



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

Station Information

**Station Number: S-412**  
Waterbody: Red Brook - Station 412  
Town: South Portland  
Directions: HQ - 100M BELOW HIGHWAY CULVERT

DEP Drainage: Piscataqua - Presumpscot - Saco  
HUC8: 01060001  
HUC8 Name: Presumpscot  
Latitude: 43 37 40.6 N  
Longitude: 70 19 32.2 W  
Stream Order: 2

Sample Information

**Log Number: 1930**  
Subsample Factor: X1  
Type of Sample: ROCK BASKET  
Replicates: 3  
Date Deployed: 7/19/2010  
Date Retrieved: 8/16/2010

Classification Attainment

**Statutory Class: C**  
Model Result with P>.6: NA  
Date Last Calculated: 3/7/2011

**Final Determination: C**  
**Reason for Determination: Best Professional Judgement**  
Comments: Indeterminate Class C (.40) raised to Class C based on maintenance of structure and function.

Date: 3/7/2011

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.00	Class C	0.81	Class A, B, or C	0.40
Class B	0.01	NA	0.18	Non-Attainment	0.60
B or Better Model				A Model	
Class A or B		0.00		Class A	0.01
Class C or Non-Attainment		1.00		Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	117.00	18 Relative Abundance Ephemeroptera	0.10
02 Generic Richness	35.00	19 EPT Generic Richness	10.00
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	11.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.67	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	46.44
06 Hilsenhoff Biotic Index	6.05	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.60	28 EP Generic Richness/14	0.36
08 Relative Generic Richness Diptera	0.29	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.00		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	17.16		
17 Chironomini Abundance (Family Functional Group)	20.19		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	25.02
2	<i>Ablabesmyia</i>	14.67
3	<i>Polycentropus</i>	12.25
4	<i>Microtendipes</i>	11.22
5	Leptophlebiidae	7.69



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Waterbody: Red Brook - Station 412

Date Retrieved: 8/16/2010

**Sample Collection and Processing Information**

Sampling Organization: DEP DWM

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 21.1 deg C  
Dissolved Oxygen: 7.73 mg/l  
Specific Conductance: 501 uS/cm  
Velocity: 1.6 cm/s  
pH: 7.16  
Wetted Width: 5.1 m  
Bankfull Width: 5.1 m  
Depth: 35 cm

**Waterbody Information - Retrieval**

Temperature: 18.1 deg C  
Dissolved Oxygen: 7.47 mg/l  
Specific Conductance: 623 uS/cm  
Velocity: 1 cm/s  
pH: 7.08  
Wetted Width: 4.7 m  
Bankfull Width: 5.4 m  
Depth: 40 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Partly Open	Flat
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Low Gradient	Below Urban NPS	Sand
Nps Pollution		
Urban Runoff		

**Landcover Summary - 2004 Data**

Total Area (ac)	1839	High Int. Dev. %	6.6	Water %	1.5	Non-vegetated %	0.1
		Med Int. Dev. %	2.9	Wetland %	18.1	Tilled Agriculture %	0.1
		Low Int. Dev. %	11.0	Upland Woody %	40.2	Grassland %	4.8
		Development %	20.5	Natural %	58.7	Human Altered %	39.7
						Impervious %	15.5

**Sample Comments**

7/19/2010 RACCOON TRACKS. D.O. METER: HACH OPTICAL METER USED, CALIBRATED IN OFFICE (DOES NOT NEED TO BE CALIBRATED DAILY), PH METER: YSI85 CALIBRATED BEFORE EACH DAY OF SAMPLING

8/16/2010 EEL IN ROCK BASKET. D.O. METER: HACH OPTICAL METER USED, CALIBRATED IN OFFICE (DOES NOT NEED TO BE CALIBRATED DAILY), PH METER: YSI85 CALIBRATED BEFORE EACH DAY OF SAMPLING



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Aquatic Life Taxonomic Inventory Report**

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Subsample Factor: X1

Replicates: 3

Calculated: 3/7/2011

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		CG		0.3
<i>Nais variabilis</i>	08020202009009	0.33			--	0.3	
<i>Crangonyx</i>	09010202004	2.67	2.67	8	--	2.3	2.3
<i>Hyaella</i>	09010203006		7.00	8	CG		6.0
<i>Hyaella azteca</i>	09010203006011	7.00			--	6.0	
<i>Aeshna</i>	09020301001	0.33	0.33	5	PR	0.3	0.3
<i>Boyeria</i>	09020301004		0.33	2	PR		0.3
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.3	
<i>Calopteryx</i>	09020307043		0.33	5	PR		0.3
<i>Calopteryx maculata</i>	09020307043088	0.33			--	0.3	
Coenagrionidae	09020309	0.67	0.67		--	0.6	0.6
<i>Argia</i>	09020309048	0.33	0.33	7	PR	0.3	0.3
Baetidae	09020401	0.67	0.67		--	0.6	0.6
<i>Centroptilum</i>	09020401003	0.33	0.33	2	CG	0.3	0.3
Leptophlebiidae	09020406	9.00	9.00		--	7.7	7.7
<i>Paraleptophlebia</i>	09020406026	1.00	1.00	1	CG	0.9	0.9
<i>Caenis</i>	09020412040	0.33	0.33	7	CG	0.3	0.3
<i>Polycentropus</i>	09020603010	14.33	14.33	6	PR	12.3	12.3
<i>Phylocentropus</i>	09020603011	0.33	0.33	5	CF	0.3	0.3
Hydropsychidae	09020604	0.33	0.33		--	0.3	0.3
<i>Oligostomis</i>	09020608039	0.67	0.67	2	PR	0.6	0.6
<i>Mystacides</i>	09020618075		1.00	4	CG		0.9
<i>Mystacides sepulchralis</i>	09020618075147	1.00			--	0.9	
<i>Nigronia</i>	09020701003		0.67	0	PR		0.6
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.6	
<i>Sialis</i>	09020702004	1.33	1.33	4	PR	1.1	1.1
Chironomidae	09021011	0.67			--	0.6	
<i>Ablabesmyia</i>	09021011001		17.16	8	PR		14.7
<i>Ablabesmyia mallochii</i>	09021011001004	17.00			--	14.5	
<i>Paratanytarsus</i>	09021011071	0.67	0.67	6	--	0.6	0.6
<i>Rheotanytarsus</i>	09021011072	0.67	0.67	6	CF	0.6	0.6
<i>Stempellinella</i>	09021011074		2.69	2	--		2.3
<i>Stempellinella leptocelloides</i>	09021011074001	1.00			--	0.9	
<i>Stempellinella fimbriata</i>	09021011074002	1.67			--	1.4	
<i>Tanytarsus</i>	09021011076	29.00	29.28	6	CF	24.8	25.0
<i>Cryptotendipes</i>	09021011083	0.33	0.34	6	--	0.3	0.3
<i>Microtendipes</i>	09021011094		13.12	6	CF		11.2
<i>Microtendipes pedellus group</i>	09021011094166	6.33			--	5.4	



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<i>Microtendipes rydalensis</i> group	09021011094168	6.67			--	5.7	
<i>Nilothauma</i>	09021011095	4.00	4.04	2	--	3.4	3.5
<i>Phaenopsectra</i>	09021011101		1.35	7	SC		1.2
<i>Phaenopsectra flavipes</i>	09021011101179	1.33			SC	1.1	
<i>Polypedilum</i>	09021011102		1.35	6	SH		1.2
<i>Polypedilum fallax</i> group	09021011102183	0.33			--	0.3	
<i>Polypedilum illinoense</i> group	09021011102185	0.33			--	0.3	
<i>Polypedilum scalaenum</i> group	09021011102189	0.33			--	0.3	
<i>Polypedilum angulum</i>	09021011102198	0.33			--	0.3	
<i>Gyrinus</i>	09021104033	1.00	1.00	2	PR	0.9	0.9
<i>Dubiraphia</i>	09021113064	0.33	0.33	6	--	0.3	0.3
<i>Neumania</i>	09030108002	0.33	0.33		--	0.3	0.3
<i>Amnicola</i>	10010104013		1.67		SC		1.4
<i>Amnicola limosa</i>	10010104013018	1.67			--	1.4	
<i>Physa</i>	10010202026	1.00	1.00		SC	0.9	0.9