



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

Station Information

Station Number: S-1017

Waterbody: Allen Brook - Station 1017

Town: Westfield

Directions: 10 M UPSTREAM OF EGYPT RD.

River Basin: St. John

HUC8 Name: Becaguimec Stream-Saint John Riv

Latitude: 46° 35' 5.866" N

Longitude: 67° 55' 51.634" W

Stream Order: 1

Sample Information

Log Number: 2282

Type of Sample: ROCK BAG

Date Deployed: 7/23/2014

Subsample Factor: X1

Replicates: 3

Date Retrieved: 8/20/2014

Classification Attainment

Statutory Class: B

Final Determination: A

Date: 11/3/2014

Model Result with  $P \geq 0.6$ : A

Reason for Determination: Model

Date Last Calculated: 11/3/2014

Comments:

Model Probabilities

First Stage Model

Class A	0.92	Class C	0.00
Class B	0.08	NA	0.00

B or Better Model

Class A or B	1.00
Class C or Non-Attainment	0.00

C or Better Model

Class A, B, or C	1.00
Non-Attainment	0.00

A Model

Class A	1.00
Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	221.67	18 Relative Abundance Ephemeroptera	0.17
02 Generic Richness	62.00	19 EPT Generic Richness	24.00
03 Plecoptera Mean Abundance	20.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	5.18
04 Ephemeroptera Mean Abundance	36.67	23 Relative Generic Richness- Plecoptera	0.10
05 Shannon-Wiener Generic Diversity	4.94	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	19.64
06 Hilsenhoff Biotic Index	4.05	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	6.00
07 Relative Abundance - Chironomidae	0.36	28 EP Generic Richness/14	1.07
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	29.58		
11 <i>Cheumatopsyche</i> Abundance	6.42		
12 EPT Generic Richness/ Diptera	1.04		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family	2.00		
Functional Group)			
16 Tanypodinae Mean Abundance	3.83		
(Family Functional Group)			
17 Chironomini Abundance (Family	14.96		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	13.35
2	<i>Parametriocnemus</i>	8.79
3	<i>Baetis</i>	7.97
4	<i>Microtendipes</i>	6.59
5	<i>Tanytarsus</i>	5.81



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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 18.7 deg C  
Dissolved Oxygen: 8.8 mg/l  
Specific Conductance: 359 uS/cm  
Velocity: 12 cm/s  
pH: 8.4  
Wetted Width: 2.8 m  
Bankfull Width: 4.7 m  
Depth: 22 cm

**Waterbody Information - Retrieval**

Temperature: 16.8 deg C  
Dissolved Oxygen: 9.4 mg/l  
Specific Conductance: 380 uS/cm  
Velocity: 21 cm/s  
pH: 7.69  
Wetted Width: 2.16 m  
Bankfull Width: 4.7 m  
Depth: 20 cm

**Water Chemistry - 7/29/2014**

Nitrate+nitrite As N	0.36 mg/l	Total Phosphorus	28 ug/l
Total Kjeldahl Nitrogen	0.3 mg/l	Orthophosphate As Phosphorus	18 ug/l
Total Alkalinity	158 mg/l		

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Dense	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Gravel 30 % Rubble/Cobble 5 % Sand 40 % Silt 25 %

**Landcover Summary - 2004 Data**

**Sample Comments**

7/23 - RECENT DEAD TREE BLOW DOWN IN STREAM - HABITAT ISSUES, SAND BAR WITH DEEP MUD.

8/20 - NMRO METER USED FOR DO, TEMP AND SPC.



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Subsample Factor: X1

Replicates: 3

Calculated: 11/3/2014

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Lumbriculidae	08020101	1.00	1.00		--	0.5	0.5
<i>Nais</i>	08020202009		0.33		CG		0.2
<i>Nais variabilis</i>	08020202009009	0.33			--	0.2	
Lumbricidae	08020205	0.67	0.67		--	0.3	0.3
<i>Helobdella</i>	08030101005		1.00		--		0.5
<i>Helobdella modesta</i>	08030101005004	1.00			--	0.5	
<i>Paracapnia</i>	09020203018	1.67	1.67	1	SH	0.8	0.8
<i>Leuctra</i>	09020204020	9.33	10.33	0	SH	4.2	4.7
<i>Leuctra truncata</i>	09020204020058	1.00			--	0.5	
<i>Pteronarcys</i>	09020205023		2.00	0	SH		0.9
<i>Pteronarcys biloba</i>	09020205023061	2.00			--	0.9	
Perlodidae	09020207	1.33	1.33		--	0.6	0.6
<i>Sweltsa</i>	09020208040	3.00	3.00		PR	1.4	1.4
<i>Agnetina</i>	09020209050	2.00	2.00	2	PR	0.9	0.9
<i>Boyeria</i>	09020301004	1.33	2.67	2	PR	0.6	1.2
<i>Boyeria grafiana</i>	09020301004011	1.33			--	0.6	
<i>Lanthus</i>	09020302014		0.67		PR		0.3
<i>Lanthus parvulus</i>	09020302014030	0.67			--	0.3	
<i>Cordulegaster</i>	09020303019		0.67	3	PR		0.3
<i>Cordulegaster maculata</i>	09020303019042	0.67			--	0.3	
<i>Calopteryx</i>	09020307043		2.67	5	PR		1.2
<i>Calopteryx maculata</i>	09020307043088	2.67			--	1.2	
<i>Baetis</i>	09020401001		17.67	4	CG		8.0
<i>Baetis tricaudatus</i>	09020401001012	17.67			--	8.0	
<i>Acerpenna</i>	09020401007	1.00	2.00	5	CG	0.5	0.9
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.5	
<i>Diphetor</i>	09020401013		1.33		--		0.6
<i>Diphetor hageni</i>	09020401013001	1.33			--	0.6	
<i>Heptagenia</i>	09020402010	1.00	1.00	2	SC	0.5	0.5
<i>Maccaffertium</i>	09020402015	1.33	6.00	4	SC	0.6	2.7
<i>Maccaffertium luteum</i>	09020402015049	4.67			--	2.1	
Leptophlebiidae	09020406	3.00	3.00		--	1.4	1.4
<i>Paraleptophlebia</i>	09020406026	0.67	0.67	1	CG	0.3	0.3
<i>Ephemerella</i>	09020410035	4.33	4.33	1	CG	2.0	2.0
<i>Eurylophella</i>	09020410036	0.67	0.67	3	CG	0.3	0.3
<i>Dolophilodes</i>	09020601001		0.67	0	CF		0.3
<i>Dolophilodes distinctus</i>	09020601001001	0.67			--	0.3	
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.2	0.2



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Replicates: 3

Calculated: 11/3/2014

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Hydropsychidae	09020604	2.33			--	1.1	
<i>Cheumatopsyche</i>	09020604015	6.00	6.42	5	CF	2.7	2.9
<i>Hydropsyche</i>	09020604016	2.33	29.58	4	CF	1.1	13.3
<i>Hydropsyche slossonae</i>	09020604016031	19.33			--	8.7	
<i>Hydropsyche sparna</i>	09020604016032	6.00			--	2.7	
<i>Glossosoma</i>	09020606020	0.33	3.67	0	SC	0.2	1.7
<i>Glossosoma lividum</i>	09020606020067	2.33			--	1.1	
<i>Glossosoma nigrrior</i>	09020606020068	1.00			SC	0.5	
<i>Oligostomis</i>	09020608039	2.00	2.00	2	PR	0.9	0.9
Limnephilidae	09020610				--		
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.2	0.2
<i>Psychoglypha</i>	09020610060		0.33	0	SH		0.2
<i>Psychoglypha subborealis</i>	09020610060120	0.33			--	0.2	
<i>Lepidostoma</i>	09020611064	3.67	3.67	1	SH	1.7	1.7
<i>Tipula</i>	09021001002	1.67	1.67	4	SH	0.8	0.8
<i>Dicranota</i>	09021001005	1.33	1.33	3	PR	0.6	0.6
<i>Bezzia/palpomyia</i>	09021010043	2.33	2.33	6	PR	1.1	1.1
Chironomidae	09021011	3.33			--	1.5	
<i>Conchapelopia</i>	09021011004	1.67	1.74	6	PR	0.8	0.8
<i>Nilotanyus</i>	09021011012		0.35	6	PR		0.2
<i>Nilotanyus fimbriatus</i>	09021011012027	0.33			--	0.2	
<i>Trissopelopia</i>	09021011021		1.74		PR		0.8
<i>Trissopelopia ogemawi</i>	09021011021042	1.67			--	0.8	
<i>Corynoneura</i>	09021011036	1.00	1.04	7	CG	0.5	0.5
<i>Cricotopus</i>	09021011037		0.35	7	SH		0.2
<i>Cricotopus annulator complex</i>	09021011037074	0.33			--	0.2	
<i>Parakiefferiella</i>	09021011052		0.70		CG		0.3
<i>Parakiefferiella sp. E</i>	09021011052001	0.67			--	0.3	
<i>Parametriocnemus</i>	09021011053	15.33	19.49	5	CG	6.9	8.8
<i>Parametriocnemus sp. F Epler</i>	09021011053101	3.33			--	1.5	
<i>Rheocricotopus</i>	09021011057		2.09	6	CG		0.9
<i>Rheocricotopus robacki</i>	09021011057105	2.00			--	0.9	
<i>Thienemanniella</i>	09021011062	1.00	1.39	6	CG	0.5	0.6
<i>Thienemanniella xena</i>	09021011062110	0.33			--	0.2	
<i>Tvetenia</i>	09021011065		11.14	5	CG		5.0
<i>Tvetenia paucunca</i>	09021011065114	10.67			--	4.8	
<i>Micropsectra</i>	09021011070	4.00	4.18	7	CG	1.8	1.9
<i>Rheotanytarsus</i>	09021011072		4.52	6	CF		2.0



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		Actual	Adjusted			Actual	Adjusted
<i>Rheotanytarsus pellucidus</i>	09021011072128	4.33			CF	2.0	
<i>Stempellinella</i>	09021011074		2.09	2	--		0.9
<i>Stempellinella leptocelloides</i>	09021011074001	0.33			--	0.2	
<i>Stempellinella fimbriata</i>	09021011074002	1.67			--	0.8	
<i>Tanytarsus</i>	09021011076	12.33	12.88	6	CF	5.6	5.8
<i>Microtendipes</i>	09021011094		14.62	6	CF		6.6
<i>Microtendipes pedellus group</i>	09021011094166	0.67			--	0.3	
<i>Microtendipes rydalensis group</i>	09021011094168	13.33			--	6.0	
<i>Polypedilum</i>	09021011102		0.35	6	SH		0.2
<i>Polypedilum albicorne</i>	09021011102195	0.33			--	0.2	
<i>Brundiniella</i>	09021011115		0.35		--		0.2
<i>Brundiniella eumorpha</i>	09021011115001	0.33			--	0.2	
<i>Simulium</i>	09021012047		3.00	4	CF		1.4
<i>Simulium tuberosum</i>	09021012047067	3.00			--	1.4	
<i>Atherix</i>	09021015055	3.33	3.33	2	PR	1.5	1.5
<i>Roederiodes</i>	09021016058	0.33	0.33	3	PR	0.2	0.2
<i>Dubiraphia</i>	09021113064		0.67	6	--		0.3
<i>Dubiraphia robusta</i>	09021113064040	0.67			--	0.3	
<i>Optioservus</i>	09021113067	2.00	2.67	3	SC	0.9	1.2
<i>Optioservus fastiditus</i>	09021113067044	0.67			--	0.3	
<i>Oulimnius</i>	09021113068		10.00		--		4.5
<i>Oulimnius latiusculus</i>	09021113068049	10.00			--	4.5	
<i>Promoresia</i>	09021113069		1.00		--		0.5
<i>Promoresia tardella</i>	09021113069052	1.00			--	0.5	
<i>Feltria</i>	09030122001	0.33	0.33			0.2	0.2
<i>Basommatophora</i>	100102	0.33	0.33		--	0.2	0.2
<i>Physa</i>	10010202027	1.67	1.67		SC	0.8	0.8
<i>Gyraulus</i>	10010203029	0.33	0.33		SC	0.2	0.2