



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

Station Information

Station Number:	S-556	River Basin:	St. John
Waterbody:	Hill Brook - Station 556	HUC8 Name:	Meduxnekeag
Town:	Houlton	Latitude:	46 10 22.08 N
Directions:	BELOW - BELOW ROAD IN WOODS	Longitude:	67 49 6.43 W
		Stream Order:	2

Sample Information

Log Number:	2288	Type of Sample:	ROCK BAG	Date Deployed:	7/23/2014
Subsample Factor:	X1	Replicates:	3	Date Retrieved:	8/21/2014

Classification Attainment

Statutory Class:	B	Final Determination:	A	Date:	2/11/2015
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	0.97	Class A, B, or C	1.00
Class B	0.03	Non-Attainment	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	66.00	18 Relative Abundance Ephemeroptera	0.23
02 Generic Richness	40.00	19 EPT Generic Richness	21.00
03 Plecoptera Mean Abundance	7.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	15.00	23 Relative Generic Richness- Plecoptera	0.15
05 Shannon-Wiener Generic Diversity	4.48	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	5.40
06 Hilsenhoff Biotic Index	2.74	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	2.00
07 Relative Abundance - Chironomidae	0.16	28 EP Generic Richness/14	0.93
08 Relative Generic Richness Diptera	0.33	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	5.79		
11 <i>Cheumatopsyche</i> Abundance	5.07		
12 EPT Generic Richness/ Diptera	1.62		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	1.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	1.00		
(Family Functional Group)			
17 Chironomini Abundance (Family	4.67		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Diplectrona</i>	15.36
2	<i>Hydropsyche</i>	8.78
3	<i>Diphetor</i>	8.08
4	<i>Cheumatopsyche</i>	7.68
5	<i>Leuctra</i>	7.07
6	<i>Optioservus</i>	7.07



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Town: Houlton

Date Deployed: 7/23/2014

**Log Number: 2288**

Waterbody: Hill Brook - Station 556

Date Retrieved: 8/21/2014

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 20.6 deg C  
Dissolved Oxygen: 8.2 mg/l  
Specific Conductance: 367 uS/cm  
Velocity: 40 cm/s  
pH: 8.28  
Wetted Width: 3.4 m  
Bankfull Width: 5.1 m  
Depth: 20 cm

**Waterbody Information - Retrieval**

Temperature: 16.3 deg C  
Dissolved Oxygen: 9.33 mg/l  
Specific Conductance: 339 uS/cm  
Velocity: 25 cm/s  
pH: 8.31  
Wetted Width: 3.1 m  
Bankfull Width: 5.1 m  
Depth: 27 cm

**Water Chemistry - 7/7/2014**

Nitrate+nitrite As N 0.43 mg/l  
Total Kjeldahl Nitrogen 0.3 mg/l  
Total Alkalinity 132 mg/l

Total Phosphorus 15 ug/l  
Orthophosphate As Phosphorus 5 ug/l

**Summary of Habitat Characteristics**

Landuse Name

Cultivated

Pasture

Swamp Conifer

Potential Stressor

Agricultural Runoff

Canopy Cover

Partly Open

Location

Above Road Crossing

Terrain

Rolling

Substrate

Boulder 5 %  
Gravel 30 %  
Rubble/Cobble 20 %  
Sand 45 %

**Landcover Summary - 2004 Data**

Total Area (ac)	1152	High Int. Dev. %	0.6	Water %	1.1	Non-vegetated %	0.1
		Med Int. Dev. %	0.2	Wetland %	22.6	Tilled Agriculture %	29.2
		Low Int. Dev. %	1.7	Upland Woody %	35.9	Grassland %	7.3
		Development %	2.6	Natural %	58.6	Human Altered %	40.3
						Impervious %	2.3

**Sample Comments**

8/21 - NMRO METER USED FOR DO AND SPC READINGS.

7/23 - VERY BRAIDED WITH ISLANDS.



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Town: Houlton

**Log Number: 2288**

Subsample Factor: X1

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	0.33	0.33		--	0.5	0.5
<i>Cambarus</i>	09010301007	0.33	0.33		CG	0.5	0.5
<i>Paracapnia</i>	09020203018	0.33	0.33	1	SH	0.5	0.5
<i>Leuctra</i>	09020204020	1.33	4.67	0	SH	2.0	7.1
<i>Leuctra ferruginea</i>	09020204020050	3.33			--	5.1	
<i>Pteronarcys</i>	09020205023		0.33	0	SH		0.5
<i>Pteronarcys biloba</i>	09020205023061	0.33			--	0.5	
Perlodidae	09020207	0.33	0.33		--	0.5	0.5
<i>Sweltsa</i>	09020208040	0.33	0.33		PR	0.5	0.5
<i>Agnetina</i>	09020209050		1.00	2	PR		1.5
<i>Agnetina capitata</i>	09020209050152	1.00		2	PR	1.5	
Calopterygidae	09020307	0.33	0.33		--	0.5	0.5
<i>Baetis</i>	09020401001		3.33	4	CG		5.1
<i>Baetis tricaudatus</i>	09020401001012	3.33			--	5.1	
<i>Acerpenna</i>	09020401007	0.67	1.00	5	CG	1.0	1.5
<i>Acerpenna macdunnoughi</i>	09020401007001	0.33			--	0.5	
<i>Diphetor</i>	09020401013		5.33		--		8.1
<i>Diphetor hageni</i>	09020401013001	5.33			--	8.1	
<i>Leucrocuta</i>	09020402011	1.00	1.00	1	SC	1.5	1.5
<i>Maccaffertium</i>	09020402015	1.00	2.00	4	SC	1.5	3.0
<i>Maccaffertium modestum</i>	09020402015051	1.00			--	1.5	
Leptophlebiidae	09020406	1.00	1.00		--	1.5	1.5
<i>Ephemerella</i>	09020410035	1.33	1.33	1	CG	2.0	2.0
<i>Dolophilodes</i>	09020601001		0.33	0	CF		0.5
<i>Dolophilodes distinctus</i>	09020601001001	0.33			--	0.5	
Hydropsychidae	09020604	1.67			--	2.5	
<i>Diplectrona</i>	09020604014		10.14	0	CF		15.4
<i>Diplectrona modesta</i>	09020604014025	9.33			--	14.1	
<i>Cheumatopsyche</i>	09020604015	4.67	5.07	5	CF	7.1	7.7
<i>Hydropsyche</i>	09020604016	3.67	5.79	4	CF	5.6	8.8
<i>Hydropsyche sparna</i>	09020604016032	1.00			--	1.5	
<i>Hydropsyche ventura</i>	09020604016033	0.67			--	1.0	
<i>Rhyacophila</i>	09020605019	0.67	1.33	2	PR	1.0	2.0
<i>Rhyacophila fuscula</i>	09020605019060	0.67			PR	1.0	
<i>Glossosoma</i>	09020606020		1.00	0	SC		1.5
<i>Glossosoma nigrior</i>	09020606020068	1.00			SC	1.5	
Limnephilidae	09020610				--		
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.5	0.5



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<i>Psilotreta</i>	09020614068		0.67	0	SC		1.0
<i>Psilotreta labida</i>	09020614068133	0.67			--	1.0	
<i>Nigronia</i>	09020701003		0.67	0	PR		1.0
<i>Nigronia serricornis</i>	09020701003003	0.67			--	1.0	
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.5	0.5
<i>Dicranota</i>	09021001005	0.33	0.33	3	PR	0.5	0.5
<i>Paramerina</i>	09021011013	0.33	0.33		--	0.5	0.5
<i>Thienemannimyia</i>	09021011020		0.33	3	PR		0.5
<i>Thienemannimyia group</i>	09021011020041	0.33			--	0.5	
<i>Trissopelopia</i>	09021011021		0.33		PR		0.5
<i>Trissopelopia ogemawi</i>	09021011021042	0.33			--	0.5	
<i>Parametriocnemus</i>	09021011053	3.33	3.33	5	CG	5.1	5.1
<i>Thienemanniella</i>	09021011062	0.33	0.33	6	CG	0.5	0.5
<i>Tvetenia</i>	09021011065		1.00	5	CG		1.5
<i>Tvetenia paucunca</i>	09021011065114	1.00			--	1.5	
<i>Tanytarsus</i>	09021011076	0.33	0.33	6	CF	0.5	0.5
<i>Microtendipes</i>	09021011094		2.33	6	CF		3.5
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.5	
<i>Microtendipes rydalensis group</i>	09021011094168	2.00			--	3.0	
<i>Polypedilum</i>	09021011102		2.00	6	SH		3.0
<i>Polypedilum aviceps</i>	09021011102181	1.67			--	2.5	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.5	
<i>Stenochironomus</i>	09021011105	0.33	0.33	5	CG	0.5	0.5
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	1.0	1.0
<i>Optioservus</i>	09021113067	3.00	4.67	3	SC	4.5	7.1
<i>Optioservus ovalis</i>	09021113067046	1.67			--	2.5	
<i>Promoresia</i>	09021113069		1.00		--		1.5
<i>Promoresia tardella</i>	09021113069052	1.00			--	1.5	