



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

Station Information

Station Number: S-219	River Basin: Saco
Waterbody: Red Brook - Station 219	HUC8 Name: Presumpscot
Town: Scarborough	Latitude: 43 38 0.49 N
Directions: 50 M BELOW RUNNING HILL RD. CROSSING; BELOW RWS LANDFILL	Longitude: 70 22 35.71 W
	Stream Order: 1

Sample Information

Log Number: 2395	Type of Sample: ROCK BAG	Date Deployed: 7/29/2015
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/26/2015

Classification Attainment

Statutory Class: C	Final Determination: NA	Date: 6/14/2016
Model Result with $P \geq 0.6$: NA	Reason for Determination: Model	
Date Last Calculated: 6/14/2016	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.00
Class B	0.02	Non-Attainment	1.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.00
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	1.00

Model Variables

01 Total Mean Abundance	155.33	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	41.00	19 EPT Generic Richness	10.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.33
04 Ephemeroptera Mean Abundance	3.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.26	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	66.84
06 Hilsenhoff Biotic Index	4.83	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	0.67
07 Relative Abundance - Chironomidae	0.82	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.41	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	0.59		
13 Relative Abundance - Oligochaeta	0.03		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	10.03		
17 Chironomini Abundance (Family Functional Group)	10.36		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	41.53
2	<i>Stempellinella</i>	22.38
3	<i>Microtendipes</i>	3.44
4	<i>Pisidium</i>	3.22
5	<i>Calopteryx</i>	2.79



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: ECOANALYSTS IDAHO

Waterbody Information - Deployment

Temperature: 19.1 deg C
Dissolved Oxygen: 8.72 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 163.6 uS/cm
Velocity: 3 cm/s
pH: 7.39
Wetted Width: 2.2 m
Bankfull Width: 3.2 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 18.5 deg C
Dissolved Oxygen: 8.65 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 170.1 uS/cm
Velocity: 12.2 cm/s
pH: 7.27
Wetted Width: 2.4 m
Bankfull Width: 3.2 m
Depth: 28 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Conifer	Dense	Flat
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Nps Pollution	Below Landfill	Gravel 40 %
Urban Runoff	Below Road Crossing	Rubble/Cobble 5 %
		Sand 30 %
		Silt 25 %

Landcover Summary - 2004 Data

Total Area (ac)	795	High Int. Dev. %	1.8	Water %	3.6	Non-vegetated %	0.1
		Med Int. Dev. %	1.2	Wetland %	12.4	Tilled Agriculture %	0.3
		Low Int. Dev. %	10.2	Upland Woody %	49.8	Grassland %	8.3
		Development %	13.2	Natural %	62.9	Human Altered %	33.5
						Impervious %	10.8

Sample Comments

7/29/2015: SILT PRESENT. 94.4% DO.
8/26/2015: 92.6% DO.



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Aquatic Life Taxonomic Inventory Report**

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Subsample Factor: X1

Town: Scarborough
Calculated: 6/14/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Nematoda	05	0.33	0.33		--	0.2	0.2
Lumbriculidae	08020101	0.67	0.67		--	0.4	0.4
Tubificida	080202	1.67	1.67		--	1.1	1.1
<i>Aulodrilus</i>	08020202018		1.67		--		1.1
<i>Aulodrilus plurisetia</i>	08020202018004	1.67			--	1.1	
<i>Helobdella</i>	08030101005		0.33		--		0.2
<i>Helobdella modesta</i>	08030101005004	0.33			--	0.2	
Amphipoda	090102	0.33	0.33	8	--	0.2	0.2
<i>Boyeria</i>	09020301004		1.00	2	PR		0.6
<i>Boyeria vinosa</i>	09020301004012	1.00			--	0.6	
<i>Cordulegaster</i>	09020303019	1.00	1.00	3	PR	0.6	0.6
<i>Calopteryx</i>	09020307043	4.33	4.33	5	PR	2.8	2.8
<i>Acerpenna</i>	09020401007		0.33	5	CG		0.2
<i>Acerpenna pygmaea</i>	09020401007011	0.33			--	0.2	
<i>Maccaffertium</i>	09020402015	0.67	0.67	4	SC	0.4	0.4
Leptophlebiidae	09020406	0.33	0.33		--	0.2	0.2
<i>Paraleptophlebia</i>	09020406026	1.67	1.67	1	CG	1.1	1.1
<i>Chimarra</i>	09020601003	0.33	0.33	2	CF	0.2	0.2
<i>Lype</i>	09020602004		0.33	2	SC		0.2
<i>Lype diversa</i>	09020602004005	0.33			--	0.2	
<i>Polycentropus</i>	09020603010	1.33	1.33	6	PR	0.9	0.9
<i>Phylocentropus</i>	09020603011	0.33	0.33	5	CF	0.2	0.2
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.2	0.2
Limnephilidae	09020610				--		
<i>Molanna</i>	09020615069	1.33	1.33	6	SC	0.9	0.9
<i>Nigronia</i>	09020701003		1.67	0	PR		1.1
<i>Nigronia serricornis</i>	09020701003003	1.67			--	1.1	
<i>Sialis</i>	09020702004	0.67	0.67	4	PR	0.4	0.4
Chironomidae	09021011	0.33			--	0.2	
<i>Ablabesmyia</i>	09021011001		2.34	8	PR		1.5
<i>Ablabesmyia mallochii</i>	09021011001004	2.33			--	1.5	
<i>Procladius</i>	09021011015	4.00	4.01	9	PR	2.6	2.6
<i>Thienemannimyia</i>	09021011020		3.01	3	PR		1.9
<i>Thienemannimyia group</i>	09021011020041	3.00			--	1.9	
<i>Zavrelimyia</i>	09021011022	0.67	0.67	8	PR	0.4	0.4
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.2	0.2
<i>Heterotrissocladius</i>	09021011044		0.33	0	CG		0.2



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		Actual	Adjusted			Actual	Adjusted
<i>Heterotrissocladius marcidus</i>	09021011044083	0.33			--	0.2	
<i>Parametriocnemus</i>	09021011053	3.00	3.01	5	CG	1.9	1.9
<i>Rheocricotopus</i>	09021011057	1.00	1.00	6	CG	0.6	0.6
<i>Rheotanytarsus</i>	09021011072		3.01	6	CF		1.9
<i>Rheotanytarsus pellucidus</i>	09021011072128	3.00			CF	1.9	
<i>Stempellinella</i>	09021011074	34.67	34.76	2	--	22.3	22.4
<i>Tanytarsus</i>	09021011076	64.33	64.50	6	CF	41.4	41.5
<i>Microtendipes</i>	09021011094		5.35	6	CF		3.4
<i>Microtendipes pedellus group</i>	09021011094166	1.33			--	0.9	
<i>Microtendipes rydalensis group</i>	09021011094168	4.00			--	2.6	
<i>Paralauterborniella</i>	09021011099		0.33	8	CG		0.2
<i>Paralauterborniella nigrohalteralis</i>	09021011099175	0.33			--	0.2	
<i>Paratendipes</i>	09021011100	1.00	1.00	8	CG	0.6	0.6
<i>Phaenopsectra</i>	09021011101	0.67	0.67	7	SC	0.4	0.4
<i>Polypedilum</i>	09021011102		3.01	6	SH		1.9
<i>Polypedilum aviceps</i>	09021011102181	2.67			--	1.7	
<i>Polypedilum scalaenum group</i>	09021011102189	0.33			--	0.2	
<i>Neoplasta</i>	09021016064	0.33	0.33		PR	0.2	0.2
Acariformes	090301	0.67	0.67		--	0.4	0.4
<i>Torrenticola</i>	09030104001	0.33	0.33		--	0.2	0.2
<i>Lebertia</i>	09030105001	0.67	0.67		--	0.4	0.4
<i>Physa</i>	10010202027	0.33	0.33		SC	0.2	0.2
<i>Pisidium</i>	10020201002	5.00	5.00		CF	3.2	3.2