



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

Station Information

**Station Number: S-413**  
Waterbody: Red Brook - Station 413  
Town: Scarborough  
Directions: ADJACENT TO LAZYBOY FURNITURE - 50M  
DOWNSTREAM OF BACK END PARKING LOT

DEP Drainage: Piscataqua - Presumpscot - Saco  
HUC8: 01060001  
HUC8 Name: Presumpscot  
Latitude: 43 37 35.13 N  
Longitude: 70 20 45.7 W  
Stream Order: 2

Sample Information

**Log Number: 1967**  
Subsample Factor: X1  
Type of Sample: ROCK BAG  
Replicates: 3  
Date Deployed: 7/27/2010  
Date Retrieved: 8/30/2010

Classification Attainment

**Statutory Class: C**  
Model Result with P>.6: C  
Date Last Calculated: 3/4/2011  
**Final Determination: C**  
**Reason for Determination: Model**  
Date: 3/7/2011  
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.04	Class A, B, or C	0.99
Class B	0.09	Non-Attainment	0.01
B or Better Model		A Model	
Class A or B	0.04	Class A	0.01
Class C or Non-Attainment	0.96	Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	195.33	18 Relative Abundance Ephemeroptera	0.04
02 Generic Richness	68.00	19 EPT Generic Richness	20.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	7.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.55	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	59.26
06 Hilsenhoff Biotic Index	5.40	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	5.33
07 Relative Abundance - Chironomidae	0.58	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	1.36		
11 <i>Cheumatopsyche</i> Abundance	17.64		
12 EPT Generic Richness/ Diptera	0.80		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.06		
15 Perlidae Mean Abundance	0.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	6.29		
(Family Functional Group)			
17 Chironomini Abundance (Family	53.15		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	18.98
2	<i>Microtendipes</i>	18.26
3	<i>Cheumatopsyche</i>	9.03
4	<i>Dubiraphia</i>	5.29
5	<i>Stylodrilus</i>	3.07



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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 18.8 deg C  
Dissolved Oxygen: 8.2 mg/l  
Specific Conductance: 243 uS/cm  
Velocity: 12 cm/s  
pH:  
Wetted Width: 2.7 m  
Bankfull Width: 3.8 m  
Depth: 45 cm

**Waterbody Information - Retrieval**

Temperature: 19.8 deg C  
Dissolved Oxygen: 7.2 mg/l  
Specific Conductance: 269 uS/cm  
Velocity: 12 cm/s  
pH: 6.83  
Wetted Width: 2.5 m  
Bankfull Width: 3.8 m  
Depth: 40 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Dense	Flat
Upland Hardwood		
Urban		

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Urban Runoff	Below Road Crossing	Clay 30 %
	Below Urban NPS	Sand 70 %

**Landcover Summary - 2004 Data**

Total Area (ac)	1430	High Int. Dev. %	1.8	Water %	2.0	Non-vegetated %	0.1
		Med Int. Dev. %	2.2	Wetland %	14.5	Tilled Agriculture %	0.1
		Low Int. Dev. %	9.5	Upland Woody %	50.0	Grassland %	6.1
		Development %	13.6	Natural %	65.0	Human Altered %	33.0
						Impervious %	11.4

**Sample Comments**

7/27/2010 UNDERCUT BANKS, ERODED.



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		Calculated: 3/4/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Prostoma</i>	04010101001	0.67	0.67		--	0.3	0.3
<i>Stylodrilus</i>	08020101004		6.00		--		3.1
<i>Stylodrilus heringianus</i>	08020101004001	6.00			--	3.1	
Enchytraeidae	08020201	0.67	0.67		--	0.3	0.3
<i>Nais</i>	08020202009		2.67		CG		1.4
<i>Nais communis</i>	08020202009005	1.67			--	0.9	
<i>Nais variabilis</i>	08020202009009	1.00			--	0.5	
<i>Uncinais</i>	08020202017		0.33		CG		0.2
<i>Uncinais uncinata</i>	08020202017001	0.33			--	0.2	
<i>Aulodrilus</i>	08020202018		1.33		--		0.7
<i>Aulodrilus pluriseta</i>	08020202018004	1.33			--	0.7	
<i>Aeolosoma</i>	08020301001	0.33	0.33		--	0.2	0.2
<i>Boyeria</i>	09020301004		1.33	2	PR		0.7
<i>Boyeria vinosa</i>	09020301004012	1.33			--	0.7	
<i>Cordulegaster</i>	09020303019		0.33	3	PR		0.2
<i>Cordulegaster maculata</i>	09020303019042	0.33			--	0.2	
<i>Calopteryx</i>	09020307043		1.33	5	PR		0.7
<i>Calopteryx maculata</i>	09020307043088	1.33			--	0.7	
<i>Acerpenna</i>	09020401007		0.33	5	CG		0.2
<i>Acerpenna macdunnoughi</i>	09020401007001	0.33			--	0.2	
<i>Maccaffertium</i>	09020402015	5.33	5.33	4	SC	2.7	2.7
Leptophlebiidae	09020406	0.67	0.67		--	0.3	0.3
<i>Paraleptophlebia</i>	09020406026	0.67	0.67	1	CG	0.3	0.3
Philopotamidae	09020601	0.33	0.33		--	0.2	0.2
<i>Chimarra</i>	09020601003	1.00	1.00	2	CF	0.5	0.5
<i>Lype</i>	09020602004		3.00	2	SC		1.5
<i>Lype diversa</i>	09020602004005	3.00			--	1.5	
<i>Cernotina</i>	09020603006	0.67	0.67		PR	0.3	0.3
<i>Nyctiophylax</i>	09020603009	0.33	0.33	5	PR	0.2	0.2
<i>Polycentropus</i>	09020603010	0.67	0.67	6	PR	0.3	0.3
<i>Phylocentropus</i>	09020603011	2.00	2.00	5	CF	1.0	1.0
Hydropsychidae	09020604	0.33			--	0.2	
<i>Cheumatopsyche</i>	09020604015	17.33	17.64	5	CF	8.9	9.0
<i>Hydropsyche</i>	09020604016	1.00	1.36	4	CF	0.5	0.7
<i>Hydropsyche depravata complex</i>	09020604016041	0.33			CF	0.2	
<i>Oligostomis</i>	09020608039		1.33	2	PR		0.7
<i>Oligostomis ocelligera</i>	09020608039091	1.33		2	--	0.7	
Limnephilidae	09020610	0.33			--	0.2	



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		Actual	Adjusted			Actual	Adjusted
<i>Pycnopsyche</i>	09020610049	0.33	0.42	4	SH	0.2	0.2
<i>Frenesia</i>	09020610058		1.25	0	SH		0.6
<i>Frenesia difficilis</i>	09020610058117	1.00			--	0.5	
<i>Lepidostoma</i>	09020611064			1	SH		
<i>Psilotreta</i>	09020614068		0.33	0	SC		0.2
<i>Psilotreta labida</i>	09020614068133	0.33			--	0.2	
<i>Molanna</i>	09020615069		0.67	6	SC		0.3
<i>Molanna blenda</i>	09020615069133	0.67			--	0.3	
Leptoceridae	09020618	0.33	0.33		--	0.2	0.2
<i>Mystacides</i>	09020618075		2.33	4	CG		1.2
<i>Mystacides sepulchralis</i>	09020618075147	2.33			--	1.2	
<i>Nigronia</i>	09020701003		1.00	0	PR		0.5
<i>Nigronia serricornis</i>	09020701003003	1.00			--	0.5	
<i>Sialis</i>	09020702004	1.00	1.00	4	PR	0.5	0.5
<i>Dicranota</i>	09021001005	0.33	0.33	3	PR	0.2	0.2
<i>Pilaria</i>	09021001013	0.33	0.33	7	PR	0.2	0.2
<i>Bezzia/palpomyia</i>	09021010043	0.67	0.67	6	PR	0.3	0.3
Chironomidae	09021011	5.33			--	2.7	
<i>Ablabesmyia</i>	09021011001	0.33	3.15	8	PR	0.2	1.6
<i>Ablabesmyia mallochii</i>	09021011001004	2.67			--	1.4	
<i>Labrundinia</i>	09021011008		0.35	7	PR		0.2
<i>Labrundinia pilosella</i>	09021011008022	0.33			--	0.2	
<i>Natarsia</i>	09021011011		1.05	8	PR		0.5
<i>Natarsia baltimorea</i>	09021011011026	1.00			--	0.5	
<i>Nilotanytus fimbriatus</i>	09021011012027				--		
<i>Paramerina</i>	09021011013	0.33	0.35		--	0.2	0.2
<i>Procladius</i>	09021011015	1.33	1.40	9	PR	0.7	0.7
<i>Pagastia</i>	09021011025		0.35	1	--		0.2
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.2	
<i>Corynoneura</i>	09021011036	0.33	0.35	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037		1.40	7	SH		0.7
<i>Cricotopus bicinctus</i>	09021011037057	1.33			--	0.7	
<i>Parametriocnemus</i>	09021011053	4.00	4.20	5	CG	2.0	2.1
<i>Rheocricotopus</i>	09021011057		0.70	6	CG		0.4
<i>Rheocricotopus robacki</i>	09021011057105	0.67			--	0.3	
<i>Cladotanytarsus</i>	09021011068	1.33	1.40	7	CG	0.7	0.7
<i>Paratanytarsus</i>	09021011071	0.67	0.70	6	--	0.3	0.4
<i>Rheotanytarsus</i>	09021011072	4.00	4.20	6	CF	2.0	2.1



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<i>Stempellinella</i>	09021011074		3.50	2	--		1.8
<i>Stempellinella leptocelloides</i>	09021011074001	0.67			--	0.3	
<i>Stempellinella fimbriata</i>	09021011074002	2.67			--	1.4	
<i>Tanytarsus</i>	09021011076	35.33	37.07	6	CF	18.1	19.0
<i>Microtendipes</i>	09021011094		35.67	6	CF		18.3
<i>Microtendipes pedellus group</i>	09021011094166	21.67			--	11.1	
<i>Microtendipes rydalensis group</i>	09021011094168	12.33			--	6.3	
<i>Nilothauma</i>	09021011095	0.33	0.35	2	--	0.2	0.2
<i>Paralauterborniella nigrohalteralis</i>	09021011099175				--		
<i>Paratendipes</i>	09021011100		1.40	8	CG		0.7
<i>Paratendipes albimanus group</i>	09021011100176	0.67			--	0.3	
<i>Paratendipes subaequalis group</i>	09021011100178	0.67			--	0.3	
<i>Phaenopsectra</i>	09021011101		3.85	7	SC		2.0
<i>Phaenopsectra obediens</i>	09021011101182	3.67			SC	1.9	
<i>Polypedilum</i>	09021011102		5.94	6	SH		3.0
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.5	
<i>Polypedilum illinoense group</i>	09021011102185	0.67			--	0.3	
<i>Polypedilum scalaenum group</i>	09021011102189	4.00			--	2.0	
<i>Tribelos</i>	09021011107	2.67	5.94	5	CG	1.4	3.0
<i>Tribelos jucundum</i>	09021011107198	3.00			--	1.5	
<i>Apsectrotanypus</i>	09021011109		0.70		--		0.4
<i>Apsectrotanypus johnsoni</i>	09021011109001	0.67			--	0.3	
<i>Haliphus</i>	09021101001	0.33	0.33		P	0.2	0.2
<i>Anchytarsus</i>	09021110060	0.33	0.33		--	0.2	0.2
<i>Dubiraphia</i>	09021113064	10.33	10.33	6	--	5.3	5.3
<i>Macronychus</i>	09021113065		4.00	4	--		2.0
<i>Macronychus glabratus</i>	09021113065040	4.00			--	2.0	
<i>Promoresia</i>	09021113069		0.33		--		0.2
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.2	
<i>Stenelmis</i>	09021113070	0.67	2.67	5	SC	0.3	1.4
<i>Stenelmis crenata</i>	09021113070055	2.00			--	1.0	
<i>Torrenticola</i>	09030104001	1.00	1.00		--	0.5	0.5
<i>Mideopsis</i>	09030116001	0.33	0.33		--	0.2	0.2
<i>Physa</i>	10010202026	1.00	1.00		SC	0.5	0.5
<i>Helisoma</i>	10010203030		1.67		SC		0.9
<i>Helisoma anceps</i>	10010203030058	1.67			--	0.9	
<i>Pisidium</i>	10020201002	0.33	0.33		CF	0.2	0.2