



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

Station Information

Station Number: S-466	River Basin:	St. John
Waterbody: Moose Brook - Station 466	HUC8 Name:	Meduxnekeag
Town: Houlton	Latitude:	46 6 33.42 N
Directions: UPSTREAM OF RAILROAD BRIDGE - POTTER SETTLEMENT RD; HBMI CODE 2 MOB (HISTORICAL) AND 0.3 MOB (NEW)	Longitude:	67 52 49.78 W
	Stream Order:	2

Sample Information

Log Number: 2749	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: 11/12/2019
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 11/5/2019	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.90	Class C	0.00
Class B	0.10	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
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	193.33	18 Relative Abundance Ephemeroptera	0.43
02 Generic Richness	55.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	5.33	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	84.00	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	4.41	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	7.67
06 Hilsenhoff Biotic Index	3.81	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	43.46
07 Relative Abundance - Chironomidae	0.20	28 EP Generic Richness/14	1.21
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	11.33		
11 <i>Cheumatopsyche</i> Abundance	1.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.47		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	4.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	5.67		
17 Chironomini Abundance (Family Functional Group)	8.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	21.55
2	<i>Brachycentrus</i>	11.03
3	<i>Leucrocuta</i>	9.14
4	<i>Rheotanytarsus</i>	7.59
5	<i>Hydropsyche</i>	5.86



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Log Number: 2749 Waterbody: Moose Brook - Station 466 Date Retrieved: 8/7/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 19.2 deg C
Dissolved Oxygen: 10.23 mg/l
Dissolved Oxygen Saturation: 110.1 %
Specific Conductance: 156.1 uS/cm
Velocity: 25.6 cm/s
pH: 8.12
Wetted Width: 4.6 m
Bankfull Width: 7.4 m
Depth: 33 cm

Waterbody Information - Retrieval

Temperature: 18.6 deg C
Dissolved Oxygen: 10.92 mg/l
Dissolved Oxygen Saturation: 116.8 %
Specific Conductance: 261.3 uS/cm
Velocity: 3 cm/s
pH: 8.32
Wetted Width: 4.8 m
Bankfull Width: 7.5 m
Depth: 31 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Hardwood	Dense	Rolling	
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Above Road Crossing	Bedrock	10 %
Nutrients	Below Agriculture NPS	Boulder	30 %
Sedimentation		Gravel	20 %
		Rubble/Cobble	30 %
		Sand	10 %

Landcover Summary - 2004 Data

Total Area (ac)	11014	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	0.1	Wetland %	15.8	Tilled Agriculture %	16.1
		Low Int. Dev. %	1.2	Upland Woody %	63.2	Grassland %	1.9
		Development %	1.3	Natural %	79.1	Human Altered %	20.9
						Impervious %	1.1
Total Land (ac)	11013	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.1	Wetland %	15.8	Tilled Agriculture %	16.1
		Low Int. Dev. %	1.2	Upland Woody %	63.3	Grassland %	1.9
		Development %	1.3	Natural %	79.1	Human Altered %	20.9
						Impervious %	1.1

Sample Comments

BLACKNOSE DACE & CREEK CHUB PRESENT.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-466

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Town: Houlton

Log Number: 2749

Subsample Factor: X1

Replicates: 3

Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Hydra</i>	02010101001	0.67	0.67		PR	0.3	0.3
<i>Placobdella</i>	08030101006	0.33	0.33		--	0.2	0.2
<i>Paracapnia</i>	09020203018	0.33	0.33	1	SH	0.2	0.2
<i>Pteronarcys</i>	09020205023	0.33	0.33	0	SH	0.2	0.2
Perlidae	09020209	0.33			--	0.2	
<i>Acroneuria</i>	09020209042	1.33	1.79	0	PR	0.7	0.9
<i>Acroneuria abnormis</i>	09020209042121	0.33		0	PR	0.2	
<i>Agnatina</i>	09020209050		2.87	2	PR		1.5
<i>Agnatina capitata</i>	09020209050152	2.67		2	PR	1.4	
Aeshnidae	09020301	0.33	0.33		--	0.2	0.2
<i>Boyeria</i>	09020301004		1.33	2	PR		0.7
<i>Boyeria grafiana</i>	09020301004011	1.33			--	0.7	
Calopterygidae	09020307	2.67	2.67		--	1.4	1.4
<i>Calopteryx</i>	09020307043	0.33	0.33	5	PR	0.2	0.2
Baetidae	09020401	0.33			--	0.2	
<i>Baetis</i>	09020401001	1.00	1.73	4	CG	0.5	0.9
<i>Baetis flavistriga</i>	09020401001004	0.67			--	0.3	
<i>Acerpenna</i>	09020401007		6.58	5	CG		3.4
<i>Acerpenna macdunnoughi</i>	09020401007001	3.67			--	1.9	
<i>Acerpenna pygmaea</i>	09020401007011	2.67			--	1.4	
<i>Procloeon</i>	09020401010		0.35		CG		0.2
<i>Procloeon rivulare</i>	09020401010004	0.33			--	0.2	
<i>Plauditus</i>	09020401012	0.33	0.35		CG	0.2	0.2
<i>Leucrocuta</i>	09020402011	17.67	17.67	1	SC	9.1	9.1
<i>Stenacron</i>	09020402014	8.33	8.33	7	SC	4.3	4.3
<i>Maccaffertium</i>	09020402015	36.67	41.67	4	SC	19.0	21.6
<i>Maccaffertium vicarium</i>	09020402015055	5.00			--	2.6	
<i>Isonychia</i>	09020404018	0.33	0.33	2	CF	0.2	0.2
<i>Paraleptophlebia</i>	09020406026	0.67	0.67	1	CG	0.3	0.3
Ephemerellidae	09020410	0.67			--	0.3	
<i>Ephemerella</i>	09020410035	1.00	1.50	1	CG	0.5	0.8
<i>Serratella</i>	09020410037		0.50	2	CG		0.3
<i>Serratella serratoides</i>	09020410037124	0.33			--	0.2	
<i>Tricorythodes</i>	09020411038	3.00	3.00	4	CG	1.6	1.6
<i>Caenis</i>	09020412040	1.33	1.33	7	CG	0.7	0.7
<i>Nyctiophylax</i>	09020603009	0.33	0.33	5	PR	0.2	0.2
<i>Polycentropus</i>	09020603010	2.33	2.33	6	PR	1.2	1.2



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Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Cheumatopsyche</i>	09020604015	1.00	1.00	5	CF	0.5	0.5
<i>Hydropsyche</i>	09020604016	6.33	11.33	4	CF	3.3	5.9
<i>Hydropsyche bronta</i>	09020604016029	3.67			--	1.9	
<i>Hydropsyche slossonae</i>	09020604016031	1.33			--	0.7	
<i>Brachycentrus</i>	09020609043		21.33	0	CF		11.0
<i>Brachycentrus appalachia</i>	09020609043096	21.33			--	11.0	
Leptoceridae	09020618	0.67			--	0.3	
<i>Triaenodes</i>	09020618077	0.33	0.67	6	SH	0.2	0.3
<i>Oecetis</i>	09020618078		0.67	8	PR		0.3
<i>Oecetis avara</i>	09020618078153	0.33			--	0.2	
<i>Apatania</i>	09020619061	0.67	0.67		SC	0.3	0.3
<i>Nigronia</i>	09020701003		0.67	0	PR		0.3
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.3	
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.2	0.2
<i>Ablabesmyia</i>	09021011001	0.67	0.67	8	PR	0.3	0.3
<i>Labrundinia</i>	09021011008	0.33	1.00	7	PR	0.2	0.5
<i>Labrundinia pilosella</i>	09021011008022	0.67			--	0.3	
<i>Thienemannimyia</i>	09021011020		2.00	3	PR		1.0
<i>Thienemannimyia group</i>	09021011020041	2.00			--	1.0	
<i>Trissopelopia</i>	09021011021	1.67	1.67		PR	0.9	0.9
<i>Zavrelimyia</i>	09021011022	0.33	0.33	8	PR	0.2	0.2
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037		2.00	7	SH		1.0
<i>Cricotopus bicinctus</i>	09021011037057	2.00			--	1.0	
<i>Orthocladius</i>	09021011050	2.00	2.00	6	CG	1.0	1.0
<i>Parametriocnemus</i>	09021011053	0.33	0.33	5	CG	0.2	0.2
<i>Paratanytarsus</i>	09021011071	1.67	1.67	6	--	0.9	0.9
<i>Rheotanytarsus</i>	09021011072		14.67	6	CF		7.6
<i>Rheotanytarsus exiguus group</i>	09021011072127	6.33			CF	3.3	
<i>Rheotanytarsus pellucidus</i>	09021011072128	8.33			CF	4.3	
<i>Tanytarsus</i>	09021011076	4.00	4.00	6	CF	2.1	2.1
<i>Microtendipes</i>	09021011094		2.67	6	CF		1.4
<i>Microtendipes pedellus group</i>	09021011094166	1.00			--	0.5	
<i>Microtendipes rydalensis group</i>	09021011094168	1.67			--	0.9	
<i>Polypedilum</i>	09021011102		5.67	6	SH		2.9
<i>Polypedilum aviceps</i>	09021011102181	4.67			--	2.4	
<i>Polypedilum flavum</i>	09021011102182	1.00			--	0.5	
<i>Simulium</i>	09021012047	0.33	0.33	4	CF	0.2	0.2



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<i>Atherix</i>	09021015055	1.67	1.67	2	PR	0.9	0.9
<i>Dubiraphia</i>	09021113064	6.00	6.00	6	--	3.1	3.1
<i>Macronychus</i>	09021113065		1.67	4	--		0.9
<i>Macronychus glabratus</i>	09021113065040	1.67			--	0.9	
<i>Optioservus</i>	09021113067		0.33	3	SC		0.2
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.2	
<i>Promoresia</i>	09021113069		5.33		--		2.8
<i>Promoresia elegans</i>	09021113069051	0.67			--	0.3	
<i>Promoresia tardella</i>	09021113069052	4.67			--	2.4	
<i>Stenelmis</i>	09021113070	4.33	4.33	5	SC	2.2	2.2
Gastropoda	1001	0.33	0.33		--	0.2	0.2