.1	17.61	0.9	20.44	0.6	12.40		
K. lunaris v. *irregularis*	29.0[c]			0.2	2.38				
Lagerheimia quadriseta	34.3	1.3	14.61	0.5	6.96	0.2	2.81		
Micractinium pusillum	150.5[c]	0.1	5.72			0.1	6.17		
Oocystis Borgei	633.0[c]	0.6	125.33	0.3	77.86	0.5	129.13		
Oocystis sp.	300.0[c]	0.1	12.00						
Pediastrum obtusum	475.1[c]			0.1	19.00				
Pteromonas angulosa	410.2	0.1	16.41	0.1	16.41	0.1	16.82		
Quadrigula Chodatii	376.8[c]	0.1	14.32						
Quadrigula sp.	45.3[c]					0.1	1.86		
Scenedesmus abundans v. *brevicauda*	92.4[c]	0.1	3.51	0.1	3.88	0.2	7.58		
S. acuminatus	439.6[c]	0.1	16.70						
S. bijuga v.	113.4[c]			0.5	23.02	0.1	4.65		
S. opoliensis ?	532.4[c]			0.3	65.48				
S. quadricauda	99.4[c]	0.5	15.70	0.6	24.05	0.4	16.20		
Scenedesmus sp. 2	200.0[c]					0.1	820.00		
Schroederia setigera	171.6							0.2	1.03
Tetraedron caudatum	38.0					0.1	1.56		
T. minimum	830.6	0.3	96.35			0.2	68.11		
T. pentaedricum	136.6			0.2	11.20	0.1	5.60		
Tetrastrum glabrum	264.3[c]	0.1	10.57	0.1	10.57				
T. heteracanthum	231.2[c]	0.1	9.25	0.1	9.25	0.2	18.96		
T. staurogeniaeforme	46.7[c]	0.6	9.06	0.4	7.61	0.1	1.91		
coccoid green 2	164.6	2.3	122.46					2.3	14.48
coccoid green ?	268.1			0.2	22.25	0.9	109.12		
unidentified green 2	34.0[c]			1.5	22.20	3.5	52.53		
TOTAL CHLOROPHYTA		10.8	4818.75	11.1	866.93	14.0	1605.80	7.0	41.39

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
13 AUGUST 1979

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									
Aphanothece sp.	65.4[c]					0.2	5.36		
Chroococcus minor	56.4[c]					0.1	2.31		
Dactylococcopsis fascicularis	14.3[c]			0.1	0.57				
D. Smithii	18.8[c]					0.1	0.77		
Gomphosphaeria lacustris	248.5[c]	1.7	136.68	0.6	60.88	0.4	40.51		
Lyngbya limnetica	380.1[d]							0.4	3.22
Marssoniella elegans	26.5[c]	1.2	10.18	0.7	7.63	1.4	16.16		
Merismopedia tenuissima	62.6[c]	0.2	4.88	0.1	2.50	0.2	5.13		
Microcystis incerta	92.0[c]							0.3	1.10
Oscillatoria limnetica	201.1[d]	<0.05	2.41	<0.05	1.81				
O. tenuis	3217.0[d]					<0.05	67.56		
Oscillatoria sp. (1,2)	201.1[d]	0.1	6.23	0.1	6.64	0.1	5.83	2.0	15.48
Oscillatoria sp. 3	176.7[d]					0.2	14.49	2.5	17.32
Rhabdoderma lineare	36.9[c]					0.8	13.50	0.2	0.22
coccoid blue-green 1	14.1			0.8	4.64			0.5	0.25
TOTAL CYANOPHYTA		3.2	160.38	2.4	84.67	3.5	171.62	5.9	37.59
EUGLENOPHYTA									
Euglena sp. 1	3678.3	0.1	147.13						
Euglena sp. 3	3479.1					0.1	142.64	0.8	104.37
Euglena sp. 4	804.2					0.1	32.97	0.2	4.82
Trachelomonas hispida	2293.6					0.1	94.04		
T. varians	6370.6	0.1	242.08						
Trachelomonas sp. 1	137.3	0.2	10.98	0.6	33.36	0.6	33.50		
Trachelomonas sp. 2	268.1	0.7	63.81			0.1	10.99		
Trachelomonas sp. 6	73.6	0.1	2.80						
Trachelomonas sp. 7	124.6							0.6	2.99
Trachelomonas sp. 8	167.3			0.1	6.69				
Trachelomonas sp. 9	167.3					0.1	6.86		
euglenoid sp. 1	201.1			0.2	16.49				
TOTAL EUGLENOPHYTA		1.2	466.8	0.9	56.54	1.1	321.00	1.6	112.18
PYRRHOPHYTA									
Glenodinium pulvisculus	5575.3	0.1	211.86	0.4	903.20			0.6	133.81
dinoflagellate sp. 2	998.3			0.1	41.93	0.2	81.86		
TOTAL PYRRHOPHYTA		0.1	211.86	0.5	945.13	0.2	81.86	0.6	133.81

APPENDIX TABLE C.1-7
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
13 AUGUST 1979

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
OTHERS									
phytoflagellate sp. 6	14.1					0.1	0.58		
phytoflagellate sp. 8	34.3			0.1	1.37	0.1	1.41		
TOTAL OTHERS		0.0	0.00	0.1	1.37	0.2	1.99	0.0	0.00
TOTAL BIOVOLUME			17,728.80		16,384.90		16,813.97		1452.24

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

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

[c]Value represents colony volume.

[d]Value represents 100μ filament volume.

APPENDIX TABLE C.1-8

PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
BACILLARIOPHYTA									
Centrales									
Attheya zachariasi	9057.2					0.1	235.49		
Coscinodiscus lacustris	1908.5	1.0	641.26	2.1	1229.07	0.4	251.92		
Cyclotella comta	286.3	0.4	33.50						
C. glomerata	173.2	13.1	734.54	11.0	579.18	11.4	642.74		
C. meneghiniana	645.2	3.0	638.10	3.0	592.94	3.7	785.21		
C. pseudostelligera	154.0	6.3	313.08	3.8	176.48	1.8	90.09		
C. stelligera	226.2			0.5	33.25	0.4	31.67	0.2	2.26
Melosira granulata	823.5	7.3	1953.34	7.7	192.70	8.6	2297.56		
M. granulata v. angustissima	201.5	0.8	50.78	0.7	42.72	0.2	13.30		
M. islandica subsp. helvetica	230.9	1.3	101.13	1.6	114.89	2.8	209.89		
M. varians	1583.4	0.4	185.26						
Stephanodiscus astraea	564.8	19.8	3621.50	17.9	3066.30	22.0	4029.85		
centric sp. 1	163.4	4.9	261.77	4.5	223.04	3.5	186.77		
centric sp. 2	163.4	8.2	232.85	9.9	489.06	11.0	583.50		
Pennales									
Achnanthes exigua	235.6							0.2	2.36
A. fragilarioides	189.0			0.2	13.23				
A. lanceolata	267.8					0.4	39.63	0.6	7.23
A. minutissima	55.3	1.9	34.29	2.8	47.12	0.7	11.83	13.5	33.07
Achanthes sp. 1	43.1			0.5	6.16	0.2	3.19	3.9	7.50
Amphora ovalis v. pediculus	132.2	0.1	6.61	0.7	27.50	0.2	9.78	4.6	27.23
Amphora sp. 1	95.4							0.2	0.86
Asterionella formosa	239.2	4.6	361.19	4.0	288.00	4.3	332.49		
A. formosa v. gracillima	342.0	0.4	40.01	0.5	48.91				
Cocconeis pediculus	1357.2	0.4	158.79						
C. placentula	2254.9			0.2	157.84				
Cymbella prostrata v. auerswaldii	1088.6							1.5	71.85
Diatoma vulgare	3078.0							0.2	30.78
Fragilaria crotonensis	284.0	0.1	14.20	0.2	19.88	0.2	18.74		
Gomphonema angustatum	819.0							1.1	38.49
G. olivaceum	693.0					0.4	102.56		
G. parvulum	284.5	0.4	33.29	0.7	60.31	0.6	58.61	4.0	50.64
Gyrosigma acuminatum	11196.6	0.1	559.83					0.2	100.77
Hantzschia amphioxys	483.8							0.2	4.35
Hantzschia sp. 1	580.5			0.2	42.96	0.2	42.96		
Navicula biconica	56.5							1.8	4.41

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

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 (continued)									
Navicula cryptocephala	1296.0			0.5	185.33	0.2	95.90	0.2	11.66
N. cryptocephala v. veneta	194.2	0.5	32.43			0.4	28.74	4.4	37.87
N. gysingensis	1335.2							0.4	25.37
N. mutica	699.8					0.4	103.57	0.2	7.00
N. rhyncocephala	378.0	0.5	56.32	0.2	26.46	1.3	156.49	1.8	30.24
N. tripunctata	1656.0	0.5	276.55	0.2	122.54	0.2	122.34	0.2	14.90
N. viridula v. avenacea	1496.3					0.2	110.73	0.4	29.93
N. viridula v. rostellata	684.0							0.2	6.84
Navicula sp. 2	83.1	0.1	4.16			0.7	17.78	2.6	9.72
Navicula sp. 3	333.8							0.4	6.01
Nitzschia acicularis v. closterioides	89.5	0.5	13.34	0.2	6.26	0.2	5.91	0.2	0.90
N. amphibia	155.5							2.4	18.04
N. apiculata	513.0							0.6	18.47
N. communis	66.8			0.2	4.94			3.4	9.95
N. communis v. abbreviata	39.4	0.4	4.61	1.0	11.43	0.7	8.43	1.5	2.64
N. dissipata	322.4	1.4	146.05			3.5	367.21	12.7	181.19
N. linearis	4860.0							2.5	529.74
N. palea	200.9	2.6	168.55	2.6	155.90	2.4	156.10	5.7	50.83
Nitzschia sp. 2	63.6			0.2	4.71	0.2	4.71	1.3	3.69
Rhoicosphenia curvata	630.0	0.7	148.68					0.2	6.30
Stauroneis livingstonii	276.5					0.4	40.92	0.2	2.76
Surirella ovata	1209.5	0.1	60.48			0.2	79.83	0.7	36.28
Synedra delicatissima	1188.0			1.1	413.42	0.2	78.41	0.5	24.95
S. rumpens v. familiaris	297.0							0.2	2.67
S. ulna	913.5			0.2	63.95				
Synedra spp.	423.0			0.2	29.61				
TOTAL BACILLARIOPHYTA		81.4	10886.49	79.5	8476.19	84.5	11355.05	76.2	1449.75
CHRYSOPHYTA									
Dinobryon sociale	196.2[c]	0.2	11.77						
Mallomonas ? sp. 1	647.7	0.2	38.86			0.5	97.16		
TOTAL CHRYSOPHYTA		0.4	50.63	0.0	0.00	0.5	97.16	0.0	0.00
CRYPTOPHYTA									
Cryptomonas ovata	1140.4			0.5	171.06	0.4	143.69	0.5	26.23
cryptophyte sp. 1	173.5	2.6	145.91	3.6	189.12	2.0	113.30	3.5	27.24
cryptophyte sp. 2	73.5	3.3	79.38	5.6	124.51	3.6	87.02	3.9	12.64
TOTAL CRYPTOPHYTA		5.9	225.29	9.7	484.69	6.0	344.01	7.9	66.11

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a](%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA									
Ankistrodesmus convolutus	49.0[c]			0.3	4.85	0.1	1.27		
A. falcatus	24.5[c]	0.6	4.43	0.5	3.65	0.5	3.77	0.3	0.37
A. falcatus v. acicularis	91.1[c]	0.1	2.73						
A. falcatus v. mirabilis	80.4[c]	0.2	4.82	0.1	2.01				
Carteria cordiformis	332.7			0.1	8.32				
C. Klebsii	201.6	0.2	12.10						
C. multifilis	310.3			0.1	7.76			0.4	5.90
Carteria sp. 1	2775.9					0.2	210.97		
Characium ambiguum	19.8							0.4	0.38
Chlamydomonas globosa	434.9	2.6	365.32	1.8	238.32	2.5	359.66	1.3	24.35
Chlamydomonas sp. 3	50.3							4.8	10.71
Chlamydomonas sp. 5	77.2	1.6	39.45	0.9	21.08	1.0	25.24	2.7	9.34
Chlorella ? sp.	14.1	0.4	1.71			0.4	1.78		
Coelastrum sphaericum	775.7[c]			0.2	57.40	0.1	19.39		
Cosmarium sp. 3	31.8			0.3	3.15				
Crucigenia tetrapedia	62.7[c]			0.1	1.57	0.2	3.20		
Dictyosphaerium Ehrenbergianum	623.6[c]	0.4	75.46	0.2	46.15				
Golenkinia radiata	102.2			0.1	2.56	0.1	2.56		
Kirchneriella lunaris v. irregularis	7.3[c]	0.3	0.66	0.1	0.18	0.2	0.55	0.3	0.10
K. obesa	167.6[c]							0.7	5.53
K. obesa v. aperta	173.9[c]	0.3	15.65	0.3	17.39	0.1	4.35		
Lagerheimia quadriseta	77.2	0.3	7.02	0.6	13.43	0.4	9.80		
Micractinium pusillum	998.3[c]	0.1	29.95						
Oocystis Borgei	104.6[c]	0.2	6.28			0.1	5.23		
Pediastrum simplex v. duodenarium	1992.3[c]					0.1	51.80		
Scenedesmus abundans v. brevicauda	101.4[c]	0.2	6.08						
S. abundans v. longicauda	157.6[c]			0.2	7.88	0.1	7.88		
S. acuminatus	1711.2[c]					0.1	85.56		
S. acutiformis	167.2[c]	0.1	5.02						
S. Bernardii	662.4[c]					0.1	16.56		
S. denticulatus	152.1[c]			0.2	11.41				
S. dimorphus	392.8[c]			0.2	29.07				
S. quadricauda	162.1[c]	0.5	24.32	0.6	28.20	0.2	8.27		
Schroederia setigera	226.8			0.1	5.67	0.1	5.90	0.1	1.13
Selenastrum minutum	112.0[c]			0.1	2.80				

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance (%)	Biovolume $\mu^3(\times10^2)$/ml
CHLOROPHYTA (continued)									
Tetraedron minimum	98.0[c]	0.1	3.04	0.1	2.45			0.1	0.49
T. pentaedricum	42.2[c]					0.1	1.06		
T. tumidulum ?	1047.4[c]	0.1	31.42			0.1	27.23		
Tetrastrum glabrum	468.8[c]	0.1	14.06						
T. punctatum	468.8[c]	0.1	14.06						
T. staurogeniaeforme	108.3[c]	0.3	9.75	0.1	2.71				
T. triacanthum	251.3[c]	0.1	7.54	0.1	6.28				
Treubaria setigerum	7.8			0.1	0.20				
coccoid green ?	248.5	0.5	37.52						
unidentified green 2	64.3[c]	0.1	1.93	0.7	12.80	0.2	4.89		
TOTAL CHLOROPHYTA		9.5	720.32	8.2	537.29	7.0	856.92	11.1	58.30
CYANOPHYTA									
Anabaena flos-aquae	706.9[d]			<0.05	7.07				
Chroococcus dispersus v. minor	2.7[c]	0.3	0.24						
Dactylococcopsis fascicularis	12.7[c]	0.1	0.38			0.4	1.60		
D. Smithii	9.4[c]					0.1	0.24		
Gomphosphaeria lacustris	109d.1[c]			0.2	81.26	0.1	28.55		
Merismopedia tenuissima	49.1[c]					0.1	1.28		
Microcystis incerta	735.6[c]			0.2	54.43			0.1	3.68
Oscillatoria amphibia ?	201.1[d]	0.1	4.83						
O. limnetica	201.1[d]	0.1	6.64	0.2	11.66			0.1	0.30
Oscillatoria sp. (1,2)	254.5[d]							0.2	1.78
Oscillatoria sp. 3	254.5[d]							0.2	1.78
Rhabdoderma lineare	65.7[c]							2.4	7.03
TOTAL CYANOPHYTA		0.6	12.09	0.6	154.42	0.7	31.67	3.0	15.07
EUGLENOPHYTA									
Euglena sp. 1	2602.4					0.2	132.72	0.3	36.43
Euglena sp. 3	2270.3			0.1	56.76	0.1	113.52		
Euglena sp. 4	1608.5	0.1	48.26						
Lepocinclis sp. 1	1858.3			0.1	46.46				
Phacus sp. 1	188.5							0.2	1.89
Trachelomonas cylindrica	1696.5			0.2	83.13				
T. hispida	4071.3					0.2	207.64		
T. volvocina	1317.1			0.2	64.54	0.1	34.24		
Trachelomonas sp. 1	150.5	1.0	49.82	0.8	37.02	0.5	26.49	0.7	4.97
Trachelomonas sp. 4	131.9			0.2	6.60				
TOTAL EUGLENOPHYTA		1.1	98.08	1.6	294.51	1.1	514.61	1.2	43.29

APPENDIX TABLE C.1-8
(continued)
PHYTOPLANKTON BIOVOLUME AND RELATIVE ABUNDANCE
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Species	Average Biovolume (μ^3)	Station and Parameter							
		1		3		5		6	
		Relative Abundance[a] (%)	Biovolume[b] $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml	Relative Abundance(%)	Biovolume $\mu^3(\times10^2)$/ml
PYRRHOPHYTA									
Glenodinium pulvisculus	3479.1					0.1	86.98	0.2	6.27
dinoflagellate sp. 1	696.9	0.2	42.51	0.1	17.42				
TOTAL PYRRHOPHYTA		0.2	42.51	0.1	17.42	0.1	86.98	0.2	6.27
OTHERS									
phytoflagellate sp. 3	561.0	0.3	51.05					0.3	0.24
phytoflagellate sp. 4	17.0					0.1	11.31		
phytoflagellate sp. 5	434.9			0.2	1.42				
phytoflagellate sp. 8	28.3			0.1	4.82				
phytoflagellate sp. 9	193.0	0.6	40.72					0.1	0.14
phytoflagellate sp. 10	28.3							0.4	0.38
TOTAL OTHERS		0.9	91.77	0.3	6.24	0.1	11.31		
TOTAL BIOVOLUME			12127.18		9970.76		13297.71		1639.17

[a]Values represent relative percentage of the total phytoplankton and are based on the average of duplicate samples.
[b]Biovolume per species was derived by multiplying the average volume for each species by the average density of that species at each station.
[c]Value represents colony volume.
[d]Value represents 100μ filament volume.

APPENDIX TABLE C.2-1

ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
17 MARCH 1979

	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 sp.	0.8	0.9	0.9	1.0	1.2	1.1	0.4	0.1	0.3			
Carchesium sp.	4.5	3.3	3.9	3.8	2.8	3.3	5.8	4.7	5.3			
Centropyxis spp.	3.3	10.7	7.0	3.7	5.1	4.4	13.8	6.0	9.9	<0.1	0.0	<0.1
Difflugia spp.	2.3	2.8	2.6	0.6	1.7	1.2	2.7	1.7	2.2	<0.1	<0.1	<0.1
Epistylis sp.	0.1	0.4	0.3	0.1	0.1	0.1						
Podophrya sp.	0.4	0.3	0.4	0.0	0.1	0.1	0.7	0.1	0.4			
Squalorophrya sp.	0.3	0.0	0.2									
Vorticella sp.	6.0	5.4	5.7	2.9	3.0	3.0	7.1	7.0	7.1			
TOTAL PROTOZOA	17.7	23.8	21.0	12.1	14.0	13.2	30.5	19.6	25.2	<0.1	<0.1	<0.1
ROTIFERA												
Asplanchna sp.	0.1	0.0	0.1									
Brachionus spp.							0.2	0.1	0.2			
B. calyciflorus	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.1			
Epiphanes sp.	0.0	0.1	0.1									
Filinia sp.	0.1	0.0	0.1	0.3	0.0	0.2	0.2	0.5	0.4			
Kellicottia bostoniensis	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2			
Keratella cochlearis	0.1	0.6	0.4	0.2	0.4	0.3	0.1	0.2	0.2			
K. quadrata	0.1	0.0	0.1	0.0	0.1	0.1	0.3	0.1	0.2			
Lecane sp.	0.0	0.1	0.1									
Notholca sp.	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.1	0.1			

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
17 MARCH 1979

	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)												
Polyarthra sp.	0.1	0.0	0.1	0.1	0.1	0.1						
unidentified Bdelloidea	0.0	0.2	0.1									
unidentified Rotifera	0.4	0.7	0.6	0.8	0.4	0.6	0.6	0.7	0.7			
TOTAL ROTIFERA	1.2	1.9	2.0	1.8	1.4	1.8	1.6	1.9	2.1	0.0	0.0	0.0
CLADOCERA												
Bosmina longirostris	0.0	0.1	0.1							0.0	<0.1	<0.1
TOTAL CLADOCERA	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
COPEPODA												
Calanoida												
Diaptomus pallidus							0.0	0.1	0.1			
Cyclopoida												
Cyclops vernalis	0.0	0.1	0.1				0.1	0.1	0.1			
copepodites	0.2	0.3	0.3	0.0	0.5	0.3	0.0	0.4	0.2	0.0	<0.1	<0.1
nauplii	0.4	0.4	0.4	0.3	0.0	0.2	1.7	0.3	1.0	<0.1	<0.1	<0.1
TOTAL COPEPODA	0.6	0.8	0.8	0.3	0.5	0.5	1.8	0.9	1.4	<0.1	<0.1	<0.1
OTHERS												
Nematoda												
Criconema sp.	0.1	0.1	0.1				0.1	0.0	0.1			
unidentified Nematoda	0.4	0.3	0.4	0.6	0.6	0.6	0.9	0.8	0.9	0.0	<0.1	<0.1
Ectoprocta statoblasts	0.1	0.3	0.2	0.2	0.4	0.3	0.2	0.1	0.2			

APPENDIX TABLE C.2-1
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
17 MARCH 1979

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS (continued)												
Tardigrada				0.0	0.2	0.1						
Oligochaeta	0.1	0.1	0.1	0.1	0.1	0.1						
Ostracoda										0.0	0.1	0.1
Hydracarina immatures	0.1	0.0	0.1									
Chironomidae larvae				0.0	0.1	0.1	0.0	0.1	0.1			
TOTAL OTHERS	0.8	0.8	0.9	0.9	1.4	1.2	1.2	1.0	1.3	0.0	0.1	0.1
TOTAL ZOOPLANKTERS PER LITER	20.3	27.4	24.8	15.1	17.3	16.7	35.1	23.4	30.0	<0.1	0.1	0.1
Standard deviation			±5.9			±1.6			±6.7			[a]

[a]Entire sample counted.

APPENDIX TABLE C.2-2

ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
18 MAY 1979

	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.	0.0	0.2	0.1				0.2	0.0	0.1			
Carchesium sp.	3.3	1.7	2.5	1.1	4.6	2.9	0.6	1.5	1.1			
Centropyxis sp	1.9	1.0	1.5	0.3	1.8	1.1	2.1	1.4	1.8	0.5	0.2	0.4
Difflugia spp.	0.2	0.4	0.3	0.0	0.2	0.1	0.3	0.3	0.3	<0.1	<0.1	<0.1
Epistylis sp.							0.7	2.7	1.7			
Podophrya sp.	1.1	0.4	0.8	0.6	0.2	0.4						
Tokophrya sp.	2.6	2.1	2.4	1.2	3.0	2.1	4.9	4.7	4.8			
Vorticella sp.	7.7	3.5	5.6	1.1	4.6	2.9	6.5	4.5	5.5			
TOTAL PROTOZOA	16.8	9.3	13.2	4.3	14.4	9.5	15.3	15.1	15.3	0.5	0.2	0.4
ROTIFERA												
Asplanchna sp.	0.5	0.4	0.5	0.2	0.2	0.2	0.3	0.5	0.4			
Brachionus spp.										<0.1	<0.1	<0.1
B. angularis	2.1	1.7	1.9	1.3	1.8	1.6	1.7	2.4	2.1			
B. bidentata							0.0	0.2	0.1			
B. calyciflorus	9.3	4.8	7.1	8.6	7.5	8.1	6.1	6.3	6.2			
B. quadridentata	24.6	21.3	23.0	15.6	19.1	17.4	24.6	22.2	23.4			
Filinia sp.	2.1	2.1	2.1	1.0	1.9	1.5	2.4	1.6	2.0			
Kellicottia bostoniensis	0.3	0.6	0.5	0.3	0.8	0.6	0.3	0.2	0.3			
Keratella cochlearis	63.1	26.5	44.8	9.1	74.4	41.8	29.3	36.3	32.8	<0.1	<0.1	<0.1
K. quadrata	13.6	11.9	12.8	8.8	10.6	9.7	12.9	14.5	13.7	<0.1	<0.1	<0.1
K. valga	0.0	0.2	0.1				0.2	0.0	0.1			

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
18 MAY 1979

	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)												
Lecane sp.				0.0	0.5	0.3	0.2	0.2	0.2	<0.1	<0.1	<0.1
Notholca sp.	2.5	1.5	2.0	1.2	2.2	1.7	3.5	1.6	2.6			
Polyarthra sp.	13.4	5.7	9.6	3.2	20.2	11.7	10.2	8.9	9.6	<0.1	<0.1	<0.1
Synchaeta sp.	0.2	0.0	0.1	0.2	1.0	0.6	0.2	0.6	0.4			
Trichocerca sp.										0.2	0.1	0.2
unidentified Rotifera	6.6	3.8	5.2	2.7	4.9	3.8	5.9	4.4	5.2	0.1	0.1	0.1
TOTAL ROTIFERA	138.3	80.5	109.7	52.2	145.1	99.0	97.8	99.9	99.1	0.3	0.2	0.3
CLADOCERA												
Bosmina longirostris	1.4	1.3	1.4	1.7	1.1	1.4	1.4	2.1	1.8			
Daphnia ambigua	0.2	0.0	0.1									
Eubosmina coregoni							0.2	0.0	0.1			
immature Cladocera	0.3	0.0	0.2									
TOTAL CLADOCERA	1.9	1.3	1.7	1.7	1.1	1.4	1.6	2.1	1.9	0.0	0.0	0.0
COPEPODA												
Cyclopoida												
Cyclops bicuspidatus thomasi	0.3	0.2	0.3	0.3	0.5	0.4	0.5	0.8	0.7			
Eucyclops lillejeborgi										<0.1	<0.1	<0.1
Harpacticoida												
Attheyella illinoisensis										0.0	<0.1	<0.1

APPENDIX TABLE C.2-2
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
18 MAY 1979

Taxon	Station and Replicate											
	1			3			5			6		
	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
COPEPODA (continued)												
copepodites	0.6	0.4	0.6	0.7	0.2	0.5	1.2	1.0	1.1	<0.1	<0.1	<0.1
nauplii	25.6	11.7	18.7	11.2	18.6	14.9	16.5	13.8	15.2	0.1	<0.1	0.1
TOTAL COPEPODA	26.7	12.3	19.6	12.2	19.3	15.8	18.2	15.6	17.0	0.1	<0.1	0.1
OTHERS												
Nematoda	0.3	0.0	0.2	0.1	0.0	0.1	0.0	0.6	0.3	<0.1	<0.1	<0.1
Ectoprocta statoblasts	0.2	0.0	0.1	0.0	0.2	0.1	0.2	0.0	0.1			
Tardigrada				0.1	0.0	0.1	0.0	0.2	0.1	<0.1	0.0	<0.1
Oligochaeta	0.5	0.2	0.4				0.3	0.0	0.2	0.0	<0.1	<0.1
Hydracarina										<0.1	0.0	<0.1
Chironomidae larvae	0.2	0.0	0.1	0.1	0.3	0.2				0.3	0.1	0.2
Collembola										<0.1	<0.1	<0.1
TOTAL OTHERS	1.2	0.2	0.8	0.3	0.5	0.5	0.5	0.8	0.7	0.3	0.1	0.2
TOTAL ZOOPLANKTERS PER LITER	184.9	103.6	145.0	70.7	180.4	126.2	133.4	133.5	134.0	1.2	0.5	1.0[a]
Standard deviation			±47.7			±63.3			±5.4			-

[a]Entire sample counted.

APPENDIX TABLE C.2-3

ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
10 AUGUST 1979

	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 sp.	0.0	<0.1	<0.1							0.1	<0.1	0.1
Centropyxis sp.	<0.1	<0.1	<0.1	0.1	0.0	0.1	0.1	0.0	0.1	<0.1	0.1	0.1
Difflugia sp.	0.0	<0.1	<0.1	0.1	0.0	0.1				<0.1	<0.1	<0.1
TOTAL PROTOZOA	<0.1	<0.1	<0.1	0.2	0.0	0.2	0.1	0.0	0.1	0.1	0.1	0.2
ROTIFERA												
Asplanchna sp.				0.1	0.0	0.1						
Brachionus angularis	0.0	0.1	0.1	0.1	0.1	0.1						
B. bidentata										<0.1	<0.1	<0.1
B. calyciflorus	0.5	1.2	0.9	1.3	1.1	1.2	1.0	1.2	1.1	0.1	<0.1	0.1
B. caudatus	0.0	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2			
B. havanaensis	0.0	<0.1	<0.1	0.0	<0.1	<0.1						
Conochiloides sp.	<0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2			
Epiphanes sp.	0.7	2.4	1.6	3.8	5.3	4.6	48.7	57.2	53.0	0.2	0.1	0.2
Euchlanis sp.										0.3	0.4	0.4
Kellicottia bostoniensis				0.1	0.0	0.1						
Keratella cochlearis	0.1	0.3	0.2	0.3	0.3	0.3	0.2	0.8	0.5			
K. quadrata	<0.1	0.1	0.1	0.3	0.2	0.3	0.1	0.2	0.2	0.2	0.3	0.3
K. valga	0.1	0.2	0.2	0.6	1.1	0.9	0.5	1.7	1.1	<0.1	<0.1	<0.1
Lecane sp.				0.0	0.1	0.1				0.3	0.3	0.3
Notholca sp.	<0.1	0.0	<0.1				0.0	0.1	0.1			

APPENDIX TABLE C.2-3
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
10 AUGUST 1979

	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)												
Platyias patulus	0.1	0.1	0.1	0.6	1.6	1.1	3.4	2.0	2.7	0.0	<0.1	<0.1
P. quadricornis										0.0	<0.1	<0.1
Polyarthra sp.	0.1	0.1	0.1	0.4	0.5	0.5	1.5	3.1	2.3	<0.1	0.0	<0.1
Trichocerca sp.	<0.1	0.0	<0.1	0.2	0.1	0.2	0.1	0.3	0.2	<0.1	<0.1	<0.1
Trichotria sp.										0.0	<0.1	<0.1
unidentified Bdelloidia				0.1	<0.1	0.1						
TOTAL ROTIFERA	1.6	4.8	3.5	8.2	10.8	10.0	55.8	67.0	61.6	1.1	1.1	1.3
CLADOCERA												
Bosmina longirostris	<0.1	0.0	<0.1	0.1	<0.1	0.1	0.0	0.1	0.1			
Diaphanosoma brachyurum				0.1	<0.1	0.1						
Ceriodaphnia quadrata							0.0	0.1	0.1			
immature Cladocera	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3			
TOTAL CLADOCERA	0.1	0.1	0.1	0.4	0.3	0.5	0.3	0.4	0.5	0.0	0.0	0.0
COPEPODA												
Calanoida												
Diaptomus pallidus	<0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.0	<0.1	<0.1
Cyclopoida												
Cyclops vernalis	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1			
copepodites	0.7	0.8	0.8	0.8	1.6	1.2	2.4	1.9	2.2	<0.1	0.1	0.1
nauplii	0.5	1.0	0.8	1.2	2.1	1.7	2.1	2.4	2.3	0.1	0.1	0.1
TOTAL COPEPODA	1.3	2.0	1.8	2.3	3.8	3.2	4.7	4.4	4.7	0.1	0.2	0.2

APPENDIX TABLE C 2-3
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
10 AUGUST 1979

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS												
Nematoda										0.1	<0.1	0.1
Oligochaeta										<0.1	<0.1	<0.1
Hydracarina	0.0	<0.1	<0.1							0.0	<0.1	<0.1
Chironomidae	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	<0.1	0.1
Ostracoda				0.1	0.0	0.1				<0.1	<0.1	<0.1
Trichoptera	<0.1	0.0	<0.1	0.2	<0.1	0.1	0.1	0.1	0.1	0.0	<0.1	<0.1
TOTAL OTHERS	<0.1	0.1	0.1	0.4	0.1	0.3	0.2	0.1	0.2	0.2	<0.1	0.2
TOTAL ZOOPLANKTERS PER LITER	3.0	7.0	5.5	11.5	15.0	14.2	61.1	71.9	67.1	1.5	1.4	1.9
Standard deviation			-[a]			±2.3			±6.3			-[a]

[a]Entire sample counted.

APPENDIX TABLE C.2-4

ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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.	0.3	0.2	0.3	0.1	0.0	0.1	0.1	0.0	0.1			
Carchesium sp.				0.0	0.1	0.1						
Centropyxis sp.	2.0	0.7	1.4	1.1	0.8	1.0	0.6	0.7	0.7			
Difflugia spp.	1.1	0.4	0.8	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.0	0.1
Epistylis sp.	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1			
Tokophyrya sp.	0.2	0.3	0.3				0.2	0.1	0.2			
Vorticella sp.	3.2	1.6	2.4	0.2	0.3	0.3	0.5	0.7	0.6			
TOTAL PROTOZOA	6.8	3.3	5.3	1.7	1.5	1.9	1.7	1.8	1.9	0.1	0.0	0.1
ROTIFERA												
Asplanchna sp.	0.1	0.0	0.1									
Brachionus sp.	0.0	0.1	0.1									
B. bidentata							0.1	0.0	0.1			
B. calyciflorus	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.1
B. quadridentata										0.1	0.0	0.1
Euchlanis sp.							0.0	0.1	0.1	0.2	0.1	0.2
Gastropus sp							0.0	0.1	0.1			
Kellicottia bostoiensis							0.1	0.1	0.1			
Keratella cochlearis	0.9	0.3	0.6	0.2	0.2	0.2	0.1	0.3	0.2			
K. quadrata				0.0	0.1	0.1	0.1	0.0	0.1			
K. valga							0.1	0.0	0.1			
Lecane sp.				0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1

APPENDIX TABLE C.2-4
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	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)												
Platyias patulus				0.1	0.0	0.1						
Polyarthra sp.	0.1	0.1	0.1				0.1	0.1	0.1			
Ptygura libera	0.8	0.3	0.6	0.2	0.2	0.2	0.1	0.1	0.1			
Synchaeta sp.	0.0	0.3	0.2	0.1	0.0	0.1	0.0	0.1	0.1			
Trichotria sp.	0.0	0.1	0.1				0.1	0.0	0.1	0.2	0.2	0.2
unidentified Bdelloidia	0.1	0.0	0.1				0.0	0.1	0.1			
TOTAL ROTIFERA	2.1	1.3	2.0	0.6	0.7	0.9	1.1	1.2	1.6	0.6	0.4	0.7
CLADOCERA												
immature Cladocera							0.0	0.1	0.1			
TOTAL CLADOCERA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
COPEPODA												
Calanoida												
Diaptomus pallidus				0.0	0.1	0.1						
copepodites	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.1
nauplii	0.3	0.0	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2
TOTAL COPEPODA	0.5	0.2	0.4	0.5	0.3	0.5	0.4	0.3	0.4	0.4	0.1	0.3
OTHERS												
Nematoda	0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.1			
Ectopracta statoblasts				0.0	0.1	0.1	0.0	0.1	0.1			

APPENDIX TABLE C.2-4
(continued)
ZOOPLANKTON COMPOSITION AND DENSITY (no./liter)
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

	Station and Replicate											
	1			3			5			6		
Taxon	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
OTHERS (continued)												
Tardigrada	0.0	0.1	0.1									
Oligochaeta	0.1	0.0	0.1							0.2	0.1	0.2
Hydacarina										0.1	0.0	0.1
Diptera	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.5	0.3	0.4
TOTAL OTHERS	0.3	0.3	0.5	0.2	0.1	0.3	0.2	0.2	0.3	0.8	0.4	0.7
TOTAL ZOOPLANKTERS PER LITER	9.7	5.1	8.2	3.0	2.6	3.6	3.4	3.6	4.3	1.9	0.9	1.8
Standard deviation			$\pm$2.8			$\pm$0.3			$\pm$0.2			$\pm$0.4

APPENDIX TABLE C.2-5

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
17 MARCH 1979

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella sp.	3.6	6.6	1.0	
Carchesium sp.	15.7	19.8	17.7	
Centropyxis spp.	28.3	26.3	33.0	<0.1
Difflugia spp.	10.5	7.3	7.3	<0.1
Epistylis sp.	1.2	0.6		
Podophrya sp.	1.6	0.6	1.3	
Squalorophrya sp.	0.8			
Vorticella sp.	23.1	17.9	23.7	
TOTAL PROTOZOA	84.8	79.1	84.0	<0.1
ROTIFERA				
Asplanchna sp.	0.4			
Brachionus spp.			0.7	
B. calyciflorus	0.4	0.6	0.3	
Epiphanes sp.	0.4			
Filinia sp.	0.4	1.2	1.3	
Kellicottia bostoniensis	0.4	1.2	0.7	
Keratella cochlearis	1.6	1.8	0.7	
K. quadrata	0.4	0.6	0.7	
Lecane sp.	0.4			
Notholca sp.	0.4	1.2	0.3	
Polyarthra sp.	0.4	0.6		
unidentified Bdelloidea	0.4			
unidentified Rotifera	2.4	3.6	2.3	
TOTAL ROTIFERA	8.0	10.8	7.0	
CLADOCERA				
Bosmina longirostris	0.4			<0.1
TOTAL CLADOCERA	0.4			<0.1
COPEPODA				
Calanoida				
Diaptomus pallidus			0.3	
Cyclopoida				
Cyclops vernalis	0.4		0.3	
copepodites	1.2	1.8	0.7	<0.1
nauplii	1.6	1.2	3.4	<0.1
TOTAL COPEPODA	3.2	3.0	4.7	<0.1

APPENDIX TABLE C.2-5
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
17 MARCH 1979

Taxon	Station 1	3	5	6
OTHERS				
Nematoda				
Criconema sp.	0.4		0.3	
unidentified Nematoda	1.6	3.5	3.0	<0.1
Ectoprocta statoblasts	0.8	1.8	0.7	
Tardigrada		0.6		
Oligochaeta	0.4	0.6		
Ostracoda				99.9
Hydracarina immatures	0.4			
Chironomidae larvae		0.6	0.3	
TOTAL OTHERS	3.6	7.1	4.3	99.9

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

APPENDIX TABLE C.2-6

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
18 MAY 1979

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella spp.	0.1		0.1	
Carchesium sp.	1.7	2.3	0.8	
Centropyxis sp.	1.0	0.9	1.3	40.0
Difflugia spp.	0.2	0.1	0.2	<0.1
Epistylis sp.			1.3	
Podophrya sp.	0.6	0.3		
Tokophrya sp.	1.7	1.7	3.6	
Vorticella sp.	3.9	2.3	4.1	
TOTAL PROTOZOA	9.2	7.6	11.4	40.0
ROTIFERA				
Asplanchna sp.	0.3	0.2	0.3	
Brachionus spp.				<0.1
B. angularis	1.3	1.3	1.6	
B. bidentata			0.1	
B. calyciflorus	4.9	6.4	4.6	
B. quadridentata	15.9	13.7	17.5	
Filinia sp.	1.4	1.2	1.5	
Kellicottia bostoniensis	0.3	0.5	0.2	
Keratella cochlearis	30.8	33.1	24.6	<0.1
K. quadrata	8.8	7.7	10.2	<0.1
K. valga	0.1		0.1	
Lecane sp.		0.2	0.1	<0.1
Notholca sp.	1.4	1.3	1.9	
Polyarthra sp.	6.6	9.2	7.2	<0.1
Synchaeta sp.	0.1	0.5	0.3	
Trichocerca sp.				20.0
unidentified Rotifera	3.6	3.0	3.9	10.0
TOTAL ROTIFERA	75.5	78.3	74.1	30.0
CLADOCERA				
Bosmina longirostris	1.0	1.1	1.3	
Daphnia ambigua	0.1			
Eubosmina coregoni			0.1	
immature Cladocera	0.1			
TOTAL CLADOCERA	1.2	1.1	1.4	0.0

APPENDIX TABLE C.2-7

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
10 AUGUST 1979

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella sp.	<0.1			5.3
Centropyxis sp.	<0.1	0.7	0.1	5.3
Difflugia sp.	<0.1	0.7		<0.1
TOTAL PROTOZOA	<0.1	1.4	0.1	10.6
ROTIFERA				
Asplanchna sp.		0.7		
Brachionus angularis	1.8	0.7		
B. bidentata				<0.1
B. calyciflorus	16.4	8.5	1.6	5.3
B. caudatus	1.8	1.4	0.3	
B. havanaensis	<0.1	<0.1		
Conochiloides sp.	1.8	1.4	0.3	
Epiphanes sp.	29.2	32.6	79.5	10.5
Euchlanis sp.				21.0
Kellicottia bostoniensis		0.7		
Keratella cochlearis	3.6	2.1	0.7	
K. quadrata	1.8	2.1	0.3	15.7
K. valga	3.6	6.3	1.6	<0.1
Lecane sp.		0.7		15.7
Notholca sp.	<0.1		0.1	
Platyias patulus	1.8	7.7	4.0	<0.1
P. quadricornis				<0.1
Polyarthra sp.	1.8	3.5	3.4	<0.1
Trichocerca sp.	<0.1	1.4	0.3	<0.1
Trichotria sp.				<0.1
unidentified Bdelloidia		0.7		
TOTAL ROTIFERA	63.6	70.5	92.1	68.2
CLADOCERA				
Bosmina longirostris	<0.1	0.7	0.1	
Diaphanosoma brachyurum		0.7		
Ceriodaphnia quadrata			0.1	
immature Cladocera	1.8	2.1	0.5	
TOTAL CLADOCERA	1.8	3.5	0.7	0.0

APPENDIX TABLE C.2-7
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
10 AUGUST 1979

Taxon	Station 1	3	5	6
COPEPODA				
Calanoida				
Diaptomus pallidus	1.8	0.7	0.1	<0.1
Cyclopoida				
Cyclops vernalis	1.8	1.4	0.1	
copepodites	14.6	8.4	3.3	5.3
nauplii	14.6	12.0	3.4	5.3
TOTAL COPEPODA	32.8	22.5	6.9	10.6
OTHERS				
Nematoda				5.3
Oligochaeta				<0.1
Hydracarina	<0.1			<0.1
Chironomidae	1.8	0.7	0.1	5.3
Ostracoda		0.7		<0.1
Trichoptera	<0.1	0.7	0.1	<0.1
TOTAL OTHERS	1.8	2.1	0.2	10.6

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

APPENDIX TABLE C.2-8

ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Taxon	Station 1	3	5	6
PROTOZOA				
Arcella sp.	3.7	2.8	2.3	
Carchesium sp.		2.8		
Centropyxis sp.	17.1	27.4	16.4	
Difflugia sp.	9.8	8.3	4.7	5.6
Epistylis sp.	1.2	2.8	2.3	
Tokophyra sp.	3.7	8.3	4.7	
Vorticella sp.	29.5		14.0	
TOTAL PROTOZOA	65.0	52.4	44.4	5.6
ROTIFERA				
Asplanchna sp.	1.2			
Brachionus sp.	1.2			
B. bidentata			2.3	
B. calyciflorus	1.2	2.8	4.7	5.6
B. quadrata				5.6
Euchlanis sp.			2.3	11.1
Gastropus sp.			2.3	
Kellicottia bostoniensis			2.3	
Keratella cochlearis	7.3	5.6	4.7	
K. quadrata		2.8	2.3	
K. valga			2.3	
Lecane sp.		2.8	2.3	5.6
Platyias patulus		2.8		
Polyarthra sp.	1.2		2.3	
Ptygura libera	7.3	5.6	2.3	
Synchaeta sp.	2.4	2.8	2.3	
Trichotria sp.	1.2		2.3	11.1
unidentified Bdelloidia	1.2		2.3	
TOTAL ROTIFERA	24.2	25.2	37.0	39.0
CLADOCERA				
immature Cladocera			2.3	
TOTAL CLADOCERA	0.0	0.0	2.3	0.0

APPENDIX TABLE C.2-8
(continued)
ZOOPLANKTON RELATIVE ABUNDANCE[a]
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Taxon	Station 1	3	5	6
COPEPODA				
Calanoida				
Diaptomus pallidus		2.8		
copepodites	2.4	5.6	4.7	5.6
nauplii	2.4	5.6	4.7	11.1
TOTAL COPEPODA	4.8	14.0	9.4	16.7
OTHERS				
Nematoda	2.4	2.8	2.3	
Ectopracta statoblasts		2.8	2.3	
Tardigrada	1.2			
Oligochaeta	1.2			11.1
Hydracarina				5.6
Diptera	1.2	2.8	2.3	22.0
TOTAL OTHERS	6.0	8.4	6.9	38.7

[a]Relative abundance represents the average organisms of replicates 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
17 MARCH 1979

	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	Samplers were not recovered due to extreme high water conditions.								Samplers were not recovered due to extreme high water conditions.			
Cyclotella glomerata					0.00	0.05	0.03	0.25				
C. kutzingiana v. planetophora					0.09	0.15	0.12	1.00				
C. Meneghiniana					0.09	0.05	0.07	0.58				
C. pseudostelligera					0.00	0.05	0.03	0.25				
Melosira ambigua					0.14	0.05	0.10	0.84				
M. distans					5.82	6.40	6.11	51.09				
M. granulata					0.50	0.76	0.63	5.27				
M. granulata v. angustissima					0.09	0.05	0.07	0.58				
M. varians					0.09	0.00	0.05	0.42				
Pennales												
Achnanthes deflexa					0.18	0.00	0.09	0.75				
A. minutissima					0.14	0.21	0.17	1.42				
Cocconeis placentula v. euglypta					0.05	0.05	0.05	0.42				
Cymbella affinis					0.05	0.26	0.15	1.25				
C. tumida					0.05	0.00	0.02	0.17				
Diatoma vulgare					0.05	0.10	0.07	0.58				
Fragilaria vaucheriae					0.09	0.21	0.15	1.25				
Gomphonema angustatum					0.14	0.10	0.12	1.00				
G. olivaceum					0.05	0.05	0.05	0.42				
G. parvulum					0.14	0.21	0.17	1.42				
Meridion circulare					0.46	0.45	0.46	3.85				
Navicula cryptocephala v. veneta					0.09	0.05	0.07	0.58				
N. minima					0.05	0.00	0.02	0.17				
N. rhyncocephala					0.05	0.00	0.02	0.17				
N. viridula					0.05	0.00	0.02	0.17				
N. viridula v. avenacea					0.09	0.21	0.15	1.25				
N. viridula v. rostellata					0.14	0.00	0.07	0.58				
Navicula sp. 2					0.00	0.05	0.03	0.25				
Pennales (continued)												
Nitzschia amphibia					0.27	0.10	0.19	1.59				
N. communis v. abbreviata					0.05	0.05	0.05	0.42				
N. palea					0.18	0.21	0.19	1.59				
N. parvula					0.00	0.05	0.03	0.25				
Pinnularia appendiculata					0.05	0.00	0.02	0.17				
Surirella ovata					0.14	0.26	0.20	1.67				
Synedra rumpens v. meneghiniana					0.05	0.10	0.07	0.58				
S. socia					0.00	0.05	0.03	0.25				
S. ulna v. oxyrhynchus f. mediocontracta					0.05	0.00	0.02	0.17				
TOTAL BACILLARIOPHYTA					9.48	10.33	9.89	82.67				

APPENDIX TABLE D-1
(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
17 MARCH 1979

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CHLOROPHYTA	Samplers were not recovered								Samplers were not recovered			
Chlamydomonas globosa					0.08	0.47	0.28	2.34				
Oocystis Borgei	due to extreme high water				0.08	0.00	0.04	0.33	due to extreme high water			
Scenedesmus quadricauda					0.00	0.08	0.04	0.33				
TOTAL CHLOROPHYTA	conditions.				0.16	0.55	0.36	3.00	conditions.			
CYANOPHYTA												
Chroococcus sp.					0.00	0.08	0.04	0.33				
Oscillatoria tenuis					0.02	0.00	0.01	0.08				
Oscillatoria sp. 1					0.58	0.40	0.49	4.10				
TOTAL CYANOPHYTA					0.60	0.48	0.54	4.51				
EUGLENOPHYTA												
Trachelomonas sp.					0.08	0.16	0.12	1.00				
TOTAL EUGLENOPHYTA					0.08	0.16	0.12	1.00				
OTHERS												
unidentified phytoflagellate sp. 3					1.09	1.01	1.05	8.78				
TOTAL OTHERS					1.09	1.01	1.05	8.78				
TOTAL PERIPHYTON ± std. dev.					11.41	12.53	11.96±1.05					
TOTAL SPECIES (s)							44					
DIVERSITY INDEX ($\bar{d}$)							3.2192					
EQUITABILITY (e)							0.30					

[a]Relative abundance as percentage of total periphyton.

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
18 MAY 1979

	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 comta					7.30	0.00	3.65	0.16				
C. glomerata					7.30	8.91	8.11	0.35	0.00	3.17	1.58	0.19
C. Kutzingiana v. planetophora	62.92	17.30	40.11	0.74	29.22	8.91	19.06	0.82	0.00	9.51	4.75	0.58
C. Meneghiniana	21.16	17.30	19.23	0.36	7.30	0.00	3.65	0.16				
C. pseudostelligera	41.76	34.60	38.18	0.71	43.82	0.00	21.91	0.94	2.36	3.17	2.76	0.34
C. stelligera	0.00	17.30	8.65	0.16								
Melosira distans					7.30	0.00	3.65	0.16				
M. granulata					0.00	8.91	4.46	0.19	2.36	3.17	2.76	0.34
M. varians	483.29	243.22	363.26	6.73	328.67	96.85	212.76	9.15	14.15	69.71	41.93	5.16
Stephanodiscus astraea	0.00	17.30	8.65	0.16								
Pennales												
Achnanthes minutissima	105.23	51.90	78.57	1.46					2.36	9.51	5.93	0.73
Amphora perpusilla					7.30	0.00	3.65	0.16				
Asterionella formosa	125.83	51.90	88.87	1.65	87.65	70.58	79.11	3.40	14.15	31.69	22.92	2.82
Cymbella affinis	356.90	156.21	256.56	4.75	29.22	8.91	19.06	0.82	23.64	19.01	21.33	2.62
C. minuta v. silesiaca					0.00	8.91	4.46	0.19				
Diatoma tenue v. elongatum	62.92	51.90	57.41	1.06	43.82	26.50	35.16	1.51	16.57	22.18	19.38	2.38
D. vulgare	41.76	34.60	38.18	0.71	65.73	44.09	54.91	2.36	28.36	66.54	47.45	5.84
Fragilaria vaucheriae	21.16	51.90	36.53	0.68	21.91	17.59	19.75	0.85	2.36	6.34	4.35	0.53
Gomphonema angustatum	84.07	17.30	50.69	0.94	7.30	0.00	3.65	0.16				
G. angustatum v. citera	0.00	17.30	8.65	0.16	14.61	8.91	11.76	0.51	0.00	3.17	1.58	0.19
G. dichotomum	21.16	0.00	10.58	0.20								
G. gracile					7.30	0.00	3.65	0.16				
G. olivaceum	714.35	694.56	704.46	13.05	569.70	1410.50	990.10	42.59	182.01	221.89	201.95	24.86
G. parvulum	2899.73	3334.41	3117.07	57.76	409.02	458.44	433.73	18.66	328.52	304.27	316.39	38.94
Navicula cryptocephala									0.00	6.34	3.17	0.39
N. cryptocephala v. veneta	62.92	0.00	31.46	0.58	29.22	8.91	19.06	0.82				
N. graciloides					0.00	8.91	4.46	0.19	0.00	6.34	3.17	0.39
N. tripunctata v. schizonemoides	0.00	17.30	8.65	0.16					0.00	3.17	1.58	0.19
N. viridula	84.07	69.20	76.64	1.42	29.22	35.17	32.19	1.38	0.00	28.52	14.26	1.76
Navicula sp. 2					7.30	0.00	3.65	0.16	0.00	3.17	1.58	0.19
Nitzschia acicularis					14.61	8.91	11.76	0.51				
N. amphibia	0.00	17.30	8.65	0.16					4.72	12.67	8.69	1.07
N. communis v. abbreviata					7.30	8.91	8.11	0.35				
N. dissipata					0.00	8.91	4.46	0.19	0.00	6.34	3.17	0.39
N. palea	146.99	17.30	82.15	1.52	321.37	26.50	173.93	7.48	4.72	12.67	8.69	1.07
Surirella ovata	105.23	104.31	104.77	1.94	0.00	26.50	13.25	0.57	7.07	12.67	9.87	1.21
Synedra acus					7.30	0.00	3.65	0.16	2.36	3.17	2.76	0.34
S. delicatissima	21.16	0.00	10.58	0.20	21.91	0.00	10.96	0.47	2.36	9.51	5.93	0.73
S. rumpens v. familiaris					0.00	17.59	8.79	0.39	4.72	3.17	3.94	0.48
S. socia	21.16	34.60	27.88	0.52	14.61	0.00	7.30	0.31	0.00	3.17	1.58	0.19
S. ulna	84.07	17.30	50.69	0.94	65.73	17.59	41.66	1.79	30.72	44.36	37.54	4.62
Tabellaria floculosa									0.00	3.17	1.58	0.19
TOTAL BACILLARIOPHYTA	5567.84	5086.31	5327.12	98.72	2213.04	2345.91	2279.47	98.07	673.51	931.77	802.57	98.73

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
18 MAY 1979

Taxon	Station and replicate											
	1				3				5			
	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
CHLOROPHYTA												
Actinastrum Hantzschii	0.00	3.38	1.69	0.03					0.00	0.42	0.21	0.03
Ankistrodesmus falcatus	10.13	10.13	10.13	0.19	3.38	8.44	5.91	0.25	0.84	0.85	0.85	0.10
Chlamydomonas globosa	3.38	10.13	6.76	0.12	1.69	6.76	4.23	0.18	0.84	0.42	0.63	0.08
Gloeocystis gigas					0.00	1.69	0.85	0.04				
Scenedesmus abundans v. brevicauda	3.38	0.00	1.69	0.03								
S. quadricauda					0.00	1.69	0.85	0.04	0.00	0.85	0.43	0.05
Sphaerocystis Schroeteri					0.00	1.69	0.85	0.04				
Tetrastrum heteracanthum					1.69	0.00	0.85	0.04				
unidentified coccoid green (4-5 u diam.)									0.42	0.00	0.21	0.03
unidentified coccoid green (6-7 u diam.)					0.00	3.38	1.69	0.07				
TOTAL CHLOROPHYTA	16.89	23.64	20.27	0.37	6.76	23.65	15.23	0.66	2.10	2.54	2.33	0.29
CYANOPHYTA												
Lyngbya sp. 2	3.72	6.42	5.07	0.09	10.30	1.69	6.00	0.26				
Oscillatoria sp. 1	13.51	15.87	14.69	0.27	6.25	8.44	7.35	0.32	3.08	4.44	3.76	0.46
Spirulina major	6.75	4.73	5.74	0.11	0.90	13.17	6.59	0.28	2.83	1.78	2.31	0.28
TOTAL CYANOPHYTA	23.98	27.02	25.50	0.47	16.55	23.30	19.94	0.86	5.91	6.22	6.07	0.74
PROTOZOA												
unidentified ciliated protozoan					1.69	0.00	0.85	0.04	0.00	0.42	0.21	0.03
TOTAL PROTOZOA					1.69	0.00	0.85	0.04	0.00	0.42	0.21	0.03
OTHERS												
Brachionus quadridentatus	3.38	0.00	1.69	0.03								
unidentified phytoflagellate sp. 1	10.13	0.00	5.07	0.09	0.00	1.69	0.85	0.04				
unidentified phytoflagellate sp. 2	3.38	0.00	1.69	0.03	3.38	3.38	3.38	0.14				
unidentified phytoflagellate sp. 3	10.13	20.26	15.20	0.28	6.76	3.38	5.07	0.22	0.84	1.69	1.27	0.16
TOTAL OTHERS	27.02	20.26	23.65	0.43	10.14	8.45	9.30	0.40	0.84	1.69	1.27	0.16
TOTAL PERIPHYTON ± std. dev.	5635.73	5157.23	5396.54± 296.72		2248.18	2401.31	2324.79±202.50		682.36	942.64	812.45±151.00	
TOTAL SPECIES (s)			37				48				38	
DIVERSITY INDEX ($\bar{d}$)			2.5276				3.0711				3.0403	
EQUITABILITY (e)			0.21				0.25				0.31	

[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
9 AUGUST 1979

	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	185.55	204.63	195.09	0.91	78.81	0.00	39.40	0.18	258.02	0.00	129.01	1.33
C. kutzingiana	0.00	101.24	50.62	0.24	0.00	108.80	54.40	0.25	37.12	31.21	34.17	0.35
C. kutzingiana v. planetophora	185.55	101.24	143.39	0.67					37.12	31.21	34.17	0.35
C. Meneghiniana	185.55	204.63	195.09	0.91					73.32	31.21	52.27	0.54
C. pseudostelligera	0.00	204.63	102.31	0.48	78.81	108.80	93.80	0.43	110.45	31.21	70.83	0.73
C. stelligera	185.55	0.00	92.78	0.43								
Melosira granulata	185.55	101.24	143.39	0.67	78.81	108.80	93.80	0.43	73.32	0.00	36.66	0.38
M. varians	2881.04	2552.47	2716.76	12.70	2602.47	3778.25	3190.36	14.51	1768.06	624.94	1196.50	12.33
Pennales												
Achnanthes exigua									0.00	31.21	15.61	0.16
A. linearis f. curta					0.00	108.80	54.40	0.25	0.00	93.64	46.82	0.48
A. minutissima	0.00	101.24	50.62	0.24					37.12	31.21	34.17	0.35
A. submontana	93.77	101.24	97.51	0.46	78.81	108.80	93.80	0.43	37.12	31.21	34.17	0.35
Asterionella formosa	93.77	101.24	97.51	0.46								
Cocconeis placentula v. euglypta	185.55	305.87	245.71	1.15	2366.04	4210.97	3288.51	14.96	1951.83	2342.99	2147.41	22.12
C. placentula v. lineatus	0.00	101.24	50.62	0.24	78.81	0.00	39.40	0.18				
Cymbella affinis	0.00	101.24	50.62	0.24								
C. tumida	185.55	0.00	92.78	0.43	236.43	215.12	225.78	1.03				
Fragilaria vaucheriae									0.00	31.21	15.61	0.16
Gomphonema angustatum	93.77	101.24	97.51	0.46	78.81	0.00	39.40	0.18	37.12	62.42	49.77	0.51
G. angustatum v. productum	93.77	0.00	46.89	0.22	157.62	108.80	133.21	0.61				
G. consector	0.00	101.24	50.62	0.24					0.00	31.21	15.61	0.16
G. dichotomum									0.00	31.21	15.61	0.16
G. gracile	93.77	0.00	46.89	0.22								
G. parvulum	1398.62	611.73	1005.18	4.70	866.91	539.04	702.97	3.20	331.34	624.94	478.14	4.93
G. tenellum	0.00	101.24	50.62	0.24								
Gyrosigma scalproides	0.00	101.24	50.62	0.24					37.12	0.00	18.56	0.19
Navicula biconica	0.00	305.87	152.93	0.71	157.62	0.00	78.81	0.36	183.77	93.64	138.70	1.43
N. cryptocephala	558.65	305.87	432.26	2.02	0.00	108.80	54.40	0.25	0.00	31.21	15.61	0.16
N. graciloides	11468.29	12249.71	11859.00	55.42	9465.91	12956.83	11211.37	50.99	3682.77	2342.99	3012.88	31.04
N. minima	93.77	0.00	46.89	0.22								
N. mutica v. cohnii	0.00	101.24	50.62	0.24	78.81	0.00	39.40	0.18	37.12	0.00	18.56	0.19
N. tripunctata v. schizonemoides									37.12	0.00	18.56	0.19
N. viridula v. rostellata	0.00	305.87	152.93	0.71					0.00	31.21	15.61	0.16
Nitzschia acicularis									0.00	31.21	15.61	0.16
N. amphibia	279.33	715.12	497.22	2.32	0.00	215.12	107.56	0.49	0.00	62.42	31.21	0.32
N. communis	93.77	101.24	97.51	0.46	0.00	215.12	107.56	0.49	73.32	0.00	36.66	0.38
N. communis v. abbreviata	0.00	101.24	50.62	0.24	78.81	215.12	146.97	0.67	73.32	62.42	67.87	0.70

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
Pennales (continued)												
Nitzschia dissipata					0.00	108.80	54.40	0.25				
N. filiformis	558.65	305.87	432.26	2.02	315.24	971.76	643.50	2.93				
N. palea	185.55	1020.99	603.27	2.82	315.24	323.92	319.58	1.45	331.34	156.06	243.70	2.51
Rhoicosphenia curvata									37.12	0.00	18.56	0.19
Surirella ovata					0.00	108.80	54.40	0.25				
Synedra acus	0.00	204.63	102.31	0.48								
S. ulna v. contracta	558.65	510.49	534.57	2.50	394.05	108.80	251.42	1.14	0.00	62.42	31.21	0.32
S. ulna v. oxyrhynchus	93.77	0.00	46.89	0.22								
S. ulna v. oxyrhynchus f. mediocontracta									37.12	0.00	18.56	0.19
TOTAL BACILLARIOPHYTA	19937.79	21526.98	20732.41	96.93	17508.01	24729.25	21118.60	96.09	9282.06	6934.61	8108.39	83.52
CHLOROPHYTA												
Characium ambiguum									0.00	19.88	9.94	0.10
Chlorella sp.	0.00	47.55	23.78	0.11								
Cladophora sp.									35.78	13.91	24.85	0.26
Cosmarium punctulatum v. subpunctulatum					0.00	37.19	18.60	0.08				
Scenedesmus quadricauda									0.00	19.88	9.94	0.10
unidentified coccoid sp. (10-11 µdiam)	48.90	0.00	24.45	0.11					39.75	19.88	29.82	0.31
TOTAL CHLOROPHYTA	48.90	47.55	48.23	0.22	0.00	37.19	18.60	0.08	75.53	73.55	74.55	0.77
CYANOPHYTA												
Lyngbya Nordgaardii	239.62	423.19	331.41	1.55	397.86	1152.68	775.27	3.53	669.76	2168.26	1419.01	14.62
Oscillatoria limosa	0.00	85.59	42.80	0.20								
Oscillatoria sp. 1	0.00	19.02	9.51	0.04	14.88	44.62	29.75	0.13	0.00	3.98	1.99	0.02
Oscillatoria sp. 2	0.00	318.59	159.30	0.74	14.88	0.00	7.44	0.03	7.95	0.00	3.98	0.04
unidentified colonial sp.					37.19	0.00	18.60	0.08				
TOTAL CYANOPHYTA	239.62	846.39	543.02	2.53	464.81	1197.30	831.06	3.77	677.71	2172.24	1424.98	14.68
EUGLENOPHYTA												
Trachelomonas abrupta									19.88	0.00	9.94	0.10
T. volvocina	48.90	0.00	24.45	0.11								
TOTAL EUGLENOPHYTA	48.90	0.00	24.45	0.11					19.88	0.00	9.94	0.10
CRYPTOPHYTA												
cryptophyte sp. 1	48.90	47.55	48.23	0.22					59.62	0.00	29.81	0.31
TOTAL CRYPTOPHYTA	48.90	47.55	48.23	0.22					59.62	0.00	29.81	60.31

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

	Station and replicate											
	1				3				5			
Taxon	A	B	$\bar{x}$	RA[a]	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
PROTOZOA												
Amoeba sp.									0.00	39.75	19.88	0.20
unidentified ciliated protozoan									19.88	0.00	9.94	0.10
TOTAL PROTOZOA									19.88	39.75	29.82	0.30
OTHERS												
unidentified phytoflagellate sp. 3					37.19	0.00	18.60	0.08	39.75	19.88	29.82	0.31
TOTAL OTHERS					37.19	0.00	18.60	0.08	39.75	19.88	29.82	0.31
TOTAL PERIPHYTON ± std. dev.	20324.11	22468.47	21396.34±1677.78		18010.01	25963.74	21986.86±4814.58		10174.44	9240.03	9707.31±738.57	
TOTAL SPECIES (s)			44				31				44	
DIVERSITY INDEX (d)			2.8537				2.5311				3.1042	
EQUITABILITY (e)			0.23				0.25				0.28	

[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
3 NOVEMBER 1979

	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 Meneghiniana	0.00	2.22	1.11	0.25	Samplers were not recovered							
C. pseudostelligera	0.00	2.22	1.11	0.25								
Melosira granulata	0.00	2.22	1.11	0.25	due to field conditions				2.34	0.00	1.17	0.30
M. varians	93.25	261.11	177.18	40.05					55.73	48.33	52.03	13.53
Pennales												
Amphora perpusilla									6.97	0.00	3.48	0.90
A. submontana									4.63	5.06	4.84	1.26
Cocconeis placentula v. euglypta									0.00	1.26	0.63	0.16
Cymbella minuta v. silesiaca									2.34	0.00	1.17	0.30
Diatoma vulgare	212.68	200.81	206.75	46.74					176.46	63.25	119.86	31.17
Fragilaira vaucheriae	3.27	2.22	2.75	0.62					0.00	3.80	1.90	0.49
Frustulia vulgaris									0.00	1.26	0.63	0.16
Gomphonema angustatum	1.62	0.00	0.81	0.18					0.00	16.44	8.22	2.14
G. olivaceum	6.54	8.94	7.74	1.75					76.63	24.04	50.34	13.09
G. parvulum									62.70	27.81	45.26	11.77
Hantzschia amphioxys									2.34	2.52	2.43	0.63
Meridion circulare	1.62	0.00	0.81	0.18					2.34	0.00	1.17	0.30
Navicula biconica									2.34	0.00	1.17	0.30
N. cryptocephala	1.62	4.44	3.03	0.68					20.90	7.58	14.24	3.70
N. cryptocephala v. veneta	0.00	4.44	2.22	0.50					2.34	1.26	1.80	0.47
N. graciloides	0.00	2.22	1.11	0.25					6.97	13.92	10.44	2.71
N. rhyncocephala									0.00	1.26	0.63	0.16
Navicula viridula v. rostellata									4.63	0.00	2.31	0.60
Nitzschia amphibia	1.62	2.22	1.92	0.43					9.31	1.26	5.28	1.37
N. dissipata	0.00	2.22	1.11	0.25					4.63	0.00	2.31	0.60
N. palea									11.59	5.06	8.33	2.17
N. tryblionella									2.34	0.00	1.17	0.30
Rhoicosphenia curvata									0.00	1.26	0.63	0.16
Surirella linearis									0.00	1.26	0.63	0.16
Synedra fasciculata	0.00	2.22	1.11	0.25								
S. minuscula	1.62	0.00	0.81	0.18					4.63	1.26	2.94	0.76
S. pulchella	1.62	2.22	1.92	0.43								
S. radians	3.27	4.44	3.86	0.87					0.00	1.26	0.63	0.16
S. rumpens	1.62	6.72	4.17	0.94					11.59	6.32	8.96	2.33
S. ulna	14.74	13.38	14.06	3.18					32.49	16.44	24.47	6.36
S. ulna v. contracta	3.27	2.22	2.75	0.62								

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
3 NOVEMBER 1979

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)												
S. ulna v. *oxyrhynchus* f. *mediocontracta*	1.62	2.22	1.92	0.43	Samplers were not recovered due to field conditions				2.34	0.00	1.17	0.30
S. ulna v. *ramesi*	1.62	0.00	0.81	0.18					508.58	251.91	380.24	98.81
TOTAL BACILLARIOPHYTA	351.60	528.70	440.17	99.46								
CHLOROPHYTA												
Chlamydomonas globosa									0.92	1.11	1.02	0.26
Chlamydomonas sp.	0.00	1.81	0.91	0.21					0.00	0.51	0.26	0.07
Oocystis sp.									0.92	0.00	0.46	0.12
Tetraedron minimum									0.92	0.00	0.46	0.12
TOTAL CHLOROPHYTA	0.00	1.81	0.91	0.21					2.76	1.62	2.20	0.57
CYANOPHYTA												
Gomphosphaeria lacustris	0.00	0.89	0.45	0.10					0.00	0.60	0.30	0.08
Oscillatoria sp. 1	0.29	0.44	0.37	0.08					1.19	0.00	0.60	0.16
Oscillatoria sp. 2	0.00	0.18	0.09	0.02								
Rhabdoderma lineare	0.72	0.00	0.36	0.08					0.00	0.60	0.30	0.08
TOTAL CYANOPHYTA	1.01	1.51	1.27	0.28					1.19	1.20	1.20	0.32
EUGLENOPHYTA												
Trachelomonas spp.									1.83	0.00	0.92	0.24
TOTAL EUGLENOPHYTA									1.83	0.00	0.92	0.24
TOTAL PERIPHYTON ± std. dev.	352.61	532.02	442.35 ±112.62						514.36	254.73	384.56 ±155.68	
TOTAL SPECIES (s)	28								39			
DIVERSITY INDEX ($\bar{d}$)	1.9504								3.4334			
EQUITABILITY (e)	0.18								0.40			

[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
19 MARCH 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Centrales				
Cyclotella Kutzingiana	0.21	1.60	0.90	0.82
C. Meneghiniana	0.00	1.60	0.80	0.73
Melosira granulata	3.36	34.48	18.92	17.31
Pennales				
Achnanthes deflexa	1.28	1.60	1.44	1.32
A. lanceolata	0.00	1.60	0.80	0.73
A. lanceolata v. dubia	0.21	0.00	0.11	0.10
A. minutissima	1.49	4.63	3.06	2.80
Amphora perpusilla	0.85	3.19	2.02	1.85
A. veneta	0.00	3.19	1.60	1.46
Cocconeis pediculus	0.00	1.60	0.80	0.73
C. placentula v. euglypta	0.00	3.19	1.60	1.46
Cymbella affinis	0.43	1.60	1.01	0.92
Diatoma vulgare	0.00	1.60	0.80	0.73
Gomphonema angustatum	0.43	11.01	5.72	5.23
G. olivaceum	0.21	0.00	0.11	0.10
G. parvulum	0.21	3.19	1.70	1.56
Meridion circulare	2.51	6.23	4.37	4.00
Navicula biconica	0.21	1.60	0.90	0.82
N. cryptocephala	0.21	0.00	0.11	0.10
N. rhyncocephala	0.00	3.19	1.60	1.46
N. rhyncocephala v. germainii	0.85	1.60	1.22	1.12
Navicula sp. 2	0.00	1.60	0.80	0.73
Nitzschia amphibia	9.28	20.43	14.86	13.60
N. hungarica	0.00	1.60	0.80	0.73
N. linearis	0.00	1.60	0.80	0.73
N. palea	0.85	7.82	4.34	3.97
Pinnularia brebissonii v. minuta	0.21	3.19	1.70	1.56
Surirella linearis	0.43	0.00	0.21	0.19
S. ovata	29.72	32.88	31.30	28.64
Synedra ulna	0.43	4.63	2.53	2.31
TOTAL BACILLARIOPHYTA	53.38	160.45	106.93	97.84

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
19 MARCH 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CHLOROPHYTA				
Ankistrodesmus falcatus	1.02	0.49	0.76	0.70
TOTAL CHLOROPHYTA	1.02	0.49	0.76	0.70
CYANOPHYTA				
Oscillatoria sp. 1	0.97	1.23	1.10	1.01
TOTAL CYANOPHYTA	0.97	1.23	1.10	1.01
CRYPTOPHYTA				
cryptophyte sp. 1	0.51	0.49	0.50	0.46
TOTAL CRYPTOPHYTA	0.51	0.49	0.50	0.46
TOTAL PERIPHYTON ± std. dev.	55.88	162.66	109.29	±62.17
TOTAL SPECIES (s)			33	
DIVERSITY INDEX ($\bar{d}$)			3.6647	
EQUITABILITY (e)			0.56	

[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
18 MAY 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achnanthes lanceolata	15.31	45.06	30.18	0.73
A. lanceolata v. dubia	0.00	15.16	7.58	0.18
A. linearis f. curta	15.31	15.16	15.23	0.37
A. minutissima	321.44	587.40	454.42	10.97
Amphora perpusilla	107.15	60.21	83.68	2.02
Cocconeis placentula v. euglypta	0.00	15.16	7.58	0.18
Cymbella affinis	76.53	90.53	83.53	2.02
Diatoma vulgare	153.06	210.96	182.01	4.39
Fragilaria construens v. pumila	15.31	0.00	7.65	0.18
Frustulia rhomboides v. (?)	0.00	15.16	7.58	0.18
Gomphonema angustatum	30.16	45.06	37.84	0.91
G. olivaceum	153.06	165.49	159.28	3.84
G. olivaceum v. calcarea	61.23	45.06	53.14	1.28
G. parvulum	61.23	165.49	113.36	2.74
Hantzschia amphioxys	61.23	90.53	75.88	1.83
Navicula cryptocephala	15.31	15.16	15.23	0.37
N. cryptocephala v. veneta	45.92	29.90	37.91	0.91
N. graciloides	30.61	75.37	52.99	1.28
N. mutica v. cohnii	15.31	15.16	15.23	0.37
N. viridula	15.31	0.00	7.65	0.18
Navicula sp. 2	45.92	0.00	22.96	0.55
Nitzschia amphibia	1945.13	1551.24	1748.19	42.20
N. dissipata	15.31	0.00	7.65	0.18
N. hungarica	30.61	15.16	22.88	0.55
N. Kutzingiana	153.06	120.43	136.75	3.30
N. palea	107.15	75.37	91.26	2.20
Pinnularia brebissonii v. diminuta	0.00	15.16	7.58	0.18
Rhoicosphenia curvata	183.68	75.37	129.52	3.13
Surirella ovata	229.60	406.75	318.18	7.68
Synedra acus	0.00	60.21	30.11	0.73
S. rumpens v. familiaris	0.00	29.90	14.95	0.36
S. socia	0.00	15.16	7.58	0.18
S. ulna	122.45	29.90	76.18	1.84
TOTAL BACILLARIOPHYTA	4026.84	4096.67	4061.74	98.01

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
18 MAY 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CHLOROPHYTA				
Ankistrodesmus falcatus	0.00	9.09	4.55	0.11
Oedogonium sp.	46.83	0.00	23.42	0.56
TOTAL CHLOROPHYTA	46.83	9.09	27.97	0.67
CYANOPHYTA				
Lyngbya Diquetii	8.64	21.83	15.24	0.37
Lyngbya sp. 2	0.00	4.10	2.05	0.05
Oscillatoria limosa	1.82	3.18	2.50	0.06
Oscillatoria sp. 1	29.55	21.82	25.69	0.62
Oscillatoria sp. 2	4.10	0.00	2.05	0.05
Rhaphidiopsis curvata	0.91	0.00	0.46	0.01
TOTAL CYANOPHYTA	45.02	50.93	47.99	1.16
OTHERS				
unidentified phytoflagellate sp. 2	0.00	4.55	2.28	0.06
unidentified phytoflagellate sp. 3	0.00	4.55	2.28	0.06
TOTAL OTHERS	0.00	9.10	4.56	0.12
TOTAL PERIPHYTON ± std. dev.	4118.69	4165.79	4142.26 ± 203.57	
TOTAL SPECIES (s)			43	
DIVERSITY INDEX ($\bar{d}$)			3.4416	
EQUITABILITY (e)			0.36	

[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
9 AUGUST 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achanthes affinis	408.83	163.86	286.34	9.99
A. lanceolata	0.00	8.26	4.13	0.14
A. linearis f. curta	384.89	122.94	253.92	8.86
A. minutissima	144.38	139.27	141.83	4.95
Amphora perpusilla	72.19	950.68	511.44	17.85
Cymbella affinis	0.00	8.26	4.13	0.14
C. minuta v. silesiaca	48.25	0.00	24.13	0.84
Gomphonema angustatum	0.00	8.26	4.13	0.14
G. parvulum	120.06	8.26	64.16	2.24
Gyrosigma nodiferum	48.25	0.00	24.13	0.84
Navicula biconica	23.94	0.00	11.97	0.42
N. cryptocephala	96.13	8.26	52.19	1.82
N. cryptocephala v. veneta	23.94	8.26	16.10	0.56
N. graciloides	192.26	16.33	104.29	3.64
N. schroeteri v. escambia	697.21	106.61	401.91	14.02
N. tripunctata v. schizonemoides	23.94	8.26	16.10	0.56
Navicula sp. 2	96.13	16.33	56.23	1.96
Nitzschia amphibia	144.38	114.69	129.53	4.52
N. communis	288.38	8.26	148.32	5.18
N. communis v. abbreviata	72.19	16.33	44.26	1.54
N. filiformis	48.25	0.00	24.13	0.84
N. hungarica	120.06	8.26	64.16	2.24
N. palea	264.45	40.92	152.68	5.33
Pinnularia sp. 1	0.00	8.26	4.13	0.14
Rhoicosphenia curvata	72.19	0.00	36.10	1.26
Surirella ovata	408.83	24.59	216.71	7.56
TOTAL BACILLARIOPHYTA	3799.13	1795.15	2797.15	97.58
CHLOROPHYTA				
Characium ambiguum	0.00	3.67	1.84	0.06
Kirchneriella subsolitaria	7.92	0.00	3.96	0.14
unidentified coccoid sp. (6-7 μ diam.)	7.92	0.00	3.96	0.14
TOTAL CHLOROPHYTA	15.84	3.67	9.76	0.34

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
9 AUGUST 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
CYANOPHYTA				
Chroococcus sp.	7.92	0.00	3.96	0.14
Lyngbya Diguetii	0.00	3.30	1.65	0.06
Oscillatoria sp. 1	22.17	5.13	13.65	0.48
Oscillatoria sp. 2	6.34	5.86	6.10	0.21
unidentified filamentous sp.	50.66	8.06	29.36	1.02
TOTAL CYANOPHYTA	87.09	22.35	54.72	1.91
PYRRHOPHYTA				
Glenodinium sp.	7.92	0.00	3.96	0.14
TOTAL PYRRHOPHYTA	7.92	0.00	3.96	0.14
TOTAL PERIPHYTON ±std. dev.	3909.98	1821.17	2865.59±1214.23	
TOTAL SPECIES (s)			35	
DIVERSITY INDEX (d)			3.9706	
EQUITABILITY (e)			0.65	

[a]Samples were scraped from rocks in 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
3 NOVEMBER 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA				
Pennales				
Achnanthes affinis	495.29	248.60	371.95	5.57
A. linearis f. curta	329.70	198.77	264.23	3.95
A. minutissima	759.05	397.53	578.29	8.66
Amphora perpusilla	2739.48	1117.85	1928.67	28.87
A. submontana	0.00	24.92	12.46	0.19
Cocconeis pediculus	65.94	99.10	82.52	1.24
Cymbella affinis	0.00	24.92	12.46	0.19
C. minuta	65.94	74.75	70.34	1.05
C. minuta v. silesiaca	32.97	24.92	28.94	0.43
Diatoma vulgare	0.00	24.92	12.46	0.19
Gomphonema angustatum	0.00	99.10	49.55	0.74
G. olivaceum	65.94	24.92	45.43	0.68
G. parvulum	32.97	74.75	53.86	0.81
Gyrosigma nodiferum	32.97	49.83	41.40	0.62
Hantzschia amphioxys	0.00	99.10	49.55	0.74
Meridion circulare	0.00	24.92	12.46	0.19
Navicula cincta	65.94	0.00	32.97	0.49
N. cryptocephala	65.94	49.83	57.89	0.87
N. cryptocephala v. veneta	65.94	173.85	119.89	1.79
N. graciloides	98.91	24.92	61.91	0.93
N. minima	0.00	24.92	12.46	0.19
N. mutica v. cohnii	363.42	173.85	268.63	4.02
N. pupula	0.00	24.92	12.46	0.19
N. rhyncocephala	0.00	74.75	37.38	0.56
N. rhyncocephala v. germainii	65.94	0.00	32.97	0.49
N. schroeteri v. escambia	0.00	149.50	74.75	1.12
N. tripunctata v. schizonemoides	131.88	173.85	152.86	2.29
Navicula sp. 2	98.91	74.75	86.83	1.30
Nitzschia amphibia	1650.73	1291.70	1471.22	22.02
N. communis	0.00	149.50	74.75	1.12
N. fonticola	65.94	74.75	70.34	1.05
N. hungarica	65.94	74.75	70.34	1.05
N. ignorata	0.00	49.83	24.92	0.37

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
3 NOVEMBER 1979

Taxon	Replicate A	Replicate B	$\bar{x}$	RA[b]
BACILLARIOPHYTA (continued)				
N. Kutzingiana	0.00	99.10	49.55	0.74
N. palea	65.94	49.83	57.89	0.87
Rhoicosphenia curvata	32.97	99.10	66.04	0.99
Surirella linearis	32.97	0.00	16.48	0.25
S. ovata	0.00	223.68	111.84	1.67
TOTAL BACILLARIOPHYTA	7491.62	5666.28	6578.94	98.49
CHLOROPHYTA				
Crucigenia quadrata	17.10	0.00	8.55	0.13
Dictyosphaerium pulchellum	17.10	0.00	8.55	0.13
TOTAL CHLOROPHYTA	34.20	0.00	17.10	0.26
CYANOPHYTA				
Lyngbya Diguetii	45.46	0.00	22.73	0.34
Lyngbya sp. 1	25.37	0.00	12.69	0.19
Oscillatoria sp. 1	0.00	80.77	40.39	0.60
TOTAL CYANOPHYTA	70.83	80.77	75.81	1.13
OTHERS				
unidentified phytoflagellate sp. 3	16.74	0.00	8.37	0.12
TOTAL OTHERS	16.74	0.00	8.37	0.12
TOTAL PERIPHYTON ± std. dev.	7613.39	5747.05	6680.22±	1160.04
TOTAL SPECIES (s)			44	
DIVERSITY INDEX ($\bar{d}$)			3.7323	
EQUITABILITY (e)			0.44	

[a]Samples 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
17 MARCH 1979

Replicate	Station 1[a]	3	5[a]	6[b]
C		0.3		0.2
D		<0.1		4.2
E		0.2		2.2
Mean (±std. dev.)		0.2±0.2		2.2±2.0

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

[b]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
18 MAY 1979

	Station			
Replicate	1	3	5	6[a]
C	3.6	3.0	0.2	7.8
D	1.7	2.3	0.9	13.4
E	2.2	1.8	1.6	21.3
Mean (± std. dev.)	2.5±1.0	2.4±0.6	0.9±0.7	14.2±6.8

[a]Scraped from rocks in a partially shaded environment.

APPENDIX TABLE D-11

PERIPHYTON BIOMASS (mg/10 cm^2)
MARBLE HILL PLANT SITE
9 AUGUST 1979

	Station			
Replicate	1	3	5	6[a]
C	15.6	12.5	4.5	1.7
D	7.9	9.5	10.6	2.5
E	7.4	12.7	5.9	1.6
Mean (±std. dev.)	10.3±4.6	11.6±1.8	7.0±3.2	1.9±0.5

[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
3 NOVMEBER 1979

	Station			
Replicate	1	3[a]	5	6[b]
C	Periphyton biomass on artificial substrates at Stations 1 and 5 was extremely sparse, and biomass was less than could be reliably measured.			2.1
D				3.9
E				4.6
Mean (±std. dev.)				3.5±1.3

[a]Samples lost due to field conditions.

[b]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
18 MARCH 1979

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	2	1	1.5	1	1	1.0
ANNELIDA subtotal	2(<0.001)	1(<0.001)	1.5(<0.001)	1(<0.001)	1(<0.001)	1.0(<0.001)
ARTHROPODA						
Insecta						
Diptera						
Coelotanypus sp.	-	1	0.5	-	-	-
ARTHROPODA subtotal	- (0.0)	1(<0.001)	0.5(<0.001)	0 (0.0)	0 (0.0)	0 (0.0)
Total individuals	2	2	2.0	1	1	1.0
Total biomass (g)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Density (no./m^2)			38			19
Biomass (g/m^2)			<0.019			<0.019
Index of diversity			0.81			0.0
Equitability			0.99			1.0

APPENDIX TABLE E-2

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
18 MARCH 1979

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	29	17	23.0	1	3	2.0
Peloscolex sp.	-	1	0.5	-	-	-
ANNELIDA subtotal	29 (0.010)	18 (0.007)	23.5 (0.009)	1(<0.001)	3(<0.001)	2.0(<0.001)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	-	-	-	-	2	1.0
MOLLUSCA subtotal	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.006)	1.0 (0.003)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	3	-	1.5
Insecta						
Diptera						
Chironomus attenuatus	-	-	-	-	6	3.0
Coelotanypus sp.	1	-	0.5	-	-	-
Cricotopus sp.	1	-	0.5	-	2	1.0
Orthocladius sp.	-	-	-	-	2	1.0
Tipula sp.	-	-	-	1	-	0.5

APPENDIX TABLE E-2
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
18 MARCH 1979

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Insecta (continued)						
Coleoptera						
Dubiraphia sp.	-	-	-	-	1	0.5
Odonata						
Gomphus lentulus	-	-	-	-	1	0.5
Ephemeroptera						
Hexagenia limbata	-	-	-	-	1	0.5
ARTHROPODA subtotal	2(<0.001)	0 (0.0)	1.0(<0.001)	1 (0.001)	13 (0.003)	7 (0.002)
Total individuals	31	18	24.5	5	18	11.5
Total biomass (g)	0.010	0.007	0.009	0.002	0.010	0.006
Density (no./m^2)			468			220
Biomass (g/m^2)			0.153			0.115
Index of diversity			0.43			3.03
Equitability			0.38			1.15

APPENDIX TABLE E-3

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
18 MARCH 1979

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	11	31	21.0	2	2	2.0
ANNELIDA subtotal	11(0.001)	31(0.002)	21.0 (0.002)	2(<0.001)	2(<0.001)	2.0(<0.001)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	1	-	0.5
Insecta						
Diptera						
Cricotopus sp.	-	-	-	-	1	0.5
Ephemeroptera						
Hexagenia limbata	-	1	0.5	-	-	-
ARTHROPODA subtotal	0(0.0)	1(0.001)	0.5(<0.001)	1(<0.001)	1(<0.001)	1.0(<0.001)
Total individuals	11	32	21.5	3	3	3.0
Total biomass (g)	0.001	0.003	0.002	<0.001	<0.001	<0.001
Density (no./m^2)			411			57
Biomass (g/m^2)			0.038			<0.019
Index of diversity			0.16			1.25
Equitability			0.60			0.97

APPENDIX TABLE E-4

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
19 MAY 1979

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	-	1	0.5
PLATYHELMINTHES subtotal	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.002)	0.5 (0.001)
ANNELIDA						
Oligochaeta						
Limnodrilus hoffmeisteri	8	3	5.5	-	4	2.0
immature tubificids	-	8	4.0	-	5	2.5
Hirudinia						
Placobdella sp.	-	-	-	-	1	0.5
ANNELIDA subtotal	8 (0.001)	11 (0.002)	9.5 (0.002)	0 (0.0)	10 (0.039)	5.0 (0.020)
MOLLUSCA						
Gastropoda						
Pleurocera acutum	-	-	-	-	1	0.5
MOLLUSCA subtotal	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.059)	0.5 (0.030)

APPENDIX TABLE E-4
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
19 MAY 1979

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	3	17	10.0	6	21	13.5
Insecta						
Diptera						
Chironomus attenuatus	-	1	0.5	-	-	-
Cryptochironomus fulvus	1	-	0.5	-	-	-
Dicrotendipes modestus	-	1	0.5	-	-	-
Micropsectra sp.	-	1	0.5	-	-	-
ARTHROPODA subtotal	4 (0.001)	20(0.004)	12 (0.003)	6 (0.001)	21 (0.005)	13.5 (0.003)
Total individuals	12	31	21.5	6	33	19.5
Total biomass (g)	0.002	0.006	0.004	0.001	0.098	0.050
Density (no./m^2)			411			373
Biomass (g/m^2)			0.077			0.956
Index of diversity			1.97			1.49
Equitability			0.74			0.59

APPENDIX TABLE E-5

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
19 MAY 1979

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	-	3	1.5
Limnodrilus hoffmeisteri	56	69	62.5	-	9	4.5
Peloscolex sp.	1	4	2.5	-	3	1.5
immature tubificids	132	122	127.0	3	37	20.0
ANNELIDA subtotal	189(0.154)	196(0.118)	192.5(0.136)	3(0.001)	52(0.019)	27.5(0.010)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	-	-	-	-	8	4.0
Sphaerium sp.	-	-	-	4	1	2.5
MOLLUSCA subtotal	0(0.0)	0(0.0)	0(0.0)	4(0.019)	9(0.065)	6.5(0.042)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	2	1.0	16	3	9.5

APPENDIX TABLE E-6

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
19 MAY 1979

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	2	-	1.0	1	-	0.5
Limnodrilus hoffmeisteri	7	6	6.5	4	3	3.5
immature tubificids	28	32	30.0	38	2	20.0
ANNELIDA subtotal	37 (0.011)	38(0.009)	37.5 (0.010)	43 (0.009)	5(0.001)	24.0 (0.005)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	-	-	-	1	2	1.5
Sphaerium sp.	-	1	0.5	-	-	-
MOLLUSCA subtotal	0 (0.0)	1 (0.012)	0.5 (0.006)	1 (0.031)	2 (0.018)	1.5 (0.025)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	-	2	1.0

APPENDIX TABLE E-6
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
19 MAY 1979

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (continued)						
Insecta						
Diptera						
Chironomus attenuatus	-	-	-	-	2	1.0
Dicrotendipes modestus	1	-	0.5	-	1	0.5
Micropsectra sp.	-	-	-	-	2	1.0
Ephemeroptera						
Hexagenia limbata	-	-	-	2	2	2.0
ARTHROPODA subtotal	1 (<0.001)	0 (0.0)	0.5 (<0.001)	2 (0.006)	9 (0.004)	5.5 (0.005)
Total individuals	38	39	38.5	46	16	31.0
Total biomass (g)	0.012	0.021	0.017	0.046	0.023	0.035
Density (no./m^2)			736			593
Biomass (g/m^2)			0.325			0.669
Index of diversity			1.01			1.90
Equitability			0.48			0.54

APPENDIX TABLE E-7

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
11 AUGUST 1979

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES						
Turbellaria						
Phagocata velata	-	-	-	1	-	0.5
PLATYHELMINTHES subtotal	0 (0)	0 (0)	0 (0)	1(0.001)	0 (0)	0.5 (<0.001)
ANNELIDA						
Hirudinea						
Helobdella fusca	-	-	-	-	2	1.0
Oligochaeta						
Branchiura sowerbyi	-	2	1.0	-	-	-
Limnodrilus hoffmeisteri	2	34	18.0	1	1	1.0
ANNELIDA subtotal	2(<0.001)	36(0.018)	19.0 (0.009)	1(<0.001)	3 (0.011)	2.0 (0.005)
MOLLUSCA						
Gastropoda						
Gundlachia sp.	-	-	-	-	1	0.5
Pyrgulopsis sp.	-	-	-	1	1	1.0
Somatogyrus sp.	1	1	1.0	6	5	5.5
Pelecypoda						
Corbicula manilensis	-	4	2.0	-	-	-
Sphaerium sp.	2	1	1.5	-	-	-
MOLLUSCA subtotal	3 (0.010)	6 (0.015)	4.5 (0.013)	7 (0.029)	7 (0.021)	7 (0.025)

APPENDIX TABLE E-7
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
11 AUGUST 1979

	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Acarina						
Hydrachna sp.	-	1	0.5	-	-	-
Crustacea						
Gammarus pseudolimnaeus	3	-	1.5	1	4	2.5
Insecta						
Diptera						
Ablabesmyia rhamphe	-	2	1.0	-	-	-
Coelotanypus sp.	2	-	1.0	-	-	-
Cricotopus sp.	-	-	-	-	1	0.5
Trichoptera						
Cyrnellus fraternus	-	-	-	-	6	3.0
Hydropsyche orris	-	-	-	14	21	17.5
Ephemeroptera						
Hexagenia limbata	-	1	0.5	-	-	-
Stenonema interpunctatum	-	-	-	1	-	0.5
ARTHROPODA subtotal	5 (0.002)	4 (0.021)	4.5 (0.012)	16 (0.003)	32 (0.058)	24 (0.029)
Total individuals	10	46	28.0	25	42	33.5
Total biomass (g)	0.013	0.054	0.034	0.033	0.091	0.062
Density (no./m^2)			535			641
Biomass (g/m^2)			0.650			1.185
Index of diversity			2.02			2.32
Equitability			0.54			0.61

APPENDIX TABLE E-8

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
11 AUGUST 1979

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	2	1.5	-	-	-
Limnodrilus hoffmeisteri	53	62	57.5	21	12	16.5
ANNELIDA subtotal	54 (0.010)	64 (0.017)	59.0 (0.014)	21 (0.008)	12 (0.002)	16.5 (0.005)
MOLLUSCA						
Gastropoda						
Pleurocera acuta	-	-	-	1	-	0.5
Somatogyrus sp.	-	-	-	3	1	2.0
Pelecypoda						
Corbicula manilensis	-	-	-	2	2	2.0
Megalonais gigantea	-	-	-	2	-	1.0
Sphaerium sp.	1	5	3.0	7	3	5.0
MOLLUSCA subtotal	1 (0.003)	5 (0.008)	3.0 (0.005)	15 (0.047)	6 (0.036)	10.5 (0.041)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	1	-	0.5	7	3	5.0
Lirceus fontinalis	-	-	-	1	-	0.5

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

Species	Number of individuals (biomass in grams)					
	Shallow water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA (continued)						
Insecta						
Diptera						
Ablabesmyia rhamphe	3	4	3.5	-	-	-
Coelotanypus sp.	-	4	2.0	1	2	1.5
Cricotopus sp.	1	2	1.5	-	-	-
Eukiefferiella sp.	-	2	1.0	1	-	0.5
Odonata						
Macromia illinoisense	-	-	-	-	1	0.5
Coleoptera						
Dubiraphia sp.	-	-	-	-	1	0.5
ARTHROPODA subtotal	5 (0.002)	12 (0.002)	8.5 (0.002)	10 (0.005)	7 (0.028)	8.5 (0.017)
Total individuals	60	81	70.5	46	25	35.5
Total biomass (g)	0.015	0.027	0.021	0.060	0.066	0.063
Density (no./m^2)			1348			679
Biomass (g/m^2)			0.402			1.205
Index of diversity			1.17			2.54
Equitability			0.34			0.67

APPENDIX TABLE E-9

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
11 AUGUST 1979

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	2	-	1.0	1	-	0.5
Limnodrilus hoffmeisteri	38	72	55.0	3	9	6.0
Peloscolex sp.	3	-	1.5	-	-	-
ANNELIDA subtotal	43 (0.020)	72 (0.019)	57.5 (0.020)	4 (0.001)	9 (0.006)	6.5 (0.004)
MOLLUSCA						
Pelecypoda						
Corbicula manilensis	1	1	1.0	1	3	2.0
Sphaerium sp.	3	4	3.5	1	1	1.0
MOLLUSCA subtotal	4 (0.020)	5 (0.005)	4.5 (0.012)	2 (0.008)	4 (0.025)	3.0 (0.016)
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	-	-	-	1	-	0.5
Insecta						
Ablabesmyia rhamphe	11	6	8.5	1	-	0.5
Coelotanypus sp.	2	1	1.5	-	2	1.0
Cricotopus sp.	-	-	-	1	-	0.5
Ephemeroptera						
Hexagenia interpunctatum	1	-	0.5	-	-	-
ARTHROPODA subtotal	14 (0.010)	7 (0.001)	10.5 (0.006)	3 (0.002)	2 (<0.001)	2.5 (0.001)

APPENDIX TABLE E-9
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
11 AUGUST 1979

	Number of individuals (biomass in grams)					
	Shallow water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	61	84	72.5	9	15	12.0
Total biomass (g)	0.050	0.026	0.038	0.011	0.030	0.021
Density (no./m^2)			1386			229
Biomass (g/m^2)			0.727			0.402
Index of diversity			1.33			2.29
Equitability			0.38			0.83

APPENDIX TABLE E-10

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 1, MARBLE HILL PLANT SITE
2 NOVEMBER 1979

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						
imature tubificids	1	-	0.5	-	-	-
ANNELIDA subtotal	1 (<0.001)	0 (0.0)	0.5 (<0.001)	0 (0.0)	0 (0.0)	0 (0.0)
MOLLUSCA						
Pelecypoda						
Sphaerium sp.	-	-	-	1	1	1
MOLLUSCA subtotal	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.002)	1 (0.002)	1 (0.002)
ARTHROPODA						
Crustacea						
Gammarus pseudolimneus	1	-	0.5	-	-	-
Insecta						
Diptera						
Micropsectra sp.	-	-	-	-	1	0.5
Trichoptera						
Potamyia flava	-	1	0.5		5	2.5
ARTHROPODA subtotal	1 (0.002)	1 (0.001)	1.0 (0.002)	0 (0.0)	6 (0.003)	3.0 (0.002)
Total individuals	2	1	1.5	1	7	4.0
Total biomass (g)	0.002	0.001	0.002	0.002	0.005	0.004
Density (no./m^2)			29			76
Biomass (g/m^2)			0.038			0.009
Index of diversity			1.58			1.55
Equitability			1.27			0.92

APPENDIX TABLE E-11

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 3, MARBLE HILL PLANT SITE
2 NOVEMBER 1979

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	-	3	1.5	11	-	5.5
PLATYHELMINTHES subtotal	-	3 (0.003)	1.5 (0.002)	11 (0.006)	- (0.0)	5.5 (0.003)
ANNELIDA						
Hirundinea						
Helobdella sp.	-	1	0.5	2	-	1
Oligochaeta						
Limnodrilus hoffmeisteri	1	-	0.5	-	2	1
immature tubificids	27	9	18	14	17	15.5
Tubifex tubifex	2	-	1	-	-	-
Branchiura sowerbyi	-	-	-	-	1	0.5
Lumbriculidae	1	-	0.5	-	-	-
ANNELIDA subtotal	31 (0.012)	10 (0.012)	20.5 (0.012)	16 (0.009)	20 (0.009)	18 (0.009)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	2	1	5	-	2.5
Pelecypoda						
Corbicula manilensis	3	-	1.5	9	-	4.5
Truncilla donaciformis	-	1	0.5	-	-	-
Sphaerium sp.	-	-	-	11	-	5.5
MOLLUSCA subtotal	3 (0.004)	3 (0.022)	3 (0.013)	25 (0.161)	0 (0.0)	12.5 (0.081)

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

Species	Number of individuals (biomass in grams)					
	Shallow Water			Deep Water		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA						
Crustacea						
Gammarus pseudolimnaeus	1	-	0.5	4	-	2
Lirceus fontinalis	-	-	-	1	-	0.5
Insecta						
Diptera						
Ablabesmyia rhamphe	-	-	-	10	-	5
Coelotanypus scapularis	-	-	-	2	-	1
Procladius sp.	-	-	-	-	6	3
Cryptochironomus sp.	-	-	-	1	-	0.5
Polypedilum sp.	-	-	-	1	-	0.5
Ephemeroptera						
Stenonema sp.	-	-	-	5	1	3
Caenis sp.	-	-	-	1	-	0.5
Megaloptera						
Sialis sp.	-	-	-	1	-	0.5
Trichoptea						
Hydropsyche orris	-	-	-	10	-	5
Potamyia flava	-	-	-	26	7	16.5
Triaenodes sp.	-	-	-	1	-	0.5
Neureclipsis sp.	-	-	-	8	2	5
ARTHROPODA subtotal	1 (<0.001)	0 (0.0)	0.5 (<0.001)	71 (0.028)	16 (0.004)	43.5 (0.016)

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

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	35	16	25.5	123	36	52
Total biomass (g)	0.016	0.037	0.027	0.204	0.013	0.109
Density (no./m^2)			488			977
Biomass (g/m^2)			0.516			2.084
Index of diversity			2.21			4.02
Equitability			0.62			0.95

APPENDIX TABLE E-12

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 5, MARBLE HILL PLANT SITE
2 NOVEMBER 1979

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
Coelotanypus scapularis	2	-	1	-	-	-
Cryptochironomus sp.	-	-	-	1	-	0.5
Xenochironomus sp.	-	-	-	3	2	2.5
Anceus sp.						
Ephemeroptera						
Stenonema sp.	-	-	-	3	-	1.5
Hexagenia limbata	-	-	-	5	4	4.5
Trichoptera						
Hydropsyche orris	-	-	-	1	-	0.5
Polycentropus sp.	-	-	-	-	1	0.5
Oecetis sp.	-	-	-	3	2	2.5
ARTHROPODA subtotal	2 (0.002)	0 (0.0)	1 (0.001)	17 (0.021)	9 (0.008)	13 (0.015)
Total individuals	109	85	97	45	24	34.5
Total biomass (g)	0.073	0.061	0.067	0.077	0.029	0.053
Density (no./m^2)			1855			660
Biomass (g/m^2)			1.281			1.013
Index of diversity			2.65			3.82
Equitability			0.79			1.08

APPENDIX TABLE E-13

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
18 MARCH 1979

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	1	-	0.5	2	-	1.0
ANNELIDA subtotal	1(<0.001)	0(0.0)	0.5(<0.001)	2(<0.001)	0(0.0)	1.0(<0.001)
Total individuals	1	0	0.5	2	0	1.0
Total biomass (g)	<0.001	0.0	<0.001	<0.001	0.0	<0.001
Density (no./m^2)			5			11
Biomass (g/m^2)			<0.010			<0.010
Index of diversity			0.0			0.0
Equitability			1.0			1.0

APPENDIX TABLE E-14

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
19 MAY 1979

Species	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA						
Oligochaeta						
immature tubificids	1	2	1.5	1	1	1.0
ANNELIDA subtotal	1 (<0.001)	2 (0.001)	1.5 (<0.001)	1 (<0.001)	1 (<0.001)	1.0 (<0.001)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	1	-	0.5	-	-	-
Insecta						
Diptera						
Chironomus attenuatus	-	3	1.5	2	2	2.0
Cryptochironomus fulvus	-	10	5.0	-	6	3.0
Dicrotendipes modestus	4	5	4.5	1	3	2.0
Micropsectra sp.	-	4	2.0	2	1	1.5
Polypedilum halterale	-	-	-	-	3	1.5
ARTHROPODA subtotal	5 (0.004)	22 (0.006)	13.5 (0.005)	5 (0.002)	15 (0.002)	10.0 (0.002)

APPENDIX TABLE E-14
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
19 MAY 1979

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	6	24	15.0	6	16	11.0
Total biomass (g)	0.004	0.007	0.006	0.002	0.002	0.002
Density (no./m^2)			161.5			118.5
Biomass (g/m^2)			0.059			0.022
Index of diversity			2.26			2.50
Equitability			1.07			1.29

APPENDIX TABLE E-15

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
11 AUGUST 1979

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	11	6.0	-	2	1.0
Synurella dentata	-	1	0.5	-	-	-
Insecta						
Diptera						
Cardiocladius sp.	1	2	1.5	1	1	1.0
Chironomus attenuatus	-	1	0.5	-	-	-
Cricotopus sp.	1	2	1.5	1	1	1.0
Cryptochironomus fulvus	-	2	1.0	-	-	-
Eukiefferiella sp.	-	-	-	1	-	0.5
Polypedilum halterale	1	-	0.5	-	-	-
Probezzia sp.	-	1	0.5	-	-	-
Hemerodromia sp.	-	1	0.5	-	-	-
Trichoptera						
Hydroptila waubesiana	-	4	2.0	2	-	1.0
Hydropsyche orris	2	2	2.0	-	-	-
Ephemeroptera						
Stenonema heterotarsale	-	1	0.5	-	-	-
Coleoptera						
Stenelmis (sexlineata)	1	-	0.5	-	1	0.5
ARTHROPODA subtotal	7 (0.005)	28 (0.029)	17.5 (0.017)	5 (0.002)	5 (0.003)	5 (0.003)

APPENDIX TABLE E-15
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
11 AUGUST 1979

	Number of individuals (biomass in grams)					
	Riffle Habitat			Pool Habitat		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
Total individuals	7	28	17.5	5	5	5
Total biomass (g)	0.005	0.029	0.017	0.002	0.003	0.003
Density (no./m^2)			188			54
Biomass (g/m^2)			0.183			0.032
Index of diversity			3.11			2.52
Equitability			0.94			1.31

APPENDIX TABLE E-16

BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
3 NOVEMBER 1979

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	8	-	4.0	-	-	-
Nais communis	1	16	8.5	-	3	1.5
Pristina breviseta	-	1	0.5	-	-	-
ANNELIDA subtotal	9 (0.004)	17 (0.003)	13.0 (0.004)	0 (0.0)	3 (<0.001)	1.5 (<0.001)
MOLLUSCA						
Gastropoda						
Somatogyrus sp.	-	1	0.5	-	-	-
MOLLUSCA subtotal	0 (0.0)	1 (0.003)	0.5 (0.002)	0 (0.0)	0 (0.0)	0 (0.0)
ARTHROPODA						
Crustacea						
Lirceus fontinalis	10	1	5.5	-	1	0.5
Insecta						
Diptera						
Chironomus attenuatus	-	-	-	1	-	0.5
Cricotopus sp.	38	56	47.0	37	26	31.5
Micropsectra sp.	-	-	-	-	2	1.0

APPENDIX TABLE E-16
(continued)
BENTHOS COMPOSITION, ABUNDANCE, AND BIOMASS
STATION 6, MARBLE HILL PLANT SITE
2 NOVEMBER 1979

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.	-	1	0.5	-	-	-
Polypedilum halterale	7	1	4.0	-	-	-
Stictochironomus sp.	-	-	-	-	1	0.5
Thienemanniella sp.	4	2	3.0	-	-	-
Hemerodromia sp.	1	1	1.0	-	-	-
Simulium sp.	9	7	8.0	1	-	0.5
Trichoptera						
Cheumatopsyche sp.	2	4	3.0	-	-	-
Ochrotrichia (*viesi*)	-	1	0.5	-	-	-
Ephemeroptera						
Stenonema sp.	1	-	0.5	-	2	1.0
Coleoptera						
Ectopria nervosa	1	1	1.0	-	-	-
ARTHROPODA subtotal	73 (0.072)	75 (0.019)	74.0 (0.046)	39 (0.005)	32 (0.008)	35.5 (0.007)
Total individuals	82	93	87.5	39	35	37.0
Total biomass	0.076	0.025	0.051	0.005	0.008	0.007
Density (no./m^2)			942			398
Biomass (g/m^2)			0.549			0.070
Index of diversity			3.26			1.83
Equitability			0.57			0.52

APPENDIX TABLE E-17

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND
BIOMASS (ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
18 MARCH 1979

	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate $\bar{o}$	$\bar{x}$
ANNELIDA									
Oligochaeta									
immature tubificids	-	1	0.5	-	2	1.0	1	-	0.5
ANNELIDA subtotal	0 (0.0)	1(<0.001)	0.5(<0.001)	0 (0.0)	2(<0.001)	1.0(<0.001)	1 (0.001)	0 (0.0)	0.5(<0.001)
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	-	1	0.5	-	-	-	-	-	-
Insecta									
Diptera									
Cricotopus sp.	-	-	-	-	2	1.0	1	-	0.5
Orthocladius sp.	-	-	-	-	1	0.5	-	-	-
Coleoptera									
Dubiraphia sp.	-	-	-	-	-	-	1	-	0.5
Ephemeroptera									
Potamyia flava	1	1	1.0	-	-	-	-	-	-
Stenonema interpunctatum	-	-	-	1	1	1.0	-	-	-
ARTHROPODA subtotal	1 (0.001)	2 (0.002)	1.5 (0.002)	1 (0.001)	4 (0.002)	2.5 (0.002)	2 (0.001)	0 (0.0)	1.0(<0.001)
Total individuals	1	3	2.0	1	6	3.5	3	0	1.5
Total biomass	0.001	0.002	0.002	0.001	0.002	0.002	0.002	0.0	0.001
Density (no./m^2)			12			22			9
Biomass (g/m^2)			0.012			0.012			0.006
Index of diversity			1.50			1.95			1.58
Equitability			1.19			1.26			1.27

APPENDIX TABLE E-18

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND
BIOMASS (ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
19 MAY 1979

	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
Species	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ANNELIDA									
Oligochaeta									
immature tubificids	5	8	6.5	-	-	-	-	-	-
Hirudinia									
Placobdella sp.	-	-	-	-	-	-	1	-	0.5
ANNELIDA subtotal	5 (0.001)	8 (0.001)	6.5 (0.001)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.036)	0 (0.0)	0.5 (0.018)
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	6	9	7.5	-	7	3.5	18	-	9.0
Insecta									
Diptera									
Calopsectra sp.	3	3	3.0	2	4	3.0	-	-	-
Chironomus attenuatus	2	2	2.0	2	-	1.0	-	-	-
Cryptochironomus fulvus	-	15	7.5	16	29	22.5	3	8	5.5
Dicrotendipes modestus	-	-	-	5	9	7.0	-	-	-
Eukiefferiella sp.	-	-	-	2	6	4.0	-	3	1.5
Parachironomus sp.	6	19	12.5	25	39	32.0	4	13	8.5
Polypedilum halterale	-	-	-	-	1	0.5	-	-	-
Rheotanytarsus sp.	8	2	5.0	7	5	6.0	2	21	11.5
Simulium sp.	2	-	1.0	1	1	1.0	-	-	-
Tanytarsus sp.	-	2	1.0	-	-	-	-	-	-
Trichoptera									
Potamyia flava	1	1	1.0	-	-	-	-	1	0.5
Ephemeroptera									
Stenonema interpunctatum	-	1	0.5	-	2	1.0	1	1	0.5
ARTHROPODA subtotal	28 (0.009)	54 (0.010)	41.0 (0.010)	60 (0.009)	103 (0.028)	81.5 (0.019)	28 (0.009)	47 (0.008)	37.5 (0.009)
Total individuals	33	62	47.5	60	103	81.5	29	47	38.0
Total biomass (g)	0.010	0.011	0.011	0.009	0.028	0.019	0.045	0.008	0.027
Density (no./m^2)			292			501			234
Biomass (g/m^2)			0.065			0.117			0.166
Index of diversity			2.95			2.49			2.39
Equitability			0.98			0.70			0.89

APPENDIX TABLE E-19

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
9 AUGUST 1979

	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5		
	Replicate A	Replicate B[a]	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA									
Amphipoda									
Gammarus pseudolimnaeus	4	-	-	7	4	5.5	12	9	10.5
Insecta									
Diptera									
Ablabesmyia rhamphe	-	-	-	-	2	1.0	-	2	1.0
Chironomus attenuatus	-	-	-	2	1	1.5	2	1	1.5
Coelotanypus sp.	-	-	-	-	1	0.5	4	-	2.0
Cricotopus sp.	2	-	-	17	19	18.0	13	19	16.0
Cryptochironomus fulvus	-	-	-	6	3	4.5	-	-	-
Eukiefferiella sp.	8	-	-	7	11	9.0	9	7	8.0
Polypedilum halterale	12	-	-	5	-	2.5	5	-	2.5
Procladius sp.	-	-	-	-	-	-	-	2	1.0
Trichoptera									
Cheumatopsyche sp.	1	-	-	3	-	1.5	9	3	6.0
Cyrnellus fraternus	6	-	-	7	15	11.0	17	13	15.0
Hydroptila waubesiana	8	-	-	3	-	1.5	5	-	2.5
Hydropsyche orris	76	-	-	86	69	77.5	122	113	117.5
Potamyia flava	53			69	40	54.5	38	30	34.0
Ephemeroptera									
Baetis sp.	-	-	-	1	-	0.5	-	-	-
Stenonema interpunctatum	87	-	-	65	58	61.5	107	91	99.0
S. heterotarsale	41	-	-	30	23	26.5	56	46	51.0
ARTHROPODA subtotal	298 (0.105)	-	-	308 (0.107)	246 (0.097)	277.0 (0.102)	399 (0.231)	336 (0.200)	367.5 (0.216)
Total individuals	298	-	-	318	246	282	399	336	367.5
Total biomass (g)	0.105	-	-	0.107	0.097	0.102	0.231	0.200	0.216
Density (no./m^2)	1833					1734			2260
Biomass (g/m^2)	0.646					0.627			1.328
Index of Diversity	2.60					2.84			2.72
Equitability	0.76					0.57			0.61

[a]Only one sampler was recovered at Station 1.

APPENDIX TABLE E-20

MACROINVETEBRATE COMPOSITION, ABUNDANCE AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT OHIO RIVER STATIONS
MARBLE HILL PLANT SITE
2 NOVEMBER 1979

Species	Number of individuals (biomass in grams)								
	Station 1			Station 3			Station 5[a]		
	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$	Replicate A	Replicate B	$\bar{x}$
ARTHROPODA									
Crustacea									
Gammarus pseudolimnaeus	2	-	1.0	1	5	3.0	1	-	-
Insecta									
Diptera									
Polypedilum halterale	1	4	2.5	4	4	4.0	-	-	-
Rheotanytarsus sp.	1	-	0.5	-	-	-	-	-	-
Trichoptera									
Hydropsyche orris	2	6	4.0	-	2	1.0	1	-	-
Potamyia flava	9	26	17.5	15	47	31.0	1	-	-
Plecoptera									
Peltoperla sp.	5	6	5.5	3	4	3.5	-	-	-
Ephemeroptera									
Stenonema sp.	18	3	10.5	17	69	43.0	6	-	-
unidentified sp.	-	-	-	3	-	1.5	-	-	-
ARTHROPODA subtotal	38 (0.010)	45 (0.009)	41.5 (0.010)	43 (0.018)	131 (0.045)	87.0 (0.032)	9 (0.006)	-	-
Total individuals	38	45	41.5	43	131	87.0	9	-	-
Total biomass (g)	0.010	0.009	0.010	0.018	0.045	0.032	0.006	-	-
Density (no./m^2)			255			535	55		
Biomass (g/m^2)			0.062			0.197	0.037		
Index of diversity			2.94			2.51	1.45		
Equitability			0.90			0.65	0.85		

[a]Only one sampler was recovered at Station 5.

APPENDIX TABLE E-21

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 18 MARCH 1979

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES			
Turbellaria			
Phagocata velata	2	-	1.0
PLATYHELMINTHES subtotal	2 (0.001)	0	1.0(<0.001)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	3	2	2.5
Insecta			
Diptera			
Cricotopus sp.	1	-	0.5
Micropsectra sp.	1	2	1.5
Ephemeroptera			
Baetis intercalaris	1	1	1.0
ARTHROPODA subtotal	6 (0.003)	5 (0.004)	5.5 (0.004)
Total individuals	8	5	6.5
Total biomass (g)	0.004	0.004	0.004
Density (no./m^2)			40
Biomass (g/m^2)			0.025
Index of diversity			2.13
Equitability			1.17

APPENDIX TABLE E-22

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 19 MAY 1979

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
ARTHROPODA			
Insecta			
Diptera			
Cricotopus sp.	2	1	1.5
Cryptochironomus fulvus	22	4	13.0
Dicrotendipes modestus	14	6	10.0
Phaenopsectra sp.	2	-	1.0
Stictochironomus sp.	5	4	4.5
Ephemeroptera			
Baetis intercalaris	-	2	1.0
Stenonema interpunctatum	-	1	0.5
ARTHROPODA subtotal	45 (0.007)	18 (0.004)	31.5 (0.006)
Total individuals	45	18	31.5
Total biomass (g)	0.007	0.004	0.006
Density (no./m^2)			194
Biomass (g/m^2)			0.034
Index of diversity			2.07
Equitability			0.80

APPENDIX TABLE E-23

MACROINVERTEBRATE COMPOSITION, ABUNDANCE, AND BIOMASS
(ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
9 AUGUST 1979

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
ARTHROPODA			
Crustacea			
Lirceus fontinalis	9	11	10.0
Insecta			
Diptera			
Cardiocladius sp.	4	4	4.0
Chironomus attenuatus	2	3	2.5
Cricotopus sp.	6	4	5.0
Cryptochironomus fulvus	3	6	4.5
Polypedilum halterale	-	1	0.5
Tanypus sp.	2	4	3.0
Trichoptera			
Hydropsyche orris	1	1	1.0
Ephemeroptera			
Stenonema heterotarsale	2	1	1.5
Odonata			
Nehalennia sp.	-	1	0.5
ARTHROPODA subtotal	29 (0.013)	36 (0.013)	32.5 (0.013)
Total individuals	29	36	32.5
Total biomass (g)	0.013	0.013	0.013
Density (no./m^2)			200
Biomass (g/m2)			0.080
Index of Diversity			2.85
Equitability			1.00

APPENDIX TABLE E-24

MACROINVERTEBRATE COMPOSITION, ABUNDANCE AND BIOMASS (ARTIFICIAL SUBSTRATES) AT LITTLE SALUDA CREEK STATION 6 MARBLE HILL PLANT SITE 3 NOVEMBER 1979

Species	Number of individuals (biomass in grams) Replicate A	Replicate B	$\bar{x}$
PLATYHELMINTHES			
Turbellaria			
Phagocata velata	3	-	1.5
PLATYHELMINTHES subtotal	3 (0.003)	0 (0.0)	1.5 (<0.002)
ANNELIDA			
Oligochaeta			
immature Naididae	9	7	8.0
ANNELIDA subtotal	9 (0.015)	7 (<0.001)	8.0 (0.008)
ARTHROPODA			
Crustacea			
Lirceus fontinalis	6	1	3.5
Insecta			
Diptera			
Chironomus attenuatus	-	1	0.5
Cricotopus sp.	46	28	37.0
Micropsectra sp.	8	3	5.5
Microtendipes sp.	-	1	0.5
Polypedilum halterale	2	5	3.5
Stictochironomus sp.	1	-	0.5
Thienemanniella sp.	2	-	1.0
Plecoptera			
Isoperla clio	1	-	0.5
Ephemeroptera			
Baetis intercalaris	-	1	0.5
Stenonema sp.	-	1	0.5
ARTHROPODA subtotal	66 (0.033)	41 (0.006)	53.5 (0.020)
Total individuals	78	48	63.0
Total biomass (g)	0.051	0.006	0.030
Density (no./m^2)			387
Biomass (g/m^2)			0.185
Index of diversity			3.00
Equitability			0.62

APPENDIX TABLE E-25

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGG AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
18 MARCH 1979

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	-	-	-	-	1	1	1.0	33.3	-	-	-	-
	Crustacea												
	Cladocera	1	1	1.0	33.3	-	-	-	-	-	-	-	-
	Copepoda	-	2	1.0	33.3	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	1	1.0	33.3	1	1	1.0	33.3	-	-	-	-
	Coelotanypus sp.	-	-	-	-	-	1	0.5	16.7	-	-	-	-
	Trichoptera												
	Potamyia flava	-	-	-	-	1	-	0.5	16.7	-	-	-	-
	Total individuals	2	4	3.0		3	3	3.0		0	0	0	
	Volume filtered (m^3)	48.3	48.5	48.4		50.2	46.9	48.6		52.6	51.7	52.2	
	Individuals/m^3	0.04	0.08	0.06		0.06	0.06	0.06		0	0	0	
Mid-depth	Oligochaeta												
	immature tubificids	2	-	1.0	22.2	-	4	2.0	36.3	-	-	-	-
	Crustacea												
	Cladocera	2	1	1.5	33.3	2	-	1.0	18.2	-	-	-	-
	Copepoda	2	-	1.0	22.2	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	-	0.5	11.1	-	1	0.5	9.1	-	2	1.0	66.7
	Chironomus attenuatus	-	-	-	-	-	-	-	-	-	1	0.5	33.3
	Coelotanypus sp.	-	-	-	-	2	1	1.5	27.3	-	-	-	-
	Ephemeroptera												
	Hexagenia limbata	-	-	-	-	-	1	0.5	9.1	-	-	-	-
	Megaloptera												
	Sialis sp.	-	1	0.5	11.1	-	-	-	-	-	-	-	-
	Total individuals	7	2	4.5		4	7	5.5		0	3	1.5	
	Volume filtered (m^3)	57.7	57.8	57.8		54.5	56.7	55.6		56.6	54.4	55.5	
	Individuals/m^3	0.12	0.03	0.08		0.07	0.12	0.10		0	0.06	0.03	
Bottom	Oligochaeta												
	immature tubificids	1	1	1.0	18.2	-	-	-	-	6	2	4.0	44.4
	Branchiura sowerbyi	-	-	-	-	2	-	1.0	25.0	-	-	-	-
	Crustacea												
	Cladocera	3	-	1.5	27.3	4	4	4.0	50.0	-	-	-	-
	Copepoda	2	-	1.0	18.2	-	-	-	-	2	2	2.0	22.2
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	-	2	1.0	11.1
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	1	1.0	27.3	-	-	-	-	-	-	-	-
	Chironomus attenuatus	-	-	-	-	-	2	1.0	25.0	-	-	-	-
	Coelotanypus sp.	1	-	0.5	9.1	-	-	-	-	-	-	-	-
	Cricotopus sp.	-	-	-	-	-	-	-	-	2	2	2.0	22.2
	Collembola												
	Isotomurus palustris	1	-	0.5	9.1	-	-	-	-	-	-	-	-
	Total individuals	9	2	5.5		6	6	6.0		10	8	9.0	
	Volume filtered (m^3)	59.9	60.0	60.0		61.0	61.1	61.1		58.3	59.3	58.8	
	Individuals/m^3	0.15	0.03	0.09		0.1	0.1	0.10		0.17	0.13	0.15	

APPENDIX TABLE E-26

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGG AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
19 MAY 1979

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	1.0	1.3	-	2	1.0	5.0	-	-	-	-
	Crustacea												
	Cladocera	39	52	45.5	60.3	12	13	12.5	62.5	9	14	11.5	71.9
	Copepoda	4	3	3.5	4.6	5	8	6.5	32.5	4	4	4.0	25.0
	Gammarus pseudolimnaeus	14	27	20.5	27.2	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	3	7	5.0	6.6	-	-	-	-	1	-	0.5	3.1
	Total individuals	60	91	75.5		17	23	20.0		14	18	16.0	
	Volume filtered (m^3)	32.1	33.1	32.6		30.5	31.3	30.9		31.4	32.8	32.1	
	Individuals/m^3	1.9	2.7	2.3		0.6	0.7	0.7		0.5	0.5	0.5	
Mid-depth	Oligochaeta												
	immature tubificids	2	-	1.0	2.2	-	-	-	-	-	3	1.5	5.7
	Crustacea												
	Cladocera	44	33	37.5	80.7	21	32	26.5	82.8	19	23	21.0	79.2
	Copepoda	1	2	1.5	3.2	4	7	5.5	17.2	5	2	3.5	13.2
	Gammarus pseudolimnaeus	6	2	4.0	8.6	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	2	-	1.0	2.2	-	-	-	-	-	-	-	-
	Dicrotendipes modestus	-	-	-	-	-	-	-	-	1	-	0.5	1.9
	Trichoptera												
	Potamyia flava	-	1	0.5	1.1	-	-	-	-	-	-	-	-
	Total individuals	55	38	46.5		25	39	32.0		25	28	26.5	
	Volume filtered (m^3)	25.3	28.0	26.7		24.9	27.2	26.1		27.3	30.0	28.7	
	Individuals/m^3	2.2	1.4	1.8		1.0	1.4	1.2		0.9	0.9	0.9	
Bottom	Oligochaeta												
	Branchiura sowerbyi	-	-	-	-	-	-	-	-	-	2	1.0	2.1
	immature tubifics	-	-	-	-	-	-	-	-	-	1	0.5	1.0
	Crustacea												
	Cladocera	47	56	51.5	84.5	60	48	54.0	88.6	37	44	40.5	83.6
	Copepoda	6	10	8.0	13.1	9	3	6.0	9.8	3	7	5.0	10.3
	Insecta												
	Diptera												
	Chaoborus punctipennis	1	1	1.0	1.6	-	-	-	-	-	-	-	-
	Cryptochironomus fulvus	-	-	-	-	-	-	-	-	-	1	0.5	1.0
	Dicrotendipes modestus	-	-	-	-	-	-	-	-	-	1	0.5	1.0
	Ephemeroptera												
	Baetis sp.	-	1	0.5	0.8	1	1	1.0	1.6	-	1	0.5	1.0
	Total individuals	54	68	61.0		70	52	61.0		40	57	48.5	
	Volume filtered (m^3)	23.9	26.8	25.4		23.9	26.6	25.3		25.1	27.4	26.3	
	Individuals/m^3	2.2	2.5	2.4		2.9	2.0	2.5		1.6	2.1	1.9	

APPENDIX TABLE E-27

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGGS AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
11 AUGUST 1979

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Crustacea												
	Cladocera	15	9	12.0	85.7	2	7	4.5	64.3	7	9	8.0	34.7
	Copepoda	3	2	2.5	14.3	1	2	1.5	21.4	10	18	14.0	60.9
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	-	-	-	-	1	-	0.5	2.2
	Eukiefferiella sp.	-	-	-	-	-	2	1.0	14.3	1	-	0.5	2.2
	Total Individuals	18	11	14.5		3	11	7.0		19	27	23.0	
	Volume filtered (m^3)	29.7	30.1	29.9		28.6	28.9	28.8		31.5	32.0	31.8	
	Individuals/m^3	0.6	0.4	0.5		0.1	0.4	0.3		0.6	0.8	0.7	
Mid-depth	Acarina												
	Hydrachna sp.	-	-	-	-	-	-	-	-	1	-	0.5	1.5
	Crustacea												
	Cladocera	10	17	13.5	84.3	4	16	10.0	83.3	25	22	23.5	70.1
	Copepoda	2	-	1.0	6.3	4	-	2.0	16.7	11	5	8.0	23.9
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-		-	-	-	-	1	1	1.0	3.0
	Eukiefferiella sp.	-	-	-		-	-	-	-	1	-	0.5	1.5
	Trichoptera												
	Hydropsyche orris	1	2	1.5	9.4	-	-	-	-	-	-	-	-
	Total Individuals	13	19	16.0		8	16	12.0		39	28	33.5	
	Volume filtered (m^3)	26.6	27.0	26.8		26.4	25.7	26.1		28.9	29.3	29.1	
	Individuals/m^3	0.5	0.7	0.6		0.3	0.6	0.5		1.3	0.9	1.1	
Bottom	Acarina												
	Hydrachna sp.	-	-	-	-	-	-	-	-	1	-	0.5	1.6
	Crustacea												
	Cladocera	22	11	16.5	75.0	13	13	13.0	72.2	17	30	23.5	77.1
	Copepoda	4	1	2.5	11.5	4	2	3.0	16.7	7	4	5.5	18.1
	Gammarus pseudolimnaeus	1	-	0.5	2.2	1	-	0.5	2.8	-	-	-	-
	Insecta												
	Diptera												
	Chaoborus punctipennis	-	-	-	-	2	-	1.0	5.5	1	-	0.5	1.6
	Trichoptera												
	Hydropsyche orris	-	2	1.0	4.6	1	-	0.5	2.8	1	-	0.5	1.6
	Plecoptera												
	Isoperla clio	-	1	0.5	2.2	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenonema interpunctatum	1	-	0.5	2.2	-	-	-	-	-	-	-	-
	Collembola												
	Isotomurus palustris	-	1	0.5	2.2	-	-	-	-	-	-	-	-
	Total Individuals	28	16	22.0		21	15	18.0		27	34	30.5	
	Volume filtered (m^3)	26.1	26.8	26.5		28.6	29.0	28.8		29.0	29.5	29.3	
	Individuals/m^3	1.1	0.6	0.9		0.7	0.5	0.6		0.9	1.2	1.1	

APPENDIX TABLE E-28

DRIFT MACROINVERTEBRATES TAKEN DURING FISH EGG AND LARVAE SAMPLING
MARBLE HILL PLANT SITE
NOVEMBER 1979

Depth	Species	Station 1				Station 3				Station 5			
		A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA	A	B	$\bar{x}$	RA
Surface	Crustacea												
	Cladocera	17	21	19.0	73.1	24	17	20.5	95.4	17	17	17.0	91.9
	Gammarus pseudolimnaeus	1	1	1.0	3.8	1	-	0.5	2.3	-	-	-	-
	Insecta												
	Trichoptera												
	Neureclipsis crepuscularis	-	-	-	-	-	-	-	-	1	-	0.5	2.7
	Ephemeroptera												
	Leptophlebia sp.	3	2	2.5	9.6	-	-	-	-	-	-	-	-
	Stenonema sp.	3	4	3.5	13.5	1	-	0.5	2.3	2	-	1.0	5.4
	Total individuals	24	28	26		26	17	21.5		20	17	18.5	
	Volume filtered (m^3)	32.2	32.9	32.6		33.7	34.9	34.3		31.4	31.7	31.6	
	Individuals/m^3	0.7	0.9	0.8		0.8	0.5	0.7		0.6	0.5	0.6	
Mid-depth	Crustacea												
	Cladocera	15	17	16.0	74.4	23	27	25.0	94.3	16	28	22.0	95.6
	Copepoda	1	1	1.0	4.7	-	-	-	-	-	-	-	-
	Gammarus pseudolimnaeus	-	-	-	-	-	-	-	-	1	-	0.5	2.2
	Insecta												
	Diptera												
	Ablabesmyia rhamphe	1	-	0.5	2.3	-	-	-	-	-	-	-	-
	Stenochironomus sp.	-	-	-	-	-	1	0.5	1.9	-	1	0.5	2.2
	Trichoptera												
	Hydropsyche orris	2	-	1.0	4.7	-	-	-	-	-	-	-	-
	Neureclipsis crepuscularis	-	1	0.5	2.3	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Stenonema sp.	2	3	2.5	11.6	1	1	1.0	3.8	-	-	-	-
	Total Individuals	21	22	21.5		24	29	26.5		17	29	23.0	
	Volume filtered (m^3)	30.7	31.7	31.2		31.9	32.4	31.2		29.2	30.1	29.7	
	Individuals/m^3	0.7	0.7	0.7		0.8	0.9	0.8		0.6	1.0	0.8	
Bottom	Oligochaeta												
	immature tubificids	-	-	-	-	1	-	0.5	1.5	1	-	0.5	1.8
	Crustacea												
	Cladocera	34	16	25.0	75.8	34	30	32.0	97.0	22	31	26.5	92.9
	Copepoda	-	2	1.0	3.0	-	-	-	-	-	-	-	-
	Insecta												
	Diptera												
	Stenochironomus sp.	-	-	-	-	1	-	0.5	1.5				
	Trichoptera												
	Hydropsyche orris	5	-	2.5	7.6	-	-	-	-	2	-	1.0	3.5
	Neureclipsis crepuscularis	1	-	0.5	1.5	-	-	-	-	-	-	-	-
	Ephemeroptera												
	Baetisca lacustris	1	-	0.5	1.5	-	-	-	-	-	-	-	-
	Caenis sp.	-	1	0.5	1.5	-	-	-	-	-	-	-	-
	Stenacron interpunctatum	-	1	0.5	1.5	-	-	-	-	-	-	-	-
	Stenonema sp.	3	2	2.5	7.6	-	-	-	-	1	-	0.5	1.8
	Total Individuals	44	22	33.0		36	30	33.0		26	31	28.5	
	Volume filtered (m^3)	33.8	33.6	33.7		28.0	28.6	28.3		25.7	26.4	26.1	
	Individuals/m^3	1.3	0.7	1.0		1.3	1.0	1.1		1.0	1.2	1.1	

APPENDIX TABLE F-1A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
17-18 MARCH 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	goldeye	201	65	0.80
		210	80	0.86
	Individuals/replicate	2		
3A	goldeye	265	210	1.13
	sauger	386	520	0.90
		440	1100	1.29
	freshwater drum	252	180	1.12
	Individuals/replicate	4		
3B	nothing collected	-	-	-
5A	sauger	385	520	0.91
		267	150	0.79
	Individuals/replicate	2		
5B	nothing collected	-	-	-
14A	nothing collected	-	-	-
14B	nothing collected	-	-	-

APPENDIX TABLE F-1B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
18-19 MARCH 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	river carpsucker	247	210	1.39
	Individuals/replicate	1		
1B	gizzard shad	180	60	1.03
	mooneye	217	100	0.98
		226	120	1.04
	sauger	311	290	0.96
		256	140	0.83
		239	100	0.73
		261	140	0.79
	Individuals/replicate	7		
3A	flathead catfish	270	210	1.07
	Individuals/replicate	1		
3B	nothing collected	-	-	-
5A	sauger	340	410	1.04
		455	1100	1.17
		403	665	1.02
		456	1160	1.22
		330	375	1.04
		335	340	0.90
		282	175	0.78
		268	150	0.78
	Individuals/replicate	8		
5B	white sucker	316	380	1.20
	sauger	344	380	0.93
	Individuals/replicate	2		
14A	sauger	341	415	1.05
	freshwater drum	249	175	1.13
	Individuals/replicate	2		

APPENDIX TABLE F-1B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
18-19 MARCH 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
14B	mooneye	234	120	0.94
	sauger	495	1440	1.19
		285	200	0.86
		269	150	0.77
	Individuals/replicate	4		

APPENDIX TABLE F-2A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
18-19 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	river carpsucker	217	165	1.61
		245	200	1.36
	spotted sucker	327	425	1.22
	Individuals/replicate	3		
1B	longnose gar	591	460	0.22
		647	550	0.20
	gizzard shad	256	150	0.89
	flathead catfish	433	710	0.87
	bluegill	184	145	2.33
	largemouth bass	362	690	1.45
	Individuals/replicate	6		
3A	channel catfish	418	560	0.77
		370	420	0.83
		380	425	0.77
		472	950	0.90
	flathead catfish	434	775	0.95
		501	1450	1.15
	white bass	278	245	1.14
	sauger	426	560	0.72
	Individuals/replicate	8		
3B	longnose gar	1194	4750	0.28
		567	300	0.16
		815	600	0.11
	gizzard shad	306	275	0.96
		245	150	1.02
	carp	428	1050	1.34
		605	2830	1.28
	quillback	243	245	1.71
	spotted sucker	427	990	1.27
	channel catfish	445	825	0.94
		475	1000	0.93
	flathead catfish	635	2800	1.09
		452	1025	1.11

APPENDIX TABLE F-2A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
18-19 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
3B (cont'd)	freshwater drum	248	160	1.05
		382	650	1.17
	Individuals/replicate	15		
5A	longnose gar	1245	5400	0.28
	goldeye	400	640	1.00
	river carpsucker	465	625	0.62
		352	600	1.38
		450	1075	1.18
		320	475	1.45
	channel catfish	545	1800	1.11
	warmouth	166	85	1.86
	Individuals/replicate	8		
5B	longnose gar	1181	4800	0.29
		750	1110	0.26
		820	1480	0.27
	gizzard shad	277	210	0.99
		241	145	1.04
		280	215	0.98
		264	200	1.09
		297	220	0.84
		359	485	1.05
		269	200	1.03
		290	270	1.11
		320	290	0.89
		256	160	0.95
	goldeye	390	545	0.92
	channel catfish	399	550	0.87
		550	1750	1.05
		605	2600	1.17
	flathead catfish	385	445	0.78
		420	750	1.01
		488	1210	1.04
		390	575	0.97

APPENDIX TABLE F-2A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
18-19 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
5B (cont'd)	longear sunfish	159	95	2.36
		147	80	2.52
	Individuals/replicate	23		
14A	longnose gar	633	440	0.17
	channel catfish	420	690	0.93
		484	1250	1.10
		294	200	0.79
	white bass	240	145	1.05
	Individuals/replicate	5		
14B	gizzard shad	279	210	0.97
	goldeye	400	600	0.94
	carp	700	3700	1.08
	channel catfish	376	410	0.77
	flathead catfish	405	620	0.93
	warmouth	165	105	2.34
	longear sunfish	163	105	2.42
	sauger	301	200	0.73
	freshwater drum	313	335	1.09
		340	515	1.31
	Individuals/replicate	10		

APPENDIX TABLE F-2B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
19-20 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	gizzard shad	243	150	1.05
	flathead catfish	337	280	0.73
	Individuals/replicate	2		
1B	longnose gar	586	425	0.21
		576	385	0.20
	Individuals/replicate	2		
3A	gizzard shad	287	200	0.85
		296	210	0.81
		276	210	1.00
		244	150	1.03
		270	200	1.02
	quillback	245	205	1.39
	channel catfish	445	825	0.94
		500	1200	0.96
	freshwater drum	343	425	1.05
	Individuals/replicate	9		
3B	longnose gar	595	405	0.19
	gizzard shad	272	200	0.99
		260	170	0.97
		271	190	0.95
	goldeye	420	630	0.85
	carp	385	1840	3.22
	channel catfish	490	1180	1.00
		440	810	0.95
	Individuals/replicate	8		
5A	carp	515	2000	1.46
		575	2750	1.45
		555	2485	1.45
		565	2250	1.25
		542	2300	1.44
		415	1025	1.43

APPENDIX TABLE F-2B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
19-20 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
5A (cont'd)	black buffalo	510	2110	1.59
	river redhorse	332	475	1.30
	channel catfish	475	1000	0.93
	freshwater drum	452	1125	1.22
	Individuals/replicate	10		
5B	longnose gar	1030	2500	0.23
		1190	4100	0.24
		610	415	0.18
		810	1130	0.21
	gizzard shad	341	375	0.95
		278	175	0.81
		268	170	0.88
	carp	380	690	1.26
	quillback	371	610	1.19
	flathead catfish	415	825	1.15
		760	5000	1.14
	Individuals/replicate	11		
14A	longnose gar	980	1975	0.21
	gizzard shad	286	180	0.77
		242	125	0.88
	river redhorse	330	400	1.11
	channel catfish	427	615	0.79
	white bass	355	415	0.93
	sauger	380	400	0.73
	Individuals/replicate	7		
14B	longnose gar	1160	5400	0.35
		647	450	0.17
	gizzard shad	285	170	0.73
		285	250	1.08
	goldeye	380	510	0.93
	quillback	240	185	1.34
		287	330	1.40

APPENDIX TABLE F-2B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
19-20 MAY 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
14B (cont'd)	channel catfish	395	650	1.05
		615	3200	1.38
	flathead catfish	255	125	0.75
	white bass	270	260	1.32
	warmouth	145	40	1.31
	longear sunfish	156	95	2.50
	largemouth bass	310	500	1.68
	freshwater drum	314	350	1.13
	Individuals/replicate	15		

APPENDIX TABLE F-3A

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
10-11 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	longnose gar	638	475	0.18
	goldeye	356	400	0.89
	river carpsucker	362	525	1.11
	channel catfish	467	825	0.81
	Individuals/replicate	4		
1B	longnose gar	641	500	0.19
	smallmouth buffalo	265	200	1.07
	channel catfish	490	1200	1.02
		452	950	1.03
	flathead catfish	236	115	0.87
	black crappie	135	40	1.63
	Individuals/replicate	6		
3A	longnose gar	634	450	0.18
	gizzard shad	370	500	0.99
		280	150	0.68
	goldeye	358	475	1.04
		380	425	0.77
	smallmouth buffalo	269	270	1.39
		232	170	1.36
	channel catfish	495	790	0.65
	flathead catfish	400	550	0.86
	white bass	189	75	1.11
	freshwater drum	278	175	0.81
		392	810	1.34
		495	1350	1.11
	Individuals/replicate	13		
3B	longnose gar	570	325	0.18
	skipjack herring	258	115	0.67
	gizzard shad	307	250	0.86
		265	125	0.67
		210	75	0.81
		290	200	0.82
	goldeye	333	325	0.88
	quillback	354	510	1.15

APPENDIX TABLE F-3A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
10-11 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
3B (cont'd)	smallmouth buffalo	320	460	1.40
	golden redhorse	370	650	1.28
	channel catfish	429	675	0.85
		486	1200	1.05
	white bass	191	90	1.29
		343	500	1.24
	black crappie	148	50	1.54
	freshwater drum	502	900	0.71
	Individuals/replicate	16		
5A	longnose gar	1100	3600	0.27
		710	790	0.22
		660	460	0.16
	skipjack herring	251	115	0.73
	gizzard shad	269	150	0.77
		188	50	0.75
		188	60	0.90
	goldeye	378	475	0.88
		358	375	0.82
	carp	295	275	1.07
	channel catfish	420	610	0.82
		510	1125	0.85
		403	500	0.76
	white bass	190	75	1.09
	freshwater drum	345	450	1.10
		321	375	1.13
	Individuals/replicate	16		
5B	longnose gar	720	875	0.23
	goldeye	344	300	0.74
	channel catfish	615	1825	0.78
		418	750	1.03
	largemouth bass	198	100	1.29
	Individuals/replicate	5		

APPENDIX TABLE F-3A
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
10-11 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
14A	longnose gar	582	300	0.15
	gizzard shad	271	110	0.55
	river carpsucker	408	850	1.25
	golden redhorse	410	725	1.05
		400	675	1.05
	channel catfish	450	1050	1.15
	flathead catfish	470	1025	0.99
	sauger	301	155	0.57
	freshwater drum	339	440	1.13
	Individuals/replicate	9		
14B	gizzard shad	240	80	0.58
	goldeye	312	325	1.07
		372	475	0.92
	carp	288	280	1.17
	quillback	424	1025	1.34
	smallmouth buffalo	237	180	1.35
	golden redhorse	379	600	1.10
	channel catfish	425	620	0.81
	white bass	204	100	1.18
	Individuals/replicate	9		

APPENDIX TABLE F-3B

RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
11-12 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	longnose gar	960	2000	0.23
	sauger	430	675	0.85
	freshwater drum	232	160	1.28
		189	75	1.11
	Individuals/replicate	4		
1B	sauger	412	550	0.79
		400	625	0.98
	freshwater drum	247	165	1.09
	Individuals/replicate	3		
3A	freshwater drum	382	575	1.03
	Individuals/replicate	1		
3B	carp	415	1000	1.40
		415	850	1.19
	smallmouth buffalo	261	280	1.57
	black crappie	166	65	1.42
	freshwater drum	184	70	1.12
	Individuals/replicate	5		
5A	channel catfish	530	1525	1.02
		523	1300	0.91
	flathead catfish	496	1275	1.04
	white bass	192	85	1.20
		198	90	1.16
		171	55	1.10
		371	550	1.08
		192	85	1.20
	freshwater drum	343	425	1.05
		163	50	1.15
	Individuals/replicate	10		

APPENDIX TABLE F-3B
(continued)
RESULTS OF 24-HOUR GILL NETTING AT
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
11-12 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
5B	freshwater drum	352	575	1.32
		246	200	1.34
		263	215	1.18
		247	190	1.26
		173	55	1.06
	Individuals/replicate	5		
14A	golden redhorse	352	510	1.17
	freshwater drum	185	75	1.18
		179	70	1.22
		193	90	1.25
	Individuals/replicate	4		
14B	longnose gar	900	1800	0.25
	gizzard shad	334	170	0.46
	freshwater drum	185	90	1.42
	Individuals/replicate	3		

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 1979

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
1A	golden redhorse	220	125	1.17
	channel catfish	490	1025	0.87
		288	190	0.80
	sauger	391	540	0.90
	Individuals/replicate	4		
1B	gizzard shad	348	290	0.69
	goldeye	313	255	0.83
	white bass	250	205	1.31
		196	100	1.33
	sauger	385	515	0.90
		380	430	0.78
		408	565	0.83
		366	420	0.86
	Individuals/replicate	8		
3A	sauger	315	260	0.83
	Individuals/replicate	1		
3B	spotted sucker	336	440	1.16
	channel catfish	420	650	0.88
	sauger	425	550	0.72
	Individuals/replicate	3		
5A	longnose gar	514	225	0.17
	black buffalo	378	700	1.30
	channel catfish	372	375	0.73
	sauger	262	155	0.86
		304	230	0.82
	Individuals/replicate	5		
5B	longnose gar	900	1900	0.26
	mooneye	240	110	0.80
	white bass	295	355	1.38
		254	220	1.34
		254	200	1.22
	Individuals/replicate	5		

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 1979

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
14A	nothing collected-net carried off by barge			
14B	sauger	283	150	0.66
	Individuals/replicate	1		

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 1979

Station and replicate	Species	Total lengths (mm)	Weight (g)	Condition factor (k)
1A	longnose gar	535	275	0.18
	Individuals/replicate	1		
1B	goldeye	319	295	0.91
	white sucker	349	490	1.15
	Individuals/replicate	2		
3A	spotted sucker	406	810	1.21
	sauger	263	145	0.80
	Individuals/replicate	2		
3B	nothing collected			
5A	carp	576	-	-
	golden redhorse	248	165	1.08
	Individuals/replicate	2		
5B	white bass	201	100	1.23
	sauger	297	200	0.76
		315	275	0.88
		261	150	0.84
		436	800	0.97
	Individuals/replicate	5		
14A	goldfish	315	410	1.31
	Individuals/replicate	1		
14B	largemouth bass	309	405	1.37
	sauger	433	675	0.83
	Individuals/replicate	2		

APPENDIX TABLE F-5

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
17 MARCH 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	nothing collected	-	-	-
1B	nothing collected	-	-	-
3A	goldeye	184	40	0.64
3B	gizzard shad	147	15	0.47
	emerald shiner	<50	-	-
	river carpsucker	257	215	1.27
5A	gizzard shad	305	290	1.02
	mooneye	138	45	1.71
	freshwater drum	306	310	1.08
		310	350	1.17
5B	gizzard shad	139	30	1.12
		298	300	1.13
	mooneye	148	55	1.70
	emerald shiner	81	1	0.19
14A	emerald shiner (14)	<50	-	-
14B	nothing collected	-	-	-

APPENDIX TABLE F-6

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
19 MAY 1979

Station and replicate	Species		Total length (mm)	Weight (g)	Condition factor (k)
1A	gizzard shad		273	200	0.98
			268	185	0.96
			263	195	1.07
			194	75	1.03
			252	155	0.97
			170	45	0.92
			140	30	1.09
	carp		573	2500	1.33
	emerald shiner		80	5	0.98
			71	3	0.84
			68	3	0.95
			67	2	0.66
			62	2	0.84
			63	2	0.80
			69	2	0.61
			64	2	0.76
			61	2	0.88
	quillback		210	125	1.35
1B	gizzard shad		182	50	0.83
			246	170	1.14
3A	gizzard shad		125	15	0.77
			169	45	0.93
		(4)	125-169	N/A	N/A
	emerald shiner		94	6	0.72
		(19)	54-76	45	N/A
3B	gizzard shad		174	45	0.85
			137	30	1.17
	emerald shiner	(9)	56-72	18	N/A
			85	4	0.65
5A	gizzard shad		136	25	0.99
			166	45	0.98
		(18)	136-166	N/A	N/A
	emerald shiner		92	6	0.77
			92	5	0.64
			72	3	0.80

APPENDIX TABLE F-6
(continued)
RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
19 MAY 1979

Station and replicate	Species		Total length (mm)	Weight (g)	Condition factor (k)
5A (cont'd)	emerald shiner		67	3	1.00
			67	2	0.66
			70	3	0.87
			66	2	0.70
			68	2	0.64
			61	2	0.88
			60	2	0.93
			56	2	1.14
	largemouth bass		127	25	1.22
5B	gizzard shad		138	20	0.76
	quillback		240	195	1.41
			251	240	1.52
			261	255	1.43
			231	165	1.34
14A	gizzard shad	(34)	135-175	N/A	N/A
	emerald shiner		124	10	0.52
			86	5	0.79
			85	5	0.81
			81	4	0.75
		(8)	56-71	14	N/A
	quillback		207	125	1.41
	largemouth bass		109	10	0.77
	freshwater drum		137	15	0.58
14B	gizzard shad	(4)	135-175	N/A	N/A
	emerald shiner		103	7	0.64
		(6)	53-72	10	N/A

APPENDIX TABLE F-7

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
10 AUGUST 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	gizzard shad	145	25	0.82
		170	35	0.71
		170	35	0.71
	emerald shiner (7)	43-80	-	N/A
1B	gizzard shad	147	23	0.72
		163	33	0.76
		176	35	0.64
		138	20	0.76
	emerald shiner (5)	41-68	-	N/A
3A	longnose gar	570	300	0.16
	gizzard shad	153	25	0.70
		157	33	0.85
		138	15	0.57
		184	50	0.80
		162	25	0.59
		141	20	0.71
3B	gizzard shad	190	55	0.80
	emerald shiner	56	-	N/A
5A	gizzard shad	201	65	0.80
		148	28	0.86
		205	70	0.81
5B	emerald shiner	31	-	N/A
14A	gizzard shad	187	50	0.76
		170	35	0.71
		172	35	0.69
		162	30	0.71
		177	35	0.63
		128	15	0.72
	emerald shiner	45	-	N/A
		47	-	N/A
		47	-	N/A
	largemouth bass	178	60	1.06
14B	emerald shiner	35	-	N/A

APPENDIX TABLE F-8

RESULTS OF ELECTROFISHING
OHIO RIVER STATIONS 1, 3, 5 AND 14
MARBLE HILL PLANT SITE
4-5 NOVEMBER 1979

Station and replicate	Species	Total length (mm)	Weight (g)	Condition factor (k)
1A	carp	605	3000	1.35
1B	nothing collected	-	-	-
3A	nothing collected	-	-	-
3B	nothing collected	-	-	-
5A	longnose gar	420	185	0.25
	emerald shiner	65	-	-
	largemouth bass	198	105	1.35
	sauger	199	60	0.76
5B	gizzard shad	271	170	0.85
14A	gizzard shad	278	190	0.88
		194	95	1.30
		198	90	1.16
		184	60	0.96
		172	55	1.08
		163	40	0.92
		174	60	1.14
		150	35	1.04
		141	35	1.25
		147	35	1.10
		144	25	0.84
		107	15	1.22
14B	gizzard shad (3)	-	-	-

APPENDIX TABLE F-9

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
19 MARCH 1979

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	emerald shiner	57	25-50	34
		86	52-81	161
B	emerald shiner	25	38-78	41
	Total	168		236
	Mean of replicates	84		118

APPENDIX TABLE F-10

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
19 MAY 1979

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	blacknose dace	2	22-39	1
	emerald shiner	109	34-59	80
	mimic shiner	5	40-46	4
	rainbow darter	4	43-48	5
B	emerald shiner	17	35-54	12
	sand shiner	1	36	1
	rainbow darter	1	48	2
	Total	139		105
	Mean of replicates	69.5		52.5

APPENDIX TABLE F-11

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
11 AUGUST 1979

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	stoneroller	37	35-50	32
		6	51-52	9
	emerald shiner	10	35-44	4
	creek chub	28	34-50	29
		10	51-62	23
B	stoneroller	11	36-50	11
	emerald shiner	4	31-43	2
	blacknose dace	1	56	3
	creek chub	9	29-50	10
		1	55	3
	Total	117		126
	Mean of replicates	58.5		63

APPENDIX TABLE F-12

RESULTS OF ELECTROFISHING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	stoneroller	1	56	2
	emerald shiner	32	38-54	33
	blacknose dace	1	55	2
		1	71	5
	creek chub	5	54-62	11
B	stoneroller	1	49	1
		1	77	4
	emerald shiner	9	41-50	7
	Total	51		65
	Mean of replicates	25.5		32.5

APPENDIX TABLE F-13

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
19 MARCH 1979

Replicate	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
A	golden shiner	1	67	2
	emerald shiner	1480	29-79	928
	river shiner	1	39	1
	suckermouth minnow	1	34	1
B	emerald shiner	281	29-90	201
	river shiner	1	79	6
	suckermouth minnow	4	27-34	1
	fathead minnow	1	41	1
	creek chub	1	160	65
	Total	1771		1206
	Mean of replicates	888.5		603.0

APPENDIX TABLE F-14

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
19 MAY 1979

Replicate	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
A	emerald shiner	48	34-40	21
		187	41-64	154
	shiner (Notropis sp.)	1	32	1
	bluntnose minnow	2	31-42	1
	sucker (Catstomidae)	2	13-14	-
B	golden shiner	1	65	3
	emerald shiner	3	39-40	1
		31	41-63	25
	bluntnose minnow	4	26-49	2
	creek chub	3	60-79	18
		3	82-100	36
	Total	285		262
	Mean of replicates	142.5		131.0

APPENDIX TABLE F-15

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
11 AUGUST 1979

Replicate	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
A	stoneroller	10	39-50	10
		6	51-54	9
	emerald shiner	232	27-48	75
		1	52	1
	bluntnose minnow	2	30-33	1
		1	55	2
	creek chub	19	27-50	14
		3	52-55	6
	minnow (Cyprinidae sp.)	1	16	<1
	white sucker	2	43-47	2
	bluegill	1	28	1
	rainbow darter	1	24	1
B	stoneroller	3	36-48	3
		1	53	2
	emerald shiner	107	25-50	34
	creek chub	5	21-45	4
	Total	395		166
	Mean of replicates	197.5		83

APPENDIX TABLE F-16

RESULTS OF SEINING
LITTLE SALUDA CREEK STATION 6
MARBLE HILL PLANT SITE
3 NOVEMBER 1979

Replicate	Species	Number of individuals	Range of total lengths (mm)	Total weight (g)
A	emerald shiner	182	31-55	106
	suckermouth minnow	1	25	<1
	blacknose dace	2	24-30	1
	bluegill	3	32-41	2
B	emerald shiner	16	32-49	7
	suckermouth minnow	1	23	<1
	creek chub	1	54	2
	bluegill	1	36	1
	Total	207		121
	Mean of replicates	103.5		60.5

APPENDIX TABLE G-1

RESULTS OF FIRST FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
18 MARCH 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
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 SITE
18 MARCH 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATECORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	VIABLE ECGS	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 SITE
7 APRIL 1979

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	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

APPENDIX TABLE G-2
(CONTINUED)
RESULTS OF SECOND FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
7 APRIL 1979

		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 SITE
20 APRIL 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
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	SAUGER	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	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	NO LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-3
(CONTINUED)
RESULTS OF THIRD FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
20 APRIL 1979

		SUPFACE 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-4

RESULTS OF FOURTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
30 APRIL 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{Y}$	A	B	$\bar{X}$
1	SAUGER	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	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	SAUGER	0.04	0.04	0.04	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	0.04	0.04	0.04	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	SAUGER	0.03	0.03	0.03	0.07	0.04	0.05	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	0.07	0.04	0.05	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	SUCKERS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00

APPENDIX TABLE G-4
(CONTINUED)
RESULTS OF FOURTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
30 APRIL 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	SAUGER	0.04	0.00	0.02	0.04	0.00	0.02	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	0.04	0.00	0.02	0.04	0.04	0.04	0.04	0.00	0.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-5

RESULTS OF FIFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
19 MAY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	X	A	B	X	A	B	X
1	HERRINGS	0.12	0.12	0.12	0.04	0.14	0.09	0.08	0.15	0.12
	MINNOWS	0.03	0.06	0.05	0.00	0.00	0.00	0.13	0.04	0.08
	CARP	0.87	0.94	0.90	0.71	0.39	0.55	0.38	0.56	0.47
	SUCKERS	2.46	2.54	2.50	0.24	0.32	0.28	0.25	0.19	0.22
	YELLOW PERCH	0.03	0.00	0.02	0.04	0.00	0.02	0.04	0.00	0.02
	SAUGER	0.00	0.02	0.02	0.32	0.07	0.19	0.00	0.00	0.00
	NONVIABLE EGGS	0.06	0.00	0.03	0.00	0.04	0.02	0.00	0.00	0.00
	VIABLE EGGS	0.06	0.12	0.09	0.04	0.14	0.09	0.13	0.15	0.14
	TOTAL LARVAE	3.52	3.68	3.60	1.35	0.93	1.14	0.88	0.93	0.90
	TOTAL EGGS	0.12	0.12	0.12	0.04	0.18	0.11	0.13	0.15	0.14
3	HERRINGS	0.03	0.00	0.02	0.08	0.04	0.06	0.08	0.04	0.06
	MINNOWS	0.00	0.03	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.10	0.13	0.11	0.24	0.29	0.27	0.54	0.38	0.46
	SHINERS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
	SUCKERS	0.39	0.29	0.34	0.24	0.26	0.25	0.42	0.19	0.30
	WHITE BASS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	YELLOW PERCH	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	SAUGER	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.04	0.00	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	0.07	0.10	0.08	0.12	0.04	0.08	0.13	0.11	0.12

APPENDIX TABLE G-6

RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
2 JUNE 1979

STATION	CATEGORY	SURFACE REPLICATE A	SURFACE REPLICATE B	SURFACE REPLICATE X	MIDDLE REPLICATE A	MIDDLE REPLICATE B	MIDDLE REPLICATE X	BOTTOM REPLICATE A	BOTTOM REPLICATE B	BOTTOM REPLICATE X
1	HERRINGS	0.06	0.06	0.06	0.00	0.00	0.00	0.04	0.00	0.02
	GIZZARD SHAD	0.10	0.16	0.13	0.15	0.19	0.17	0.08	0.04	0.06
	MINNOWS	0.06	0.00	0.03	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.32	0.44	0.38	0.37	0.00	0.19	0.08	0.12	0.10
	SUCKERS	0.00	0.16	0.08	0.11	0.00	0.06	0.00	0.00	0.00
	YELLOW PERCH	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.09	0.05	0.00	0.00	0.00	0.04	0.00	0.02
	DAMAGED LARVAE	0.00	0.00	0.00	0.04	0.04	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	0.04	0.02	0.00	0.00	0.00
	TOTAL LARVAE	0.55	0.98	0.76	0.70	0.23	0.47	0.24	0.17	0.20
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
3	SUNFISHES	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.15	0.09	0.12	0.07	0.00	0.04	0.11	0.00	0.06
	CIZZARD SHAD	0.03	0.00	0.02	0.00	0.00	0.00	0.04	0.00	0.02
	MINNOWS	0.00	0.12	0.06	0.00	0.04	0.02	0.04	0.00	0.02
	CARP	0.49	0.65	0.57	0.81	0.84	0.83	0.18	0.12	0.15
	SUCKERS	0.09	0.33	0.21	0.07	0.08	0.08	0.15	0.12	0.13
	WHITE BASS	0.00	0.06	0.03	0.00	0.04	0.02	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.02	0.00	0.02	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	0.04	0.00	0.02	0.00	0.00	0.00

APPENDIX TABLE G-6
(CONTINUED)
RESULTS OF SIXTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
2 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	X	A	B	X	A	B	X
?										
	TOTAL LARVAE	0.82	1.25	1.04	0.99	0.99	0.99	0.55	0.23	0.39
	TOTAL EGGS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
5	HERRINGS	0.26	0.19	0.28	0.12	0.00	0.06	0.07	0.00	0.04
	GIZZARD SHAD	0.00	0.00	0.00	0.08	0.00	0.04	0.04	0.08	0.06
	MINNOWS	0.07	0.10	0.08	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.59	0.96	0.77	0.58	0.70	0.64	0.44	0.15	0.29
	SUCKERS	0.10	0.19	0.14	0.00	0.00	0.00	0.07	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	1.11	1.43	1.27	0.82	0.70	0.76	0.62	0.23	0.42
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.30	0.33	0.32	0.08	0.16	0.12	0.04	0.12	0.08
	GIZZARD SHAD	0.03	0.00	0.02	0.00	0.08	0.04	0.07	0.00	0.04
	MINNOWS	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.90	0.87	0.88	0.41	0.43	0.42	0.37	0.35	0.36
	SUCKERS	0.07	0.03	0.05	0.00	0.00	0.00	0.07	0.00	0.04
	WHITE BASS	0.00	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	WHITE CRAPPIE	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00
	YELLOW PERCH	0.03	0.00	0.02	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 SITE
2 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	X	A	B	X	A	B	X
14	FRESHWATER DRUM	0.00	0.03	0.02	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	0.03	0.02	0.04	0.00	0.02	0.00	0.00	0.00
	TOTAL LARVAE	1.41	1.40	1.40	0.49	0.75	0.62	0.56	0.47	0.51
	TOTAL EGGS	0.00	0.03	0.02	0.04	0.00	0.02	0.00	0.00	0.00

APPENDIX TABLE G-7

RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
8 JUNE 1979

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	0.46	0.78	0.62	0.32	0.42	0.37	0.11	0.25	0.18
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04
	MINNOWS	0.07	0.20	0.13	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.16	0.03	0.10	0.00	0.06	0.03	0.11	0.07	0.09
	SUCKERS	0.30	0.46	0.38	0.10	0.10	0.10	0.18	0.25	0.22
	WHITE CRAPPIE	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.00	0.00
	YELLOW PERCH	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.07	0.03	0.03	0.00	0.02	0.00	0.00	0.00
	NONVIABLE EGGS	0.13	0.23	0.18	0.19	0.16	0.18	0.05	0.07	0.06
	VIABLE EGGS	0.10	0.10	0.10	0.03	0.07	0.05	0.02	0.00	0.01
	TOTAL LARVAE	1.02	1.53	1.28	0.45	0.67	0.56	0.44	0.62	0.53
	TOTAL EGGS	0.23	0.33	0.28	0.22	0.22	0.22	0.07	0.07	0.07
3	HERRINGS	0.50	0.69	0.59	0.10	0.07	0.08	0.15	0.18	0.17
	MINNOWS	0.03	0.10	0.07	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.07	0.03	0.05	0.10	0.10	0.10	0.04	0.07	0.06
	SUCKERS	0.13	0.20	0.16	0.00	0.17	0.08	0.26	0.40	0.33
	WHITE BASS	0.03	0.00	0.02	0.00	0.03	0.02	0.00	0.00	0.00
	ROCK BASS	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.04	0.02
	WHITE CRAPPIE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	NONVIABLE EGGS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE C-7
(CONTINUED)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
8 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
3	VIABLE EGGS	0.00	0.03	0.02	0.00	0.07	0.03	0.00	0.04	0.02
	TOTAL LARVAE	0.76	1.02	0.89	0.20	0.37	0.28	0.48	0.73	0.61
	TOTAL EGGS	0.00	0.07	0.03	0.00	0.07	0.03	0.00	0.04	0.02
5	HERRINGS	0.35	0.32	0.33	0.44	0.07	0.25	0.07	0.04	0.05
	GIZZARD SHAD	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	MINNOWS	0.00	0.03	0.02	0.00	0.03	0.02	0.00	0.00	0.00
	CARP	0.06	0.06	0.06	0.10	0.10	0.10	0.11	0.11	0.11
	SUCKERS	0.32	0.57	0.44	0.17	0.37	0.27	0.40	0.18	0.29
	WHITE BASS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	YELLOW PERCH	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	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	0.07	0.00	0.04
	VIABLE EGGS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.04	0.02
	TOTAL LARVAE	0.73	1.01	0.87	0.74	0.60	0.67	0.61	0.36	0.49
	TOTAL EGGS	0.00	0.03	0.02	0.00	0.00	0.00	0.07	0.04	0.05
14		0.00	0.10	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.48	0.87	0.68	0.10	0.07	0.09	0.04	0.11	0.08
	GIZZARD SHAD	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00

APPENDIX TABLE G-7
(CONTINUED)
RESULTS OF SEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
8 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	MINNOWS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	CARP	0.13	0.03	0.08	0.10	0.14	0.12	0.15	0.19	0.17
	SUCKERS	0.29	0.55	0.42	0.31	0.27	0.29	0.83	0.83	0.83
	WHITE BASS	0.00	0.10	0.05	0.03	0.03	0.03	0.00	0.00	0.00
	WHITE CRAPPIE	0.00	0.00	0.00	0.03	0.00	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	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.91	1.64	1.27	0.63	0.51	0.57	1.02	1.17	1.10
	TOTAL EGGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE C-8

RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
15 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	EMERALD SHINER	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.60	0.92	0.76	0.26	0.14	0.20	0.00	0.21	0.11
	MINNOWS	0.00	0.00	0.00	0.04	0.04	0.04	0.00	0.00	0.00
	CARP	0.00	0.06	0.03	0.07	0.00	0.04	0.04	0.04	0.04
	SUCKERS	0.06	0.16	0.11	0.04	0.11	0.07	0.07	0.04	0.05
	WHITE BASS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.22	0.14	0.18	0.07	0.04	0.05
	NONVIABLE EGGS	0.00	0.03	0.02	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	0.04	0.00	0.02
	TOTAL LARVAE	0.70	1.17	0.93	0.62	0.43	0.52	0.18	0.32	0.25
	TOTAL EGGS	0.00	0.03	0.02	0.00	0.00	0.00	0.04	0.00	0.02
3	EMERALD SHINER	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SKIPJACK HERRING	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00
	HERRINGS	0.30	0.82	0.56	0.07	0.22	0.14	0.13	0.06	0.09
	GIZZARD SHAD	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00
	MINNOWS	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.06
	CARP	0.00	0.00	0.00	0.07	0.03	0.05	0.13	0.15	0.14
	SUCKERS	0.00	0.16	0.08	0.07	0.00	0.03	0.06	0.06	0.06
	FRESHWATER DRUM	0.00	0.03	0.02	0.03	0.10	0.07	0.03	0.12	0.08
	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-8
(CONTINUED)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
15 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
3	TOTAL LARVAE	0.30	1.05	0.67	0.30	0.63	0.47	0.41	0.46	0.44
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	EMERALD SHINER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.03
	HERRINGS	0.26	0.49	0.37	0.03	0.16	0.10	0.11	0.24	0.17
	CARP	0.00	0.03	0.02	0.07	0.07	0.07	0.11	0.17	0.14
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.05
	FRESHWATER DRUM	0.03	0.15	0.09	0.16	0.10	0.10	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.00	0.00	0.03	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
	TOTAL LARVAE	0.29	0.68	0.48	0.20	0.33	0.27	0.21	0.59	0.40
	TOTAL EGGS	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
14	HERRINGS	0.79	1.86	1.32	0.07	0.38	0.22	0.07	0.14	0.11
	MINNOWS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	CARP	0.03	0.07	0.05	0.11	0.10	0.10	0.07	0.22	0.14
	SUCKERS	0.00	0.03	0.02	0.04	0.03	0.03	0.07	0.04	0.06
	WHITE BASS	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00
	WHITE CRAPPIE	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.03	0.02	0.32	0.24	0.28	0.07	0.00	0.04

APPENDIX TABLE G-8
(CONTINUED)
RESULTS OF EIGHTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
15 JUNE 1979

		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	0.82	2.03	1.42	0.60	0.76	0.68	0.30	0.39	0.35
	TOTAL EGGS	0.00	0.00	0.00	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 SITE
22 JUNE 1979

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	EMERALD SHINER	0.06	0.17	0.12	0.00	0.00	0.00	0.00	0.11	0.06
	HERRINGS	2.73	2.73	2.73	0.26	0.00	0.13	1.56	0.00	0.78
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	MINNOWS	0.00	0.06	0.03	0.00	0.00	0.00	0.91	0.11	0.51
	CARP	0.09	0.46	0.27	0.30	0.07	0.19	0.04	0.00	0.02
	SUCKERS	0.06	0.11	0.09	0.08	0.07	0.07	0.08	0.06	0.07
	WHITE BASS	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.98	1.05	0.97	0.08	0.03	0.05	0.00	0.06	0.03
	DAMAGED LARVAE	0.06	0.00	0.03	0.00	0.00	0.00	0.04	0.00	0.02
	NONVIABLE EGGS	0.06	0.00	0.03	0.00	0.03	0.02	0.00	0.11	0.06
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	3.88	4.61	4.24	0.72	0.21	0.46	2.62	0.33	1.48
	TOTAL EGGS	0.06	0.00	0.03	0.00	0.03	0.02	0.00	0.11	0.06
3	EMERALD SHINER	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	HERRINGS	0.23	0.57	0.40	0.27	0.10	0.19	0.15	0.11	0.13
	MINNOWS	0.03	0.12	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.53	0.66	0.59	0.08	0.10	0.09	0.08	0.00	0.04
	SUCKERS	1.02	0.96	0.99	0.00	0.07	0.03	0.12	0.00	0.06
	FRESHWATER DRUM	0.23	0.15	0.19	0.08	0.14	0.11	0.15	0.07	0.11
	DAMAGED LARVAE	0.20	0.21	0.20	0.15	0.07	0.11	0.12	0.04	0.08

APPENDIX TABLE G-9
(CONTINUED)
RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
22 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{x}$	A	B	$\bar{x}$	A	B	$\bar{x}$
3	NONVIABLE EGGS	0.07	0.00	0.03	0.00	0.03	0.02	0.00	0.04	0.02
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	TOTAL LARVAE	2.24	2.68	2.46	0.57	0.52	0.55	0.62	0.21	0.41
	TOTAL EGGS	0.07	0.00	0.03	0.00	0.03	0.02	0.00	0.07	0.04
5	EMERALD SHINER	0.00	0.00	0.00	0.08	0.00	0.04	0.00	0.00	0.00
	HERRINGS	3.99	10.5	7.25	0.66	0.55	0.61	0.12	0.30	0.21
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	MINNOWS	0.04	0.13	0.08	0.00	0.14	0.07	0.00	0.11	0.06
	CARP	0.28	0.16	0.22	0.31	0.80	0.55	0.49	0.85	0.67
	SUCKERS	0.04	0.06	0.05	0.04	0.07	0.05	0.20	0.30	0.25
	WHITE BASS	0.11	0.09	0.10	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	1.30	0.91	1.10	0.85	1.42	1.14	0.08	0.18	0.13
	DAMAGED LARVAE	0.18	0.00	0.09	0.12	0.03	0.08	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	5.92	11.9	8.88	2.05	3.02	2.53	0.93	1.74	1.33
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	EMERALD SHINER	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.00

APPENDIX TABLE G-9
(CONTINUED)
RESULTS OF NINTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
22 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	HERRINGS	2.45	3.04	2.74	0.11	0.38	0.25	0.15	0.07	0.11
	GIZZARD SHAD	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.04
	MINNOWS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.07	0.25	0.16	0.52	0.34	0.43	0.26	0.33	0.29
	SUCKERS	0.03	0.12	0.08	0.00	0.00	0.00	0.04	0.13	0.08
	WHITE BASS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	1.05	0.95	1.00	1.23	1.45	1.34	0.29	0.16	0.23
	DAMAGED LARVAE	0.03	0.00	0.02	0.04	0.00	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	3.64	4.42	4.03	1.94	2.17	2.06	0.81	0.68	0.75
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-10

RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
27 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	EMERALD SHINER	0.12	0.86	0.49	0.00	0.00	0.00	0.00	0.10	0.05
	HERRINGS	0.64	1.04	0.84	0.10	0.22	0.16	0.13	0.26	0.20
	CARP	0.03	0.09	0.06	0.26	0.09	0.18	0.23	0.13	0.18
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	WHITE BASS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02
	FRESHWATER DRUM	0.73	0.66	0.70	0.00	0.03	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.30	0.52	0.41	0.00	0.13	0.06	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	1.83	3.17	2.50	0.36	0.47	0.42	0.36	0.55	0.46
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	EMERALD SHINER	0.15	2.52	1.33	0.03	0.00	0.02	0.00	0.00	0.00
	HERRINGS	0.97	1.67	1.32	0.00	0.03	0.02	0.04	0.03	0.03
	CARP	0.00	0.03	0.01	0.10	0.06	0.08	0.21	0.07	0.14
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07
	WHITE BASS	0.00	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.74	0.96	0.85	0.38	0.27	0.33	0.07	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

APPENDIX TABLE G-10
(CONTINUED)
RESULTS OF TENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
27 JUNE 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
	TOTAL LARVAE	1.86	5.24	3.55	0.51	0.37	0.44	0.39	0.17	0.28
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	EMERALD SHINER	0.09	0.21	0.15	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.46	0.56	0.51	0.10	0.09	0.10	0.10	0.13	0.11
	CARP	0.03	0.03	0.03	0.33	0.13	0.23	0.17	0.29	0.23
	SUCKERS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.10	0.05
	WHITE BASS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.09	0.18	0.13	0.23	0.09	0.16	0.00	0.03	0.02
	DAMAGED LARVAE	0.00	0.03	0.01	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	0.71	1.00	0.86	0.66	0.35	0.50	0.27	0.55	0.41
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	EMERALD SHINER	0.00	0.00	0.00	0.00	0.07	0.03	0.00	0.00	0.00
	HERRINGS	0.13	0.00	0.07	0.21	0.13	0.17	0.29	0.25	0.27
	CARP	0.07	0.13	0.10	0.21	0.43	0.32	0.22	0.11	0.16
	SUCKERS	0.00	0.00	0.00	0.03	0.03	0.03	0.18	0.00	0.09
	FRESHWATER DRUM	0.54	0.26	0.40	0.00	0.07	0.03	0.07	0.00	0.04
	NONVIABLE 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 SITE
27 JUNE 1979

		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	0.74	0.39	0.56	0.45	0.73	0.59	0.77	0.35	0.56
	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 SITE
4 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	EMERALD SHINER	0.10	0.18	0.14	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.32	0.73	0.53	0.13	0.03	0.08	0.03	0.00	0.02
	GIZZARD SHAD	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	0.06	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.02
	CARP	0.00	0.03	0.02	0.00	0.03	0.02	0.00	0.00	0.00
	SUCKERS	0.03	0.03	0.03	0.03	0.00	0.02	0.03	0.03	0.03
	FRESHWATER DRUM	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.06	0.03	0.00	0.03	0.02	0.00	0.00	0.00
	NONVIABLE EGGS	0.03	0.00	0.02	0.00	0.07	0.03	0.00	0.03	0.02
	VIABLE EGGS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	TOTAL LARVAE	0.51	1.07	0.79	0.20	0.10	0.15	0.07	0.07	0.07
	TOTAL EGGS	0.03	0.00	0.02	0.00	0.10	0.05	0.00	0.03	0.02
3	CARPIODES SP.	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02
	EMERALD SHINER	0.00	<.00	0.00	0.06	0.00	0.03	0.00	0.00	0.00
	HERRINGS	0.00	0.06	0.03	0.00	0.06	0.03	0.03	0.13	0.08
	MINNOWS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	CARP	0.03	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.02
	SUCKERS	0.03	0.03	0.03	0.15	0.03	0.09	0.00	0.03	0.02
	FRESHWATER DRUM	0.03	0.00	0.02	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	0.06	0.00	0.03

APPENDIX TABLE G-11
(CONTINUED)
RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
4 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
3	NONVIABLE EGGS	0.00	0.03	0.02	0.03	0.00	0.02	0.00	0.03	0.02
	VIABLE EGGS	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00
	TOTAL LARVAE	0.09	0.09	0.09	0.22	0.12	0.17	0.16	0.16	0.16
	TOTAL EGGS	0.00	0.03	0.02	0.06	0.03	0.05	0.00	0.03	0.02
5	EMERALD SHINER	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	HERRINGS	0.18	0.21	0.20	0.17	0.00	0.09	0.03	0.07	0.05
	MINNOWS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.17	0.08
	CARP	0.00	0.00	0.00	0.00	0.14	0.07	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.24	0.10	0.17	0.24	0.00	0.12
	FRESHWATER DRUM	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.07	0.00	0.03	0.03	0.07	0.05
	NONVIABLE EGGS	0.03	0.03	0.03	0.00	0.00	0.00	0.07	0.00	0.03
	VIABLE EGGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.03	0.02
	TOTAL LARVAE	0.21	0.27	0.24	0.48	0.28	0.38	0.30	0.30	0.30
	TOTAL EGGS	0.06	0.03	0.05	0.00	0.00	0.00	0.07	0.03	0.05
14	EMERALD SHINER	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	HERRINGS	0.06	0.03	0.05	0.00	0.03	0.02	0.03	0.07	0.05
	MINNOWS	0.00	0.03	0.02	0.00	0.00	0.00	0.13	0.00	0.07

APPENDIX TABLE G-11
(CONTINUED)
RESULTS OF ELEVENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
4 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
14	CARP	0.00	0.00	0.00	0.03	0.07	0.05	0.07	0.03	0.05
	SUCKERS	0.03	0.00	0.02	0.03	0.07	0.05	0.07	0.10	0.08
	FRESHWATER DRUM	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
	DAMAGED LARVAE	0.03	0.06	0.05	0.00	0.07	0.03	0.10	0.07	0.08
	NONVIABLE EGGS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.10	0.05
	VIABLE EGGS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.03	0.02
	TOTAL LARVAE	0.16	0.16	0.16	0.10	0.24	0.17	0.40	0.26	0.33
	TOTAL EGGS	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.13	0.07

APPENDIX TABLE G-12

RESULTS OF TWELFTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
10 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	EMERALD SHINER	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.01
	CARP	0.00	0.03	0.01	0.03	0.03	0.03	0.03	0.00	0.01
	SUCKERS	0.00	0.06	0.03	0.00	0.06	0.03	0.06	0.09	0.07
	FRESHWATER DRUM	0.14	0.11	0.13	0.06	0.03	0.05	0.00	0.00	0.00
	DAMAGED LARVAE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
	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	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.14	0.20	0.17	0.09	0.12	0.11	0.12	0.12	0.12
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	HERRINGS	0.06	0.06	0.06	0.03	0.00	0.02	0.00	0.03	0.02
	MINNOWS	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	SUCKERS	0.00	0.06	0.03	0.10	0.06	0.08	0.11	0.10	0.10
	FRESHWATER DRUM	0.03	0.06	0.05	0.03	0.03	0.03	0.00	0.03	0.02
	DAMAGED LARVAE	0.03	0.00	0.02	0.03	0.03	0.03	0.00	0.00	0.00
	NONVIABLE EGGS	0.00	0.03	0.02	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	0.15	0.18	0.17	0.20	0.13	0.17	0.11	0.17	0.14
	TOTAL EGGS	0.00	0.03	0.02	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 SITE
10 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
5	HERRINGS	0.03	0.00	0.01	0.00	0.03	0.02	0.00	0.03	0.02
	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	0.03	0.00	0.02	0.03	0.00	0.02
	SUCKERS	0.06	0.00	0.03	0.03	0.06	0.05	0.07	0.03	0.05
	FRESHWATER DRUM	0.54	0.46	0.50	0.10	0.18	0.14	0.07	0.00	0.03
	DAMAGED LARVAE	0.03	0.00	0.01	0.00	0.03	0.02	0.03	0.07	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	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.66	0.49	0.57	0.16	0.31	0.23	0.20	0.13	0.17
	TOTAL EGGS	0.00	0.03	0.01	0.00	0.03	0.02	0.00	0.00	0.00
14		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EMERALD SHINER	0.00	0.06	0.03	0.03	0.00	0.02	0.00	0.00	0.00
	HERRINGS	0.21	0.06	0.14	0.06	0.00	0.03	0.03	0.03	0.03
	SUCKERS	0.00	0.00	0.00	0.03	0.00	0.02	0.07	0.00	0.03
	FRESHWATER DRUM	0.28	0.50	0.39	0.15	0.00	0.08	0.03	0.16	0.10
	DAMAGED LARVAE	0.00	0.03	0.01	0.00	0.00	0.00	0.03	0.00	0.02
	NONVIABLE EGGS	0.03	0.03	0.03	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	0.03	0.03	0.03
	TOTAL LARVAE	0.49	0.65	0.57	0.27	0.00	0.14	0.17	0.19	0.18
	TOTAL EGGS	0.03	0.03	0.03	0.00	0.00	0.00	0.03	0.03	0.03

APPENDIX TABLE G-13

RESULTS OF THIRTEENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
19 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATEGORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
1	HERRINGS	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	0.00
	GIZZARD SHAD	0.07	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00
	MINNOWS	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	CARP	0.03	0.03	0.03	0.03	0.07	0.05	0.00	0.00	0.00
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02
	DAMAGED LARVAE	0.03	0.00	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	0.26	0.23	0.25	0.07	0.07	0.07	0.00	0.04	0.02
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	GIZZARD SHAD	0.09	0.12	0.11	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.03	0.02	0.13	0.09	0.11	0.07	0.10	0.08
	SUCKERS	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	FRESHWATER DRUM	0.00	0.00	0.00	0.00	0.03	0.02	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	0.09	0.18	0.14	0.13	0.13	0.13	0.10	0.13	0.12
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX TABLE G-13
(CONTINUED)
RESULTS OF THIRTEENTH FISH EGGS AND LARVAE COLLECTION (NO./M3)
MARBLE HILL PLANT SITE
19 JULY 1979

		SURFACE REPLICATE			MIDDLE REPLICATE			BOTTOM REPLICATE		
STATION	CATECORY	A	B	$\bar{X}$	A	B	$\bar{X}$	A	B	$\bar{X}$
5	EMERALD SHINER	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	HERRINGS	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00
	GIZZARD SHAD	0.05	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.00	0.00	0.16	0.10	0.13	0.11	0.00	0.05
	FRESHWATER DRUM	0.00	0.03	0.02	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTAL LARVAE	0.06	0.06	0.06	0.23	0.16	0.19	0.11	0.00	0.05
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HERRINGS	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00	0.00
	GIZZARD SHAD	0.05	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00
	CARP	0.00	0.03	0.02	0.21	0.24	0.22	0.14	0.03	0.09
	SUCKERS	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02
	FRESHWATER DRUM	0.00	0.00	0.00	0.03	0.00	0.02	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	0.06	0.06	0.06	0.28	0.24	0.25	0.18	0.07	0.12
	TOTAL EGGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00