



**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 CONFLUENCE; HMBI SITE CODE 1PBR (HISTORICAL) AND 0.02 PBR (NEW)	Longitude:	67 50 41.33 W
	Stream Order:	2

Sample Information

Log Number: 2739	Type of Sample: ROCK BAG	Date Deployed: 7/11/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/7/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 4/1/2020
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/30/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.49	Class A, B, or C	1.00
Class B	0.49	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.92
Class A or B	1.00	Class B or C or Non-Attainment	0.08
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	486.00	18 Relative Abundance Ephemeroptera	0.17
02 Generic Richness	65.00	19 EPT Generic Richness	28.00
03 Plecoptera Mean Abundance	2.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.67
04 Ephemeroptera Mean Abundance	84.33	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	3.89	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	28.14
06 Hilsenhoff Biotic Index	5.12	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	7.40
07 Relative Abundance - Chironomidae	0.55	28 EP Generic Richness/14	1.29
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	30.00		
11 <i>Cheumatopsyche</i> Abundance	0.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.65		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	1.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	24.46		
17 Chironomini Abundance (Family Functional Group)	20.77		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	38.74
2	<i>Hydropsyche</i>	6.17
3	<i>Leucrocota</i>	5.19
4	<i>Stagnicola</i>	4.94
5	<i>Thienemannimyia</i>	4.55



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Log Number: 2739 Waterbody: Pearce Brook - Station 463 Date Retrieved: 8/7/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 20.4 deg C
Dissolved Oxygen: 10.6 mg/l
Dissolved Oxygen Saturation: 116.6 %
Specific Conductance: 321.5 uS/cm
Velocity: 21.3 cm/s
pH: 8.35
Wetted Width: 5.3 m
Bankfull Width: 7 m
Depth: 33 cm

Waterbody Information - Retrieval

Temperature: 19.4 deg C
Dissolved Oxygen: 11.61 mg/l
Dissolved Oxygen Saturation: 126 %
Specific Conductance: 354.7 uS/cm
Velocity: 2.1 cm/s
pH: 8.47
Wetted Width: 4.9 m
Bankfull Width: 6.9 m
Depth: 31 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Hardwood	Partly Open	Rolling	
Urban			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Superfund Site	Above Road Crossing	Bedrock	5 %
Urban Runoff	Below In-place Contamination	Boulder	10 %
		Gravel	30 %
		Rubble/Cobble	40 %
		Sand	10 %
		Silt	5 %

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

WHITE SUCKER & BLACKNOSE DACE IN SIEVE BUCKET.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-463

Waterbody: Pearce Brook - Station 463

Town: Houlton

Log Number: 2739

Subsample Factor: X1

Replicates: 3

Calculated: 3/30/2020

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Hydra</i>	02010101001	4.00	4.00		PR	0.8	0.8
<i>Girardia</i>	03010102002	0.67	0.67		--	0.1	0.1
<i>Helobdella</i>	08030101005		0.67		--		0.1
<i>Helobdella modesta</i>	08030101005004	0.67			--	0.1	
<i>Leuctra</i>	09020204020	0.67	0.67	0	SH	0.1	0.1
<i>Acroneuria</i>	09020209042	0.67	0.67	0	PR	0.1	0.1
<i>Agnatina</i>	09020209050		1.00	2	PR		0.2
<i>Agnatina capitata</i>	09020209050152	1.00		2	PR	0.2	
Aeshnidae	09020301	0.33	0.33		--	0.1	0.1
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria grafiana</i>	09020301004011	0.33			--	0.1	
<i>Calopteryx</i>	09020307043	0.67	0.67	5	PR	0.1	0.1
<i>Baetis</i>	09020401001	0.33	4.33	4	CG	0.1	0.9
<i>Baetis flavistriga</i>	09020401001004	2.67			--	0.5	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.3	
<i>Acerpenna</i>	09020401007	7.00	20.33	5	CG	1.4	4.2
<i>Acerpenna macdunnoughi</i>	09020401007001	11.00			--	2.3	
<i>Acerpenna pygmaea</i>	09020401007011	2.33			--	0.5	
<i>Procloeon</i>	09020401010	3.33	3.33		CG	0.7	0.7
<i>Dipheter</i>	09020401013		0.67		--		0.1
<i>Dipheter hageni</i>	09020401013001	0.67			--	0.1	
<i>Isxaeon</i>	09020401015		2.33		--		0.5
<i>Isxaeon anoka</i>	09020401015001	2.33			--	0.5	
Heptageniidae	09020402	0.33			--	0.1	
<i>Heptagenia</i>	09020402010	1.33	1.35	2	SC	0.3	0.3
<i>Leucrocuta</i>	09020402011	25.00	25.24	1	SC	5.1	5.2
<i>Stenacron</i>	09020402014	2.33	2.36	7	SC	0.5	0.5
<i>Maccaffertium</i>	09020402015	6.67	6.73	4	SC	1.4	1.4
Leptophlebiidae	09020406	0.67	0.67		--	0.1	0.1
<i>Paraleptophlebia</i>	09020406026		1.00	1	CG		0.2
<i>Paraleptophlebia debilis</i>	09020406026079	1.00		1	CG	0.2	
<i>Ephemerella</i>	09020410035	4.33	4.33	1	CG	0.9	0.9
<i>Serratella</i>	09020410037	0.33	1.33	2	CG	0.1	0.3
<i>Serratella serrata</i>	09020410037123	0.33			--	0.1	
<i>Serratella serratoides</i>	09020410037124	0.67			--	0.1	
<i>Tricorythodes</i>	09020411038	9.67	9.67	4	CG	2.0	2.0
<i>Caenis</i>	09020412040	0.67	0.67	7	CG	0.1	0.1



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
		<i>Microvelia</i>	09020510025			0.67	0.67
Polycentropodidae	09020603	0.67	0.67		--	0.1	0.1
<i>Polycentropus</i>	09020603010	4.67	4.67	6	PR	1.0	1.0
Hydropsychidae	09020604				--		
<i>Cheumatopsyche</i>	09020604015	0.33	0.33	5	CF	0.1	0.1
<i>Hydropsyche</i>	09020604016	13.33	30.00	4	CF	2.7	6.2
<i>Hydropsyche bronta</i>	09020604016029	4.67			--	1.0	
<i>Hydropsyche morosa</i>	09020604016030	0.67			--	0.1	
<i>Hydropsyche slossonae</i>	09020604016031	3.00			--	0.6	
<i>Hydropsyche sparna</i>	09020604016032	6.00			--	1.2	
<i>Hydropsyche betteni</i>	09020604016037	2.33			--	0.5	
<i>Rhyacophila</i>	09020605019	0.33	0.33	2	PR	0.1	0.1
<i>Hydroptila</i>	09020607026	4.00	4.00	6	P	0.8	0.8
<i>Pycnopsyche</i>	09020610049	0.67	0.67	4	SH	0.1	0.1
Leptoceridae	09020618	0.33	0.33		--	0.1	0.1
<i>Mystacides</i>	09020618075		2.33	4	CG		0.5
<i>Mystacides sepulchralis</i>	09020618075147	2.33			--	0.5	
<i>Apatania</i>	09020619061	0.33	0.33		SC	0.1	0.1
<i>Antocha</i>	09021001004	1.33	1.33	3	CG	0.3	0.3
Chironomidae	09021011	1.33			--	0.3	
<i>Ablabesmyia</i>	09021011001	0.33	0.34	8	PR	0.1	0.1
<i>Nilotanytus</i>	09021011012	0.67	0.67	6	PR	0.1	0.1
<i>Thienemannimyia</i>	09021011020		22.11	3	PR		4.5
<i>Thienemannimyia group</i>	09021011020041	22.00			--	4.5	
<i>Zavrelimyia</i>	09021011022	1.33	1.34	8	PR	0.3	0.3
<i>Corynoneura</i>	09021011036	0.33	0.34	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037	2.67	12.73	7	SH	0.5	2.6
<i>Cricotopus bicinctus</i>	09021011037057	10.00			--	2.1	
<i>Thienemanniella</i>	09021011062	0.33	0.34	6	CG	0.1	0.1
<i>Paratanytarsus</i>	09021011071	4.67	4.69	6	--	1.0	1.0
<i>Rheotanytarsus</i>	09021011072		188.27	6	CF		38.7
<i>Rheotanytarsus exiguus group</i>	09021011072127	184.00			CF	37.9	
<i>Rheotanytarsus pellucidus</i>	09021011072128	3.33			CF	0.7	
<i>Stempellinella</i>	09021011074	1.33	1.34	2	--	0.3	0.3
<i>Tanytarsus</i>	09021011076	14.67	14.74	6	CF	3.0	3.0
<i>Microtendipes</i>	09021011094		9.38	6	CF		1.9
<i>Microtendipes pedellus group</i>	09021011094166	4.67			--	1.0	
<i>Microtendipes rydalensis group</i>	09021011094168	4.67			--	1.0	



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<i>Phaenopsectra</i>	09021011101		5.36	7	SC		1.1
<i>Phaenopsectra obediens group</i>	09021011101180	5.33			--	1.1	
<i>Polypedilum</i>	09021011102		6.03	6	SH		1.2
<i>Polypedilum aviceps</i>	09021011102181	6.00			--	1.2	
<i>Atherix</i>	09021015055	1.00	1.00	2	PR	0.2	0.2
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.1	0.1
<i>Neoporus</i>	09021103033	0.33	0.33		--	0.1	0.1
<i>Psephenus</i>	09021108058		1.00	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	1.00			--	0.2	
<i>Dubiraphia</i>	09021113064	22.00	22.00	6	--	4.5	4.5
<i>Macronychus</i>	09021113065		0.33	4	--		0.1
<i>Macronychus glabratus</i>	09021113065040	0.33			--	0.1	
<i>Optioservus</i>	09021113067	1.00	1.00	3	SC	0.2	0.2
<i>Promoresia</i>	09021113069		13.67		--		2.8
<i>Promoresia elegans</i>	09021113069051	0.33			--	0.1	
<i>Promoresia tardella</i>	09021113069052	13.33			--	2.7	
<i>Stenelmis</i>	09021113070	4.33	4.33	5	SC	0.9	0.9
<i>Hygrobates</i>	09030102001	0.33	0.33		--	0.1	0.1
<i>Limnesia</i>	09030112001	0.33	0.33		--	0.1	0.1
<i>Stagnicola</i>	10010201025	24.00	24.00		--	4.9	4.9
<i>Physa</i>	10010202027	10.00	10.00		SC	2.1	2.1
Planorbidae	10010203	0.33	0.33		--	0.1	0.1
<i>Helisoma</i>	10010203030		0.33		SC		0.1
<i>Helisoma anceps</i>	10010203030058	0.33			--	0.1	