

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

**Station Information**

<b>Station Number:</b> S-457	River Basin: Saco
Waterbody: Mare Brook - Station 457	HUC8 Name: Presumpscot
Town: Brunswick	Latitude: 43 52 55.05 N
Directions: ABOVE PICNIC POND CONFLUENCE	Longitude: 69 55 25.2 W
	Stream Order: 2

**Sample Information**

<b>Log Number:</b> 2349	Type of Sample: ROCK BAG	Date Deployed: 7/8/2015
Subsample Factor: X4	Replicates: 2	Date Retrieved: 8/5/2015

**Classification Attainment**

<b>Statutory Class:</b> B	<b>Final Determination:</b> C	Date: 3/9/2016
Model Result with $P \geq 0.6$ : C	<b>Reason for Determination:</b> Model	
Date Last Calculated: 5/12/2016	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	1.00
Class B	0.00	Non-Attainment	0.00
<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	718.00	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	36.00	19 EPT Generic Richness	5.00
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	84.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.59	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	37.40
06 Hilsenhoff Biotic Index	6.85	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.28	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.69	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	28.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.20		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	19.80		
17 Chironomini Abundance (Family Functional Group)	13.20		

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Caecidotea</i>	38.72
2	Baetidae	9.47
3	Hydropsychidae	8.91
4	<i>Paratanytarsus</i>	6.43
5	<i>Synurella</i>	4.18

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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT      Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	19.4 deg C	Temperature:	20.7 deg C
Dissolved Oxygen:	8.76 mg/l	Dissolved Oxygen:	8.72 mg/l
Dissolved Oxygen Saturation:		Dissolved Oxygen Saturation:	
Specific Conductance:	226 uS/cm	Specific Conductance:	195.6 uS/cm
Velocity:	42.7 cm/s	Velocity:	45.7 cm/s
pH:	7	pH:	7.17
Wetted Width:	2.6 m	Wetted Width:	3.1 m
Bankfull Width:	2.7 m	Bankfull Width:	3.1 m
Depth:	30 cm	Depth:	34 cm

**Water Chemistry - 8/5/2015**

Nitrate+nitrite As N	0.61 mg/l	Total Phosphorus	100 ug/l
Total Kjeldahl Nitrogen	0.6 mg/l	Total Suspended Solids	44 mg/l
Dissolved Organic Carbon	1.2 mg/l	Total Dissolved Solids	130 mg/l
Orthophosphate As Phosphorus	3 ug/l		

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Marsh	Open	Flat
Upland Conifer		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Above Road Crossing	Sand      100 %

**Landcover Summary - 2004 Data**

Total Area (ac)      2004	High Int. Dev. %	3.0	Water %	0.3	Non-vegetated %	0.0
	Med Int. Dev. %	10.7	Wetland %	4.0	Tilled Agriculture %	0.3
	Low Int. Dev. %	23.2	Upland Woody %	29.6	Grassland %	2.3
	Development %	36.9	Natural %	33.8	Human Altered %	65.9
				Impervious %	22.9	

**Sample Comments**

95.2% DO ON DEPLOYMENT. VALESNERIA AND CLADOPHORA PRESENT.  
 97.8% DO ON RETRIEVAL. BROWN WATER, LOTS OF SILT, ONE BAG FULLY BURIED.



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**Log Number: 2349**

Subsample Factor: X4

Replicates: 2

Calculated: 5/12/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		6.00		CG		0.8
<i>Nais communis</i>	08020202009005	4.00			--	0.6	
<i>Nais variabilis</i>	08020202009009	2.00			--	0.3	
<i>Aulodrilus</i>	08020202018		2.00		--		0.3
<i>Aulodrilus plurisetia</i>	08020202018004	2.00			--	0.3	
<i>Caecidotea</i>	09010101001	198.00	278.00	8	SH	27.6	38.7
<i>Caecidotea racovitzai racovitzai</i>	09010101001002	80.00			--	11.1	
<i>Synurella</i>	09010202006		30.00		--		4.2
<i>Synurella chamberlaini</i>	09010202006001	30.00			--	4.2	
<i>Hyaella</i>	09010203006	2.00	2.00	8	CG	0.3	0.3
Baetidae	09020401	68.00	68.00		--	9.5	9.5
<i>Plauditus</i>	09020401012	16.00	16.00		CG	2.2	2.2
Hydropsychidae	09020604	64.00	64.00		--	8.9	8.9
<i>Hydropsyche</i>	09020604016	26.00	28.00	4	CF	3.6	3.9
<i>Hydropsyche sparna</i>	09020604016032	2.00			--	0.3	
<i>Frenesia</i>	09020610058		4.00	0	SH		0.6
<i>Frenesia difficilis</i>	09020610058117	4.00			--	0.6	
<i>Antocha</i>	09021001004	2.00	2.00	3	CG	0.3	0.3
<i>Dicranota</i>	09021001005	2.00	2.00	3	PR	0.3	0.3
Chironomidae	09021011	18.00			--	2.5	
<i>Conchapelopia</i>	09021011004	6.00	6.60	6	PR	0.8	0.9
<i>Meropelopia</i>	09021011010	12.00	13.20		--	1.7	1.8
<i>Pagastia</i>	09021011025		11.00	1	--		1.5
<i>Pagastia orthogonia</i>	09021011025001	10.00			--	1.4	
<i>Corynoneura</i>	09021011036	2.00	2.20	7	CG	0.3	0.3
<i>Cricotopus</i>	09021011037		24.20	7	SH		3.4
<i>Cricotopus bicinctus</i>	09021011037057	20.00			--	2.8	
<i>Cricotopus tricinctus</i>	09021011037076	2.00			--	0.3	
<i>Eukiefferiella</i>	09021011041		11.00	8	CG		1.5
<i>Eukiefferiella claripennis group</i>	09021011041075	10.00			--	1.4	
<i>Orthocladius</i>	09021011050		8.80	6	CG		1.2
<i>Orthocladius annectens</i>	09021011050092	8.00			--	1.1	
<i>Parakiefferiella</i>	09021011052	6.00	8.80		CG	0.8	1.2
<i>Parakiefferiella sp. E</i>	09021011052001	2.00			--	0.3	
<i>Parametrioctenemus</i>	09021011053	6.00	6.60	5	CG	0.8	0.9
<i>Rheocricotopus</i>	09021011057		6.60	6	CG		0.9
<i>Rheocricotopus robacki</i>	09021011057105	6.00			--	0.8	



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<i>Thienemanniella</i>	09021011062	2.00	2.20	6	CG	0.3	0.3
<i>Tvetenia</i>	09021011065		8.80	5	CG		1.2
<i>Tvetenia paucunca</i>	09021011065114	8.00			--	1.1	
<i>Paratanytarsus</i>	09021011071		46.20	6	--		6.4
<i>Paratanytarsus dissimilis</i>	09021011071125	6.00			--	0.8	
<i>Paratanytarsus longistylus</i>	09021011071126	36.00		6	--	5.0	
<i>Rheotanytarsus</i>	09021011072	2.00	8.80	6	CF	0.3	1.2
<i>Rheotanytarsus exiguus group</i>	09021011072127	6.00			CF	0.8	
<i>Tanytarsus</i>	09021011076	12.00	13.20	6	CF	1.7	1.8
<i>Microtendipes</i>	09021011094		2.20	6	CF		0.3
<i>Microtendipes rydalensis group</i>	09021011094168	2.00			--	0.3	
<i>Polypedilum</i>	09021011102		11.00	6	SH		1.5
<i>Polypedilum aviceps</i>	09021011102181	4.00			--	0.6	
<i>Polypedilum flavum</i>	09021011102182	2.00			--	0.3	
<i>Polypedilum illinoense</i>	09021011102204	4.00			--	0.6	
<i>Odontomesa</i>	09021011121		2.20	4	--		0.3
<i>Odontomesa fulva</i>	09021011121001	2.00			--	0.3	
<i>Rheosmittia</i>	09021011122		4.40		--		0.6
<i>Rheosmittia arcuata</i>	09021011122001	4.00			--	0.6	
<i>Simulium</i>	09021012047		4.00	4	CF		0.6
<i>Simulium venustum/verecundum complex</i>	09021012047072	4.00			CF	0.6	
<i>Atherix</i>	09021015055	2.00	2.00	2	PR	0.3	0.3
<i>Hemerodromia</i>	09021016057	2.00	2.00	3	PR	0.3	0.3
<i>Neoplasta</i>	09021016064	8.00	8.00		PR	1.1	1.1
<i>Torrenticola</i>	09030104001	2.00	2.00		--	0.3	0.3