



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

Station Information

**Station Number:** S-463 River Basin: St. John  
**Waterbody:** Pearce Brook - Station 463 HUC8 Name: Meduxnekeag  
**Town:** Houlton Latitude: 46 7 30.76 N  
**Directions:** UPSTREAM OF MEDUXNEKEAG RIVER Longitude: 67 50 41.33 W  
CONFLUENCE; HMBI SITE CODE 1PBR (HISTORICAL) Stream Order: 2  
AND 0.02 PBR (NEW)

Sample Information

**Log Number:** 2292 Type of Sample: ROCK BAG Date Deployed: 7/23/2014  
**Subsample Factor:** X1 Replicates: 3 Date Retrieved: 8/22/2014

Classification Attainment

**Statutory Class:** B **Final Determination:** A Date: 1/14/2015  
**Model Result with  $P \geq 0.6$ :** A **Reason for Determination:** Model  
**Date Last Calculated:** 1/13/2015 **Comments:**

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.83	Class A, B, or C	1.00
Class B	0.17	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	1.00	Class A	1.00
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	148.67	18 Relative Abundance Ephemeroptera	0.27
02 Generic Richness	52.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	7.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.46
04 Ephemeroptera Mean Abundance	40.67	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	4.73	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	9.15
06 Hilsenhoff Biotic Index	4.51	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.73
07 Relative Abundance - Chironomidae	0.25	28 EP Generic Richness/14	1.14
08 Relative Generic Richness Diptera	0.27	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	11.33		
11 <i>Cheumatopsyche</i> Abundance	3.67		
12 EPT Generic Richness/ Diptera	1.79		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family	6.33		
Functional Group)			
16 Tanypodinae Mean Abundance	2.93		
(Family Functional Group)			
17 Chironomini Abundance (Family	10.24		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Acerpenna</i>	13.23
2	<i>Dubiraphia</i>	10.31
3	<i>Hydropsyche</i>	7.62
4	<i>Lymnaea</i>	7.17
5	<i>Stempellinella</i>	6.15



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Town: Houlton

Date Deployed: 7/23/2014

**Log Number: 2292**

Waterbody: Pearce Brook - Station 463

Date Retrieved: 8/22/2014

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 24.5 deg C  
Dissolved Oxygen: 8.4 mg/l  
Specific Conductance: 249 uS/cm  
Velocity: 32 cm/s  
pH: 8.62  
Wetted Width: 5.3 m  
Bankfull Width: 7 m  
Depth: 48 cm

**Waterbody Information - Retrieval**

Temperature: 18.2 deg C  
Dissolved Oxygen: 8.1 mg/l  
Specific Conductance: 283 uS/cm  
Velocity: 11 cm/s  
pH: 7.74  
Wetted Width: 4.95 m  
Bankfull Width: 7 m  
Depth: 40 cm

**Water Chemistry - 7/28/2014**

Nitrate+nitrite As N	0.08 mg/l	Total Phosphorus	11 ug/l
Total Kjeldahl Nitrogen	0.2 mg/l	Orthophosphate As Phosphorus	2 ug/l
Total Alkalinity	121 mg/l		

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Urban	Partly Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Habitat	Above Road Crossing	Boulder 3 %
Urban Runoff		Gravel 40 %
		Rubble/Cobble 27 %
		Sand 30 %

**Landcover Summary - 2004 Data**

Total Area (ac)	5733	High Int. Dev. %	1.8	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	1.4	Wetland %	10.1	Tilled Agriculture %	19.2
		Low Int. Dev. %	3.2	Upland Woody %	54.7	Grassland %	6.4
		Development %	6.4	Natural %	64.8	Human Altered %	35.2
						Impervious %	4.8

**Sample Comments**

URBAN DEBRIS, CONCRETE ON SIDES AND BOTTOM.



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Waterbody: Pearce Brook - Station 463

Town: Houlton

**Log Number: 2292**

Subsample Factor: X1

Replicates: 3

Calculated: 1/13/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	0.67	0.67		PR	0.4	0.4
Dugesidae	03010102	0.33	0.33		--	0.2	0.2
<i>Glossiphonia</i>	08030101004		0.33		--		0.2
<i>Glossiphonia elegans</i>	08030101004001	0.33			--	0.2	
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.2	0.2
<i>Isoperla</i>	09020207026	0.33	0.33	2	PR	0.2	0.2
<i>Agnatina</i>	09020209050		6.33	2	PR		4.3
<i>Agnatina capitata</i>	09020209050152	6.33		2	PR	4.3	
<i>Boyeria</i>	09020301004	1.00	2.33	2	PR	0.7	1.6
<i>Boyeria vinosa</i>	09020301004012	1.33			--	0.9	
<i>Baetis</i>	09020401001		1.00	4	CG		0.7
<i>Baetis flavistriga</i>	09020401001004	0.67			--	0.4	
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.2	
<i>Acerpenna</i>	09020401007	2.33	19.67	5	CG	1.6	13.2
<i>Acerpenna macdunnoughi</i>	09020401007001	17.33			--	11.7	
<i>Procloeon</i>	09020401010	0.67	0.67		CG	0.4	0.4
<i>Iswaeon</i>	09020401015	2.00	2.00		--	1.3	1.3
Heptageniidae	09020402	0.33			--	0.2	
<i>Leucrocuta</i>	09020402011	5.67	5.89	1	SC	3.8	4.0
<i>Stenacron</i>	09020402014	1.00	1.04	7	SC	0.7	0.7
<i>Maccaffertium</i>	09020402015	1.00	1.73	4	SC	0.7	1.2
<i>Maccaffertium luteum</i>	09020402015049	0.67			--	0.4	
Leptophlebiidae	09020406	2.67	2.67		--	1.8	1.8
<i>Ephemera</i>	09020407027	0.67	0.67	1	CG	0.4	0.4
<i>Ephemerella</i>	09020410035	3.00	3.00	1	CG	2.0	2.0
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.2	0.2
<i>Tricorythodes</i>	09020411038	1.67	1.67	4	CG	1.1	1.1
<i>Caenis</i>	09020412040	0.33	0.33	7	CG	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	4.00	4.00	6	PR	2.7	2.7
<i>Cheumatopsyche</i>	09020604015	3.67	3.67	5	CF	2.5	2.5
<i>Hydropsyche</i>	09020604016	4.67	11.33	4	CF	3.1	7.6
<i>Hydropsyche bronta</i>	09020604016029	2.33			--	1.6	
<i>Hydropsyche slossonae</i>	09020604016031	2.33			--	1.6	
<i>Hydropsyche sparna</i>	09020604016032	2.00			--	1.3	
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.2	0.2
<i>Micrasema</i>	09020609044		0.67	2	SH		0.4



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Subsample Factor: X1

Replicates: 3

Calculated: 1/13/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Micrasema rusticum group</i>	09020609044100	0.67			--	0.4	
Limnephilidae	09020610				--		
<i>Apatania</i>	09020610061	1.00	1.00		SC	0.7	0.7
<i>Psilotreta</i>	09020614068		0.67	0	SC		0.4
<i>Psilotreta indecisa</i>	09020614068132	0.33			--	0.2	
<i>Psilotreta frontalis</i>	09020614068134	0.33			--	0.2	
<i>Oecetis</i>	09020618078		1.33	8	PR		0.9
<i>Oecetis persimilis</i>	09020618078157	1.33			--	0.9	
Chironomidae	09021011	3.33			--	2.2	
<i>Ablabesmyia</i>	09021011001		2.19	8	PR		1.5
<i>Ablabesmyia mallochi</i>	09021011001004	1.67			--	1.1	
<i>Ablabesmyia monilis</i>	09021011001009	0.33			--	0.2	
<i>Labrundinia</i>	09021011008		0.37	7	PR		0.2
<i>Labrundinia virescens</i>	09021011008023	0.33			--	0.2	
<i>Paramerina</i>	09021011013	0.33	0.37		--	0.2	0.2
<i>Parametriocnemus</i>	09021011053	1.67	1.83	5	CG	1.1	1.2
<i>Micropsectra</i>	09021011070	1.33	1.46	7	CG	0.9	1.0
<i>Rheotanytarsus</i>	09021011072	5.00	8.78	6	CF	3.4	5.9
<i>Rheotanytarsus pellucidus</i>	09021011072128	3.00			CF	2.0	
<i>Stempellinella</i>	09021011074		9.14	2	--		6.1
<i>Stempellinella leptocelloides</i>	09021011074001	3.00			--	2.0	
<i>Stempellinella fimbriata</i>	09021011074002	5.33			--	3.6	
<i>Tanytarsus</i>	09021011076	2.00	3.29	6	CF	1.3	2.2
<i>Tanytarsus buckleyi</i>	09021011076139	0.67			CF	0.4	
<i>Tanytarsus gibbus</i>	09021011076140	0.33			CF	0.2	
<i>Cryptochironomus</i>	09021011082			8	PR		
<i>Microtendipes</i>	09021011094		3.29	6	CF		2.2
<i>Microtendipes pedellus group</i>	09021011094166	1.00			--	0.7	
<i>Microtendipes rydalensis group</i>	09021011094168	2.00			--	1.3	
<i>Paratendipes</i>	09021011100		0.37	8	CG		0.2
<i>Paratendipes albimanus group</i>	09021011100176	0.33			--	0.2	
<i>Phaenopsectra</i>	09021011101		3.66	7	SC		2.5
<i>Phaenopsectra obediens</i>	09021011101182	3.33			SC	2.2	
<i>Polypedilum</i>	09021011102		2.93	6	SH		2.0
<i>Polypedilum aviceps</i>	09021011102181	2.67			--	1.8	
<i>Saetheria</i>	09021011132				--		
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.2	0.2
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.2	0.2



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<i>Psephenus</i>	09021108058		0.33	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.2	
<i>Dubiraphia</i>	09021113064	1.33	15.33	6	--	0.9	10.3
<i>Dubiraphia quadrinotata</i>	09021113064037	14.00			--	9.4	
<i>Optioservus</i>	09021113067	1.67	1.67	3	SC	1.1	1.1
<i>Promoresia</i>	09021113069		5.00		--		3.4
<i>Promoresia elegans</i>	09021113069051	1.33			--	0.9	
<i>Promoresia tardella</i>	09021113069052	3.67			--	2.5	
<i>Stenelmis</i>	09021113070		0.33	5	SC		0.2
<i>Stenelmis crenata</i>	09021113070055	0.33			--	0.2	
Acariformes	090301	0.33	0.33		--	0.2	0.2
<i>Hygrobates</i>	09030102001	0.33	0.33		--	0.2	0.2
Basommatophora	100102	0.33	0.33		--	0.2	0.2
<i>Lymnaea</i>	10010201022		10.67		SC		7.2
<i>Lymnaea catascopium</i>	10010201022039	10.67			--	7.2	
<i>Physa</i>	10010202027	1.00	1.00		SC	0.7	0.7
<i>Ferrissia</i>	10010204035		0.33		SC		0.2
<i>Ferrissia rivularis</i>	10010204035066	0.33			--	0.2	