



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

**Station Information**

<b>Station Number:</b> S-780	River Basin:	St. John	
Waterbody:	North Branch Meduxnekeag River - Station 780	HUC8 Name:	Meduxnekeag
Town:	Tc R02 Wels	Latitude:	46 21 3.85 N
Directions:	RT 1 TO JEWELL CORNER, END OF RD TO BRIDGE, SITE UPSTREAM; HMBI SITE CODE 1 NBR (HISTORICAL) AND 1.9 NBR (NEW)	Longitude:	67 55 27.87 W
		Stream Order:	3

**Sample Information**

<b>Log Number:</b> 2748	Type of Sample:	ROCK BAG	Date Deployed:	7/10/2019	
Subsample Factor:	X1	Replicates:	3	Date Retrieved:	8/7/2019

**Classification Attainment**

<b>Statutory Class:</b> A	<b>Final Determination:</b> A	Date:	11/12/2019
Model Result with $P \geq 0.6$ :	A	<b>Reason for Determination:</b>	Model
Date Last Calculated:	11/5/2019	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.85	Class C	0.00
Class B	0.15	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	537.00	18 Relative Abundance Ephemeroptera	0.22
02 Generic Richness	62.00	19 EPT Generic Richness	37.00
03 Plecoptera Mean Abundance	42.33	21 Sum of Abundances: <i>Dicrotendipes,</i>	0.33
04 Ephemeroptera Mean Abundance	118.00	<i>Micropsectra, Parachironomus, Helobdella</i>	
05 Shannon-Wiener Generic Diversity	3.96	23 Relative Generic Richness- Plecoptera	0.13
06 Hilsenhoff Biotic Index	3.87	25 Sum of Abundances: <i>Cheumatopsyche,</i>	48.00
07 Relative Abundance - Chironomidae	0.19	<i>Cricotopus, Tanytarsus, Ablabesmyia</i>	
08 Relative Generic Richness Diptera	0.21	26 Sum of Abundances: <i>Acroneuria,</i>	38.67
09 <i>Hydropsyche</i> Abundance	205.33	<i>Maccaffertium, Stenonema</i>	
11 <i>Cheumatopsyche</i> Abundance	13.33	28 EP Generic Richness/14	1.79
12 EPT Generic Richness/ Diptera	2.85	30 Presence of Class A Indicator Taxa/7	0.86
Generic Richness			

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	38.24
2	<i>Cricotopus</i>	6.46
3	<i>Rheotanytarsus</i>	4.03
4	<i>Acroneuria</i>	4.03
5	<i>Baetis</i>	3.85



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**Log Number: 2748**      Waterbody: North Branch Meduxnekeag River - Station 780      Date Retrieved: 8/7/2019

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT      Taxonomist: MICHAEL COLE

**Waterbody Information - Deployment**

Temperature:                      16.2 deg C  
Dissolved Oxygen:                10.43 mg/l  
Dissolved Oxygen Saturation:    105.7 %  
Specific Conductance:            91.2 uS/cm  
Velocity:                            48.8 cm/s  
pH:                                    7.99  
Wetted Width:                      15 m  
Bankfull Width:                    16.1 m  
Depth:                                26 cm

**Waterbody Information - Retrieval**

Temperature:                      18.6 deg C  
Dissolved Oxygen:                10.2 mg/l  
Dissolved Oxygen Saturation:    109.3 %  
Specific Conductance:            99.6 uS/cm  
Velocity:                            21.3 cm/s  
pH:                                    8.16  
Wetted Width:                      11.6 m  
Bankfull Width:                    16 m  
Depth:                                26 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
	Above Road Crossing	Boulder	15 %
		Gravel	35 %
		Rubble/Cobble	40 %
		Sand	10 %

**Landcover Summary - 2004 Data**

Total Area (ac)	22134	High Int. Dev. %	0.0	Water %	0.5	Non-vegetated %	0.4
		Med Int. Dev. %	0.0	Wetland %	4.2	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.5	Upland Woody %	94.1	Grassland %	0.3
		Development %	0.5	Natural %	98.5	Human Altered %	0.9
						Impervious %	0.1
Total Land (ac)	22021	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.0	Wetland %	4.2	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.5	Upland Woody %	94.6	Grassland %	0.3
		Development %	0.5	Natural %	99.0	Human Altered %	1.0
						Impervious %	0.1

**Sample Comments**

BLACKNOSE DACE PRESENT.



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**Log Number: 2748**      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				
Nematomorpha	06	0.67	0.67		--	0.1	0.1
<i>Paracapnia</i>	09020203018	0.33	0.33	1	SH	0.1	0.1
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.1	0.1
<i>Pteronarcys</i>	09020205023	0.33	0.67	0	SH	0.1	0.1
<i>Pteronarcys biloba</i>	09020205023061	0.33			--	0.1	
Perlodidae	09020207	0.33	0.33		--	0.1	0.1
<i>Sweltsa</i>	09020208040	0.33	0.33		PR	0.1	0.1
<i>Acroneuria</i>	09020209042	16.33	21.67	0	PR	3.0	4.0
<i>Acroneuria abnormis</i>	09020209042121	5.33		0	PR	1.0	
<i>Paragnetina</i>	09020209049	17.33	17.67	1	PR	3.2	3.3
<i>Paragnetina immarginata</i>	09020209049149	0.33			--	0.1	
<i>Agnatina</i>	09020209050		1.00	2	PR		0.2
<i>Agnatina capitata</i>	09020209050152	1.00		2	PR	0.2	
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria grafiana</i>	09020301004011	0.33			--	0.1	
Gomphidae	09020302	1.33	1.33		--	0.2	0.2
Calopterygidae	09020307	2.33	2.33		--	0.4	0.4
<i>Baetis</i>	09020401001	1.33	20.67	4	CG	0.2	3.8
<i>Baetis flavistriga</i>	09020401001004	8.67			--	1.6	
<i>Baetis intercalaris</i>	09020401001008	10.67			--	2.0	
<i>Acerpenna</i>	09020401007	3.00	10.67	5	CG	0.6	2.0
<i>Acerpenna macdunnoughi</i>	09020401007001	7.00			--	1.3	
<i>Acerpenna pygmaea</i>	09020401007011	0.67			--	0.1	
<i>Procloeon</i>	09020401010		0.67		CG		0.1
<i>Procloeon rivulare</i>	09020401010004	0.67			--	0.1	
<i>Plauditus</i>	09020401012	14.33	14.33		CG	2.7	2.7
<i>Diphedor</i>	09020401013		7.67		--		1.4
<i>Diphedor hageni</i>	09020401013001	7.67			--	1.4	
<i>Epeorus</i>	09020402009	6.33	6.33	0	SC	1.2	1.2
<i>Leucrocuta</i>	09020402011	14.00	14.00	1	SC	2.6	2.6
<i>Nixe</i>	09020402012	0.67	0.67	2	SC	0.1	0.1
<i>Stenacron</i>	09020402014		0.33	7	SC		0.1
<i>Stenacron interpunctatum</i>	09020402014045	0.33			--	0.1	
<i>Maccaffertium</i>	09020402015	17.00	17.00	4	SC	3.2	3.2
<i>Isonychia</i>	09020404018	6.33	11.33	2	CF	1.2	2.1
<i>Isonychia bicolor</i>	09020404018059	5.00			--	0.9	
Leptophlebiidae	09020406	0.67	0.67		--	0.1	0.1



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**Log Number: 2748**      Subsample Factor: X1      Replicates: 3      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>Paraleptophlebia</i>	09020406026	0.33	0.33	1	CG	0.1	0.1
<i>Ephemerella</i>	09020410035	3.00	3.00	1	CG	0.6	0.6
<i>Serratella</i>	09020410037		2.33	2	CG		0.4
<i>Serratella deficiens (Teloganopsis deficiens)</i>	09020410037121	0.33			--	0.1	
<i>Serratella serrata</i>	09020410037123	1.00			--	0.2	
<i>Serratella serratoides</i>	09020410037124	1.00			--	0.2	
<i>Tricorythodes</i>	09020411038	2.33	2.33	4	CG	0.4	0.4
<i>Caenis</i>	09020412040	5.67	5.67	7	CG	1.1	1.1
<i>Neureclipsis</i>	09020603008	0.33	0.33	7	CF	0.1	0.1
<i>Polycentropus</i>	09020603010	1.67	1.67	6	PR	0.3	0.3
<i>Cheumatopsyche</i>	09020604015	13.33	13.33	5	CF	2.5	2.5
<i>Hydropsyche</i>	09020604016	161.67	205.33	4	CF	30.1	38.2
<i>Hydropsyche bronta</i>	09020604016029	7.00			--	1.3	
<i>Hydropsyche morosa</i>	09020604016030	4.33			--	0.8	
<i>Hydropsyche slossonae</i>	09020604016031	30.00			--	5.6	
<i>Hydropsyche sparna</i>	09020604016032	2.33			--	0.4	
<i>Glossosoma</i>	09020606020	6.00	6.00	0	SC	1.1	1.1
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.1	0.1
<i>Oxyethira</i>	09020607028	2.00	2.00	3	P	0.4	0.4
<i>Brachycentrus</i>	09020609043		12.33	0	CF		2.3
<i>Brachycentrus appalachia</i>	09020609043096	12.33			--	2.3	
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Neophylax</i>	09020610062	0.33	0.33	3	SC	0.1	0.1
<i>Psilotreta</i>	09020614068	1.00	1.33	0	SC	0.2	0.2
<i>Psilotreta indecisa</i>	09020614068132	0.33			--	0.1	
<i>Oecetis</i>	09020618078	0.33	1.00	8	PR	0.1	0.2
<i>Oecetis avara</i>	09020618078153	0.67			--	0.1	
<i>Nigronia</i>	09020701003		0.33	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	0.33			--	0.1	
<i>Labrundinia</i>	09021011008			7	PR		
<i>Nilotanyus</i>	09021011012		0.33	6	PR		0.1
<i>Nilotanyus fimbriatus</i>	09021011012027	0.33			--	0.1	
<i>Paramerina</i>	09021011013	0.33	0.33		--	0.1	0.1
<i>Thienemannimyia</i>	09021011020		7.67	3	PR		1.4
<i>Thienemannimyia group</i>	09021011020041	7.67			--	1.4	
<i>Cricotopus</i>	09021011037	1.33	34.67	7	SH	0.2	6.5
<i>Cricotopus bicinctus</i>	09021011037057	33.33			--	6.2	



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		Actual	Adjusted			Actual	Adjusted
<i>Parametrioconemus</i>	09021011053	0.33	0.33	5	CG	0.1	0.1
<i>Psectrocladius</i>	09021011056	1.33	1.33	8	CG	0.2	0.2
<i>Thienemanniella</i>	09021011062	4.00	4.00	6	CG	0.7	0.7
<i>Tvetenia</i>	09021011065		8.67	5	CG		1.6
<i>Tvetenia vitracies</i>	09021011065113	8.67			--	1.6	
<i>Micropsectra</i>	09021011070	0.33	0.33	7	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072		21.67	6	CF		4.0
<i>Rheotanytarsus exiguus group</i>	09021011072127	21.00			CF	3.9	
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.67			CF	0.1	
<i>Microtendipes</i>	09021011094		11.33	6	CF		2.1
<i>Microtendipes pedellus group</i>	09021011094166	2.67			--	0.5	
<i>Microtendipes rydalensis group</i>	09021011094168	8.67			--	1.6	
<i>Polypedilum</i>	09021011102		13.67	6	SH		2.5
<i>Polypedilum aviceps</i>	09021011102181	4.67			--	0.9	
<i>Polypedilum flavum</i>	09021011102182	9.00			--	1.7	
<i>Hemerodromia</i>	09021016057	1.00	1.00	3	PR	0.2	0.2
<i>Psephenus</i>	09021108058		0.33	4	SC		0.1
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.1	
<i>Ectopria</i>	09021109059	0.67	0.67	5	SC	0.1	0.1
<i>Dubiraphia</i>	09021113064	3.00	3.00	6	--	0.6	0.6
<i>Optioservus</i>	09021113067		0.67	3	SC		0.1
<i>Optioservus fastiditus</i>	09021113067044	0.33			--	0.1	
<i>Optioservus trivittatus</i>	09021113067048	0.33			--	0.1	
<i>Promoesia</i>	09021113069		13.67		--		2.5
<i>Promoesia elegans</i>	09021113069051	5.33			--	1.0	
<i>Promoesia tardella</i>	09021113069052	8.33			--	1.6	
<i>Stenelmis</i>	09021113070	3.33	3.33	5	SC	0.6	0.6
<i>Helisoma</i>	10010203030		0.33		SC		0.1
<i>Helisoma anceps</i>	10010203030058	0.33			--	0.1	