



Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Classification Attainment Report

Station Information

Station Number: S-445
Waterbody: Brown Brook - Station 445
Town: Limerick
Directions: 200-300YDS DWNSTRM LAKE OUTLET - HIKE DOWN TRAIL FROM WESCOTT ROAD BOX#33
DEP Drainage: Piscataqua - Presumpscot - Saco
HUC8: 01060002
HUC8 Name: Saco
Latitude: 43 41 44.16 N
Longitude: 70 47 2.65 W
Stream Order: 2

Sample Information

Log Number: 1965
Subsample Factor: X1
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/26/2010
Date Retrieved: 8/25/2010

Classification Attainment

Statutory Class: B
Model Result with P>.6: B
Date Last Calculated: 1/25/2011
Final Determination: B
Reason for Determination: Model
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.50	Class A, B, or C	1.00
Class B	0.43	Non-Attainment	0.00
Class C			
NA			
0.00			
B or Better Model		A Model	
Class A or B	1.00	Class A	0.22
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.78

Model Variables

01 Total Mean Abundance	101.00	18 Relative Abundance Ephemeroptera	0.67
02 Generic Richness	34.00	19 EPT Generic Richness	14.00
03 Plecoptera Mean Abundance	0.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	67.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	2.78	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	4.85
06 Hilsenhoff Biotic Index	4.38	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	60.00
07 Relative Abundance - Chironomidae	0.13	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.32	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	1.67		
11 <i>Cheumatopsyche</i> Abundance	1.33		
12 EPT Generic Richness/ Diptera	1.27		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.02		
15 Perlidae Mean Abundance	0.33		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	0.70		
(Family Functional Group)			
17 Chironomini Abundance (Family	0.35		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	59.41
2	<i>Rheotanytarsus</i>	6.26
3	Heptageniidae	5.28
4	<i>Pycnopsyche</i>	2.64
5	<i>Argia</i>	2.31



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 25.7 deg C
Dissolved Oxygen: 7.9 mg/l
Specific Conductance: 72 uS/cm
Velocity: 67 cm/s
pH:
Wetted Width: 7.9 m
Bankfull Width: 7.9 m
Depth: 42 cm

Waterbody Information - Retrieval

Temperature: 20.4 deg C
Dissolved Oxygen: 6.9 mg/l
Specific Conductance: 57 uS/cm
Velocity: 12 cm/s
pH: 6.85
Wetted Width: 7.9 m
Bankfull Width: 7.9 m
Depth: 25 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name

Swamp Hardwood

Upland Hardwood

Potential Stressor

Canopy Cover

Dense

Location

Below Dam

Lake Outlet

Terrain

Rolling

Substrate

Gravel 15 %

Rubble/Cobble 75 %

Sand 10 %

Landcover Summary - 2004 Data

Total Area (ac)	8379	High Int. Dev. %	0.4	Water %	7.1	Non-vegetated %	0.2
		Med Int. Dev. %	0.3	Wetland %	3.8	Tilled Agriculture %	1.5
		Low Int. Dev. %	2.2	Upland Woody %	78.2	Grassland %	6.3
		Development %	2.9	Natural %	82.0	Human Altered %	11.0
						Impervious %	2.1

Sample Comments

8/25/2010 HEAVY RAIN.

7/26/2010 GRAYISH TINT, BELOW SOKOKIS LAKE AND HOLLAND POND.



Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report

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Town: Limerick

Log Number: 1965

Subsample Factor: X1

Replicates: 3

Calculated: 1/25/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009	0.33	2.00		CG	0.3	2.0
<i>Nais behningi</i>	08020202009003	0.33			--	0.3	
<i>Nais variabilis</i>	08020202009009	1.33			--	1.3	
<i>Ripistes</i>	08020202011		0.33		--		0.3
<i>Ripistes parasyta</i>	08020202011001	0.33			--	0.3	
<i>Hyaella</i>	09010203006		1.33	8	CG		1.3
<i>Hyaella azteca</i>	09010203006011	1.33			--	1.3	
Plecoptera	090202	0.33	0.33		--	0.3	0.3
Perlidae	09020209	0.33	0.33		--	0.3	0.3
<i>Boyeria</i>	09020301004		1.67	2	PR		1.7
<i>Boyeria vinosa</i>	09020301004012	1.67			--	1.7	
Calopterygidae	09020307	0.33	0.33		--	0.3	0.3
<i>Argia</i>	09020309048	1.67	2.33	7	PR	1.7	2.3
<i>Argia moesta</i>	09020309048096	0.67			--	0.7	
<i>Baetis</i>	09020401001	0.33	0.33	4	CG	0.3	0.3
Heptageniidae	09020402	5.33	5.33		--	5.3	5.3
<i>Maccaffertium</i>	09020402015	47.00	60.00	4	SC	46.5	59.4
<i>Maccaffertium modestum</i>	09020402015051	13.00			--	12.9	
<i>Isonychia</i>	09020404018	0.67	0.67	2	CF	0.7	0.7
Leptophlebiidae	09020406	0.33	0.33		--	0.3	0.3
<i>Caenis</i>	09020412040	1.00	1.00	7	CG	1.0	1.0
<i>Chimarra</i>	09020601003	0.33	0.33	2	CF	0.3	0.3
<i>Neureclipsis</i>	09020603008	1.00	1.00	7	CF	1.0	1.0
<i>Cheumatopsyche</i>	09020604015	1.33	1.33	5	CF	1.3	1.3
<i>Hydropsyche</i>	09020604016	1.33	1.67	4	CF	1.3	1.7
<i>Hydropsyche sparna</i>	09020604016032	0.33			--	0.3	
<i>Hydroptila</i>	09020607026			6	P		
<i>Pycnopsyche</i>	09020610049	2.67	2.67	4	SH	2.6	2.6
<i>Helicopsyche</i>	09020616070		0.33	3	SC		0.3
<i>Helicopsyche borealis</i>	09020616070137	0.33			--	0.3	
Leptoceridae	09020618				--		
<i>Oecetis</i>	09020618078		0.67	8	PR		0.7
<i>Oecetis persimilis</i>	09020618078157	0.67			--	0.7	
<i>Nigronia</i>	09020701003		1.67	0	PR		1.7
<i>Nigronia serricornis</i>	09020701003003	1.67			--	1.7	
Chironomidae	09021011	0.67			--	0.7	
<i>Conchapelopia</i>	09021011004	0.33	0.35	6	PR	0.3	0.3
<i>Labrundinia</i>	09021011008		0.35	7	PR		0.3



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<i>Labrundinia pilosella</i>	09021011008022	0.33			--	0.3	
<i>Cricotopus</i>	09021011037		1.76	7	SH		1.7
<i>Cricotopus vierriensis</i>	09021011037071	0.67			--	0.7	
<i>Cricotopus patens</i>	09021011037075	1.00			--	1.0	
<i>Thienemanniella</i>	09021011062		0.35	6	CG		0.3
<i>Thienemanniella lobapodema</i>	09021011062114	0.33			--	0.3	
<i>Tvetenia</i>	09021011065		0.35	5	CG		0.3
<i>Tvetenia vitracies</i>	09021011065113	0.33			--	0.3	
<i>Paratanytarsus</i>	09021011071	0.67	0.70	6	--	0.7	0.7
<i>Rheotanytarsus</i>	09021011072	6.00	6.32	6	CF	5.9	6.3
<i>Stempellinella</i>	09021011074		0.70	2	--		0.7
<i>Stempellinella fimbriata</i>	09021011074002	0.67			--	0.7	
<i>Tanytarsus</i>	09021011076	1.67	1.76	6	CF	1.7	1.7
<i>Polypedilum</i>	09021011102		0.35	6	SH		0.3
<i>Polypedilum aviceps</i>	09021011102181	0.33			--	0.3	
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.3	0.3
<i>Macronychus</i>	09021113065		1.33	4	--		1.3
<i>Macronychus glabratus</i>	09021113065040	1.33			--	1.3	
Acariformes	090301	0.33	0.33		--	0.3	0.3