



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

Station Information

Station Number: S-364	River Basin:	St. John	
Waterbody:	Meduxnekeag River - Station 364	HUC8 Name:	Meduxnekeag
Town:	Houlton	Latitude:	46 9 0.88 N
Directions:	IMMEDIATELY BELOW POTW; HBMI CODE 2004	Longitude:	67 49 25.22 W
	ONWARDS: 16.4 MDX	Stream Order:	4

Sample Information

Log Number: 2290	Type of Sample:	ROCK BAG	Date Deployed:	7/24/2014	
Subsample Factor:	X4	Replicates:	3	Date Retrieved:	8/21/2014

Classification Attainment

Statutory Class: B	Final Determination: A	Date:	2/12/2015
Model Result with $P \geq 0.6$:	A	Reason for Determination:	Model
Date Last Calculated:	2/11/2015	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.72	Class C	0.00
Class B	0.28	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	1280.00	18 Relative Abundance Ephemeroptera	0.57
02 Generic Richness	51.00	19 EPT Generic Richness	26.00
03 Plecoptera Mean Abundance	13.33	21 Sum of Abundances: <i>Dicrotendipes</i> ,	0.00
04 Ephemeroptera Mean Abundance	733.33	<i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	
05 Shannon-Wiener Generic Diversity	4.11	23 Relative Generic Richness- Plecoptera	0.06
06 Hilsenhoff Biotic Index	3.52	25 Sum of Abundances: <i>Cheumatopsyche</i> ,	206.20
07 Relative Abundance - Chironomidae	0.10	<i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	
08 Relative Generic Richness Diptera	0.27	26 Sum of Abundances: <i>Acroneuria</i> ,	26.67
09 <i>Hydropsyche</i> Abundance	118.75	<i>Maccaffertium</i> , <i>Stenonema</i>	
11 <i>Cheumatopsyche</i> Abundance	169.25	28 EP Generic Richness/14	1.14
12 EPT Generic Richness/ Diptera	1.86	30 Presence of Class A Indicator Taxa/7	0.57
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00	Five Most Dominant Taxa	
15 Perlidae Mean Abundance (Family	12.00	Rank	Taxon Name
Functional Group)		1	<i>Iswaeon</i>
16 Tanypodinae Mean Abundance	12.79	2	<i>Cheumatopsyche</i>
(Family Functional Group)		3	<i>Ephemerella</i>
17 Chironomini Abundance (Family	68.22	4	<i>Hydropsyche</i>
Functional Group)		5	<i>Serratella</i>
			Percent
			17.39
			13.22
			12.71
			9.28
			6.88



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Waterbody: Meduxnekeag River - Station 364

Date Retrieved: 8/21/2014

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 21.7 deg C
Dissolved Oxygen: 9.6 mg/l
Specific Conductance: 210 uS/cm
Velocity: 32 cm/s
pH: 7.9
Wetted Width: 30 m
Bankfull Width: 30 m
Depth: 70 cm

Waterbody Information - Retrieval

Temperature: 21.3 deg C
Dissolved Oxygen: 9.52 mg/l
Specific Conductance: 224 uS/cm
Velocity: 19 cm/s
pH: 6.47
Wetted Width: 28 m
Bankfull Width: 30 m
Depth: 57 cm

Water Chemistry - 7/28/2014

Nitrate+nitrite As N	0.32 mg/l	Total Phosphorus	7 ug/l
Total Kjeldahl Nitrogen	0.2 mg/l	Orthophosphate As Phosphorus	1 ug/l
Total Alkalinity	89 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Nutrients	Below POTW	Bedrock 10 % Boulder 50 % Gravel 10 % Rubble/Cobble 20 % Sand 10 %

Landcover Summary - 2004 Data

Total Area (ac)	76108	High Int. Dev. %	0.7	Water %	2.0	Non-vegetated %	0.4
		Med Int. Dev. %	0.4	Wetland %	11.1	Tilled Agriculture %	17.8
		Low Int. Dev. %	2.1	Upland Woody %	60.7	Grassland %	3.1
		Development %	3.2	Natural %	71.9	Human Altered %	26.1
						Impervious %	2.3

Sample Comments

7/24 - FISH AND TURTLE PRESENT.

8/21 - NMRO METER USED FOR DO, TEMP, AND SPC READINGS. PH METER ACTING UP, SECOND NUMBER TAKEN WITH NMRO PEN METER (8.37).



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Log Number: 2290

Subsample Factor: X4

Replicates: 3

Calculated: 2/11/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Turbellaria	0301	2.67	2.67		--	0.2	0.2
<i>Nais</i>	08020202009		2.67		CG		0.2
<i>Nais behningi</i>	08020202009003	2.67			--	0.2	
<i>Pteronarcys</i>	09020205023		1.33	0	SH		0.1
<i>Pteronarcys comstocki</i>	09020205023062	1.33			--	0.1	
<i>Acroneuria</i>	09020209042	2.67	9.33	0	PR	0.2	0.7
<i>Acroneuria lycorias</i>	09020209042125	6.67			--	0.5	
<i>Agnetina</i>	09020209050		2.67	2	PR		0.2
<i>Agnetina capitata</i>	09020209050152	2.67		2	PR	0.2	
Gomphidae	09020302	1.33	1.33		--	0.1	0.1
Corduliidae	09020305	1.33	1.33		--	0.1	0.1
Calopterygidae	09020307	1.33	1.33		--	0.1	0.1
<i>Calopteryx</i>	09020307043		1.33	5	PR		0.1
<i>Calopteryx aequabilis</i>	09020307043085	1.33			--	0.1	
<i>Argia</i>	09020309048	4.00	4.00	7	PR	0.3	0.3
Baetidae	09020401	6.67			--	0.5	
<i>Baetis</i>	09020401001		8.19	4	CG		0.6
<i>Baetis flavistriga</i>	09020401001004	5.33			--	0.4	
<i>Baetis intercalaris</i>	09020401001008	2.67			--	0.2	
<i>Acerpenna</i>	09020401007	6.67	49.16	5	CG	0.5	3.8
<i>Acerpenna pygmaea</i>	09020401007011	41.33			--	3.2	
<i>Plauditus</i>	09020401012	1.33	1.37		CG	0.1	0.1
<i>Iswaeon</i>	09020401015	217.33	222.58		--	17.0	17.4
<i>Neocloeon (Centroptilum)</i>	09020401017	1.33	1.37	2	CG	0.1	0.1
<i>Leucrocuta</i>	09020402011	49.33	49.33	1	SC	3.9	3.9
<i>Stenacron</i>	09020402014	1.33	1.33	7	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	4.00	17.33	4	SC	0.3	1.4
<i>Maccaffertium luteum</i>	09020402015049	13.33			--	1.0	
<i>Isonychia</i>	09020404018	56.00	56.00	2	CF	4.4	4.4
<i>Ephemerella</i>	09020410035	162.67	162.67	1	CG	12.7	12.7
<i>Eurylophella</i>	09020410036	1.33	1.33	3	CG	0.1	0.1
<i>Serratella</i>	09020410037		88.00	2	CG		6.9
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	69.33			--	5.4	
<i>Serratella serratoides</i>	09020410037124	18.67			--	1.5	
<i>Tricorythodes</i>	09020411038	74.67	74.67	4	CG	5.8	5.8
<i>Chimarra</i>	09020601003	8.00	17.33	2	CF	0.6	1.4
<i>Chimarra socia</i>	09020601003004	9.33			--	0.7	
Polycentropodidae	09020603	1.33			--	0.1	



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Replicates: 3

Calculated: 2/11/2015

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		Actual	Adjusted			Actual	Adjusted
<i>Neureclipsis</i>	09020603008	17.33	18.57	7	CF	1.4	1.5
<i>Polycentropus</i>	09020603010	1.33	1.43	6	PR	0.1	0.1
Hydropsychidae	09020604	6.67			--	0.5	
<i>Cheumatopsyche</i>	09020604015	165.33	169.25	5	CF	12.9	13.2
<i>Hydropsyche</i>	09020604016	45.33	118.75	4	CF	3.5	9.3
<i>Hydropsyche bronta</i>	09020604016029	24.00			--	1.9	
<i>Hydropsyche morosa</i>	09020604016030	41.33			--	3.2	
<i>Hydropsyche slossonae</i>	09020604016031	1.33			--	0.1	
<i>Hydropsyche depravata species group</i>	09020604016041	1.33			CF	0.1	
<i>Hydropsyche placoda</i>	09020604016059	2.67			--	0.2	
<i>Rhyacophila</i>	09020605019		1.33	2	PR		0.1
<i>Rhyacophila minor</i>	09020605019063	1.33			PR	0.1	
<i>Brachycentrus</i>	09020609043		1.33	0	CF		0.1
<i>Brachycentrus appalachia</i>	09020609043096	1.33			--	0.1	
<i>Lepidostoma</i>	09020611064	13.33	13.33	1	SH	1.0	1.0
<i>Helicopsyche</i>	09020616070		4.00	3	SC		0.3
<i>Helicopsyche borealis</i>	09020616070137	4.00			--	0.3	
<i>Oecetis</i>	09020618078	4.00	6.67	8	PR	0.3	0.5
<i>Oecetis avara</i>	09020618078153	1.33			--	0.1	
<i>Oecetis persimilis</i>	09020618078157	1.33			--	0.1	
Chironomidae	09021011	8.00			--	0.6	
<i>Ablabesmyia</i>	09021011001		9.95	8	PR		0.8
<i>Ablabesmyia mallochii</i>	09021011001004	9.33			--	0.7	
<i>Nilotanyus</i>	09021011012		1.42	6	PR		0.1
<i>Nilotanyus fimbriatus</i>	09021011012027	1.33			--	0.1	
<i>Rheopelopia</i>	09021011017	1.33	1.42		PR	0.1	0.1
<i>Cricotopus</i>	09021011037		4.26	7	SH		0.3
<i>Cricotopus bicinctus</i>	09021011037057	4.00			--	0.3	
<i>Tvetenia</i>	09021011065		7.11	5	CG		0.6
<i>Tvetenia vitracies</i>	09021011065113	6.67			--	0.5	
<i>Rheotanytarsus</i>	09021011072	6.67	12.79	6	CF	0.5	1.0
<i>Rheotanytarsus pellucidus</i>	09021011072128	5.33			CF	0.4	
<i>Stempellinella</i>	09021011074		1.42	2	--		0.1
<i>Stempellinella fimbriata</i>	09021011074002	1.33			--	0.1	
<i>Tanytarsus</i>	09021011076	12.00	22.74	6	CF	0.9	1.8
<i>Tanytarsus buckleyi</i>	09021011076139	2.67			CF	0.2	
<i>Tanytarsus sepp</i>	09021011076141	6.67			--	0.5	



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<i>Microtendipes</i>	09021011094		19.90	6	CF		1.6
<i>Microtendipes pedellus group</i>	09021011094166	6.67			--	0.5	
<i>Microtendipes rydalensis group</i>	09021011094168	12.00			--	0.9	
<i>Phaenopsectra</i>	09021011101		9.95	7	SC		0.8
<i>Phaenopsectra obediens</i>	09021011101182	9.33			SC	0.7	
<i>Polypedilum</i>	09021011102		38.37	6	SH		3.0
<i>Polypedilum aviceps</i>	09021011102181	8.00			--	0.6	
<i>Polypedilum flavum</i>	09021011102182	28.00			--	2.2	
<i>Simulium</i>	09021012047		1.33	4	CF		0.1
<i>Simulium jenningsi species group</i>	09021012047070	1.33			CF	0.1	
<i>Atherix</i>	09021015055	18.67	18.67	2	PR	1.5	1.5
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.1	0.1
<i>Dubiraphia</i>	09021113064		1.33	6	--		0.1
<i>Dubiraphia minima</i>	09021113064036	1.33			--	0.1	
<i>Promoresia</i>	09021113069		9.33		--		0.7
<i>Promoresia elegans</i>	09021113069051	2.67			--	0.2	
<i>Promoresia tardella</i>	09021113069052	6.67			--	0.5	
<i>Stenelmis</i>	09021113070	1.33	4.00	5	SC	0.1	0.3
<i>Stenelmis crenata</i>	09021113070055	2.67			--	0.2	
<i>Aturus</i>	09030120001	1.33	1.33		--	0.1	0.1