



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

Station Information

Station Number:	S-1028	River Basin:	St. John
Waterbody:	Meduxnekeag River - Station 1028	HUC8 Name:	Meduxnekeag
Town:	Houlton	Latitude:	46° 6' 0.879" N
Directions:	SAME LOCATION AS HOULTON BAND OF MALISEET SITE 9.1 MDX. FIRST FARM ON THE RIGHT ON DREWS LAKE ROAD, WEST OF ROUTE 2A (BANGOR)	Longitude:	67° 53' 53.288" W
		Stream Order:	

Sample Information

Log Number:	2293	Type of Sample:	ROCK BAG	Date Deployed:	7/24/2014
Subsample Factor:	X4	Replicates:	3	Date Retrieved:	8/22/2014

Classification Attainment

Statutory Class:	B	Final Determination:	B	Date:	2/12/2015
Model Result with $P \geq 0.6$:	B	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	0.18	Class A, B, or C	1.00
Class B	0.70	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.99	Class A	0.18
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.82

Model Variables

01 Total Mean Abundance	941.33	18 Relative Abundance Ephemeroptera	0.30
02 Generic Richness	50.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	2.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	32.97
04 Ephemeroptera Mean Abundance	285.33	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	4.23	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	280.74
06 Hilsenhoff Biotic Index	5.49	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	43.11
07 Relative Abundance - Chironomidae	0.32	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	8.00		
11 <i>Cheumatopsyche</i> Abundance	174.67		
12 EPT Generic Richness/ Diptera Generic Richness	1.92		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	2.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	84.58		
17 Chironomini Abundance (Family Functional Group)	121.85		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Cheumatopsyche</i>	18.56
2	<i>Acerpenna</i>	14.58
3	<i>Tricorythodes</i>	7.93
4	<i>Ablabesmyia</i>	6.09
5	<i>Hydroptila</i>	5.32



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Station Number: S-1028

Town: Houlton

Date Deployed: 7/24/2014

Log Number: 2293

Waterbody: Meduxnekeag River - Station 1028

Date Retrieved: 8/22/2014

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 23.4 deg C
Dissolved Oxygen: 8.2 mg/l
Specific Conductance: 177 uS/cm
Velocity: 24 cm/s
pH: 7.97
Wetted Width: 23 m
Bankfull Width: 23 m
Depth: 65 cm

Waterbody Information - Retrieval

Temperature: 21.6 deg C
Dissolved Oxygen: 9.3 mg/l
Specific Conductance: 161 uS/cm
Velocity: 11 cm/s
pH: 8.8
Wetted Width: 21 m
Bankfull Width: 23 m
Depth: 63 cm

Water Chemistry - 7/28/2014

Nitrate+nitrite As N	0.12 mg/l	Total Phosphorus	9 ug/l
Total Kjeldahl Nitrogen	0.2 mg/l	Orthophosphate As Phosphorus	1 ug/l
Total Alkalinity	75 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Open	Rolling
Upland Conifer		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Below Agriculture NPS	Boulder 45 %
	Main Stem	Gravel 5 %
		Rubble/Cobble 50 %

Landcover Summary - 2004 Data

Sample Comments

7/24 - ALGAE PRESENT.



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Station Number: S-1028

Waterbody: Meduxnekeag River - Station 1028

Town: Houlton

Log Number: 2293

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
<i>Hydra</i>	02010101001	1.33	1.33		PR	0.1	0.1
<i>Hyalella</i>	09010203006	8.00	8.00	8	CG	0.8	0.8
<i>Acroneuria</i>	09020209042		2.67	0	PR		0.3
<i>Acroneuria abnormis</i>	09020209042121	2.67		0	PR	0.3	
Gomphidae	09020302	1.33	1.33		--	0.1	0.1
<i>Calopteryx</i>	09020307043		2.67	5	PR		0.3
<i>Calopteryx aequabilis</i>	09020307043085	2.67			--	0.3	
Coenagrionidae	09020309	1.33			--	0.1	
<i>Argia</i>	09020309048	4.00	4.80	7	PR	0.4	0.5
<i>Enallagma</i>	09020309051		3.20	9	PR		0.3
<i>Enallagma divagans</i>	09020309051113	2.67			--	0.3	
Baetidae	09020401	1.33			--	0.1	
<i>Acerpenna</i>	09020401007	44.00	137.27	5	CG	4.7	14.6
<i>Acerpenna pygmaea</i>	09020401007011	92.00			--	9.8	
<i>Labiobaetis</i>	09020401009		1.35		--		0.1
<i>Labiobaetis propinquus</i>	09020401009010	1.33			--	0.1	
<i>Iswaeon</i>	09020401015	4.00	4.04		--	0.4	0.4
<i>Neocloeon (Centroptilum)</i>	09020401017	1.33	1.35	2	CG	0.1	0.1
Heptageniidae	09020402	4.00			--	0.4	
<i>Leucrocuta</i>	09020402011	1.33	1.44	1	SC	0.1	0.2
<i>Stenacron</i>	09020402014	9.33	10.11	7	SC	1.0	1.1
<i>Maccaffertium</i>	09020402015	20.00	40.44	4	SC	2.1	4.3
<i>Maccaffertium luteum</i>	09020402015049	16.00			--	1.7	
<i>Maccaffertium mediopunctatum</i>	09020402015050	1.33			--	0.1	
Leptophlebiidae	09020406	1.33	1.33		--	0.1	0.1
Ephemerellidae	09020410	2.67	2.67		--	0.3	0.3
<i>Ephemerella</i>	09020410035	10.67	10.67	1	CG	1.1	1.1
<i>Tricorythodes</i>	09020411038	74.67	74.67	4	CG	7.9	7.9
Polycentropodidae	09020603	1.33			--	0.1	
<i>Neureclipsis</i>	09020603008	9.33	9.67	7	CF	1.0	1.0
<i>Polycentropus</i>	09020603010	28.00	29.00	6	PR	3.0	3.1
<i>Cheumatopsyche</i>	09020604015	174.67	174.67	5	CF	18.6	18.6
<i>Hydropsyche</i>	09020604016	1.33	8.00	4	CF	0.1	0.8
<i>Hydropsyche sparna</i>	09020604016032	1.33			--	0.1	
<i>Hydropsyche placoda</i>	09020604016059	5.33			--	0.6	
Hydroptilidae	09020607	6.67			--	0.7	
<i>Hydroptila</i>	09020607026	44.00	50.11	6	P	4.7	5.3
<i>Ochrotrichia</i>	09020607027	4.00	4.56	4	P	0.4	0.5



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		Calculated: 2/11/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Pycnopsyche</i>	09020610049	1.33	1.33	4	SH	0.1	0.1
<i>Apatania</i>	09020610061	1.33	1.33		SC	0.1	0.1
<i>Lepidostoma</i>	09020611064	9.33	9.33	1	SH	1.0	1.0
<i>Psilotreta</i>	09020614068		1.33	0	SC		0.1
<i>Psilotreta indecisa</i>	09020614068132	1.33			--	0.1	
Leptoceridae	09020618				--		
<i>Mystacides</i>	09020618075		1.33	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	1.33			--	0.1	
<i>Triaenodes</i>	09020618077		1.33	6	SH		0.1
<i>Triaenodes flavescens</i>	09020618077153	1.33			--	0.1	
<i>Oecetis</i>	09020618078	1.33	1.33	8	PR	0.1	0.1
<i>Bezzia/palpomyia</i>	09021010043	1.33	1.33	6	PR	0.1	0.1
Chironomidae	09021011	21.33			--	2.3	
<i>Ablabesmyia</i>	09021011001		57.34	8	PR		6.1
<i>Ablabesmyia mallochii</i>	09021011001004	53.33			--	5.7	
<i>Labrundinia</i>	09021011008	1.33	1.43	7	PR	0.1	0.2
<i>Pentaneura</i>	09021011014		25.80	6	PR		2.7
<i>Pentaneura inconspicua</i>	09021011014028	24.00			--	2.5	
<i>Corynoneura</i>	09021011036	2.67	2.87	7	CG	0.3	0.3
<i>Cricotopus</i>	09021011037			7	SH		
<i>Nanocladius</i>	09021011049		2.87	3	CG		0.3
<i>Nanocladius branchicolus</i>	09021011049091	2.67			--	0.3	
<i>Orthocladius</i>	09021011050		43.00	6	CG		4.6
<i>Orthocladius carlatus</i>	09021011050093	40.00			--	4.2	
<i>Parametriocnemus</i>	09021011053	1.33	1.43	5	CG	0.1	0.2
<i>Tanytarsus</i>	09021011076	18.67	48.74	6	CF	2.0	5.2
<i>Tanytarsus buckleyi</i>	09021011076139	10.67			CF	1.1	
<i>Tanytarsus sepp</i>	09021011076141	16.00			--	1.7	
<i>Dicrotendipes</i>	09021011085	2.67	32.97	8	CG	0.3	3.5
<i>Dicrotendipes neomodestus</i>	09021011085152	28.00			--	3.0	
<i>Lauterborniella agrayloides</i>	09021011092001				--		
<i>Microtendipes</i>	09021011094		47.31	6	CF		5.0
<i>Microtendipes pedellus group</i>	09021011094166	2.67			--	0.3	
<i>Microtendipes rydalensis group</i>	09021011094168	41.33			--	4.4	
<i>Nilothauma</i>	09021011095	1.33	1.43	2	--	0.1	0.2
<i>Phaenopsectra</i>	09021011101		40.14	7	SC		4.3
<i>Phaenopsectra obediens</i>	09021011101182	37.33			SC	4.0	
<i>Polypedilum</i>	09021011102			6	SH		



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<i>Psephenus</i>	09021108058		4.00	4	SC		0.4
<i>Psephenus herricki</i>	09021108058028	4.00			--	0.4	
<i>Ectopria</i>	09021109059	2.67	2.67	5	SC	0.3	0.3
<i>Dubiraphia</i>	09021113064		9.33	6	--		1.0
<i>Dubiraphia minima</i>	09021113064036	8.00			--	0.8	
<i>Dubiraphia quadrinotata</i>	09021113064037	1.33			--	0.1	
<i>Promoresia</i>	09021113069		5.33		--		0.6
<i>Promoresia elegans</i>	09021113069051	1.33			--	0.1	
<i>Promoresia tardella</i>	09021113069052	4.00			--	0.4	
<i>Stenelmis</i>	09021113070	4.00	9.33	5	SC	0.4	1.0
<i>Stenelmis concinna</i>	09021113070054	1.33			--	0.1	
<i>Stenelmis crenata</i>	09021113070055	4.00			--	0.4	
<i>Rhyncholimnnochaes</i>	09030110001	1.33	1.33		--	0.1	0.1