



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

Station Information

Station Number:	S-1026	River Basin:	St. John
Waterbody:	Hockenhull Brook - Station 1026	HUC8 Name:	Aroostook
Town:	Fort Fairfield	Latitude:	46° 46' 50.682" N
Directions:	21 M FROM ROAD (PARALLEL TO ROAD). UPSTREAM OF ROUTE 161 (SOUTH CARIBOU RD)	Longitude:	67° 50' 55.491" W
		Stream Order:	3

Sample Information

Log Number:	2274	Type of Sample:	ROCK BAG	Date Deployed:	7/22/2014
Subsample Factor:	X4	Replicates:	3	Date Retrieved:	8/19/2014

Classification Attainment

Statutory Class:	B	Final Determination:	B	Date:	3/24/2015
Model Result with $P \geq 0.6$:	B	Reason for Determination:	Model		
Date Last Calculated:	3/19/2015	Comments:			

Model Probabilities

<u>First Stage Model</u>				<u>C or Better Model</u>	
Class A	0.05	Class C	0.22	Class A, B, or C	1.00
Class B	0.74	NA	0.00	Non-Attainment	0.00
<u>B or Better Model</u>				<u>A Model</u>	
Class A or B			0.97	Class A	0.02
Class C or Non-Attainment			0.03	Class B or C or Non-Attainment	0.98

Model Variables

01 Total Mean Abundance	2806.67	18 Relative Abundance Ephemeroptera	0.23
02 Generic Richness	50.00	19 EPT Generic Richness	17.00
03 Plecoptera Mean Abundance	6.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	653.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.04	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1135.92
06 Hilsenhoff Biotic Index	5.26	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	17.33
07 Relative Abundance - Chironomidae	0.54	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.52	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	387.79		
11 <i>Cheumatopsyche</i> Abundance	5.54		
12 EPT Generic Richness/ Diptera Generic Richness	0.65		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	27.34		
17 Chironomini Abundance (Family Functional Group)	121.65		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Cricotopus</i>	39.93
2	<i>Baetis</i>	18.61
3	<i>Hydropsyche</i>	13.82
4	<i>Polypedilum</i>	4.09
5	<i>Acentrella</i>	3.38



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Station Number: S-1026	Town: Fort Fairfield	Date Deployed: 7/22/2014
Log Number: 2274	Waterbody: Hockenhull Brook - Station 1026	Date Retrieved: 8/19/2014

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING
Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	18.5 deg C
Dissolved Oxygen:	10.5 mg/l
Specific Conductance:	405 uS/cm
Velocity:	61 cm/s
pH:	7.13
Wetted Width:	11 m
Bankfull Width:	16 m
Depth:	35 cm

Waterbody Information - Retrieval

Temperature:	16.8 deg C
Dissolved Oxygen:	10.35 mg/l
Specific Conductance:	411 uS/cm
Velocity:	33 cm/s
pH:	8.33
Wetted Width:	5.35 m
Bankfull Width:	16 m
Depth:	34 cm

Water Chemistry - 7/8/2014

Nitrate+nitrite As N	1.9 mg/l	Total Phosphorus	42 ug/l
Total Kjeldahl Nitrogen	0.5 mg/l	Orthophosphate As Phosphorus	24 ug/l
Total Alkalinity	162 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 5 %
		Gravel 35 %
		Rubble/Cobble 60 %

Landcover Summary - 2004 Data

Sample Comments

7/22 - BROWN LONG SLIMY ALGAE ON ROCKS.

8/19 - LARGE SCULPIN FOUND. NMRO METER USED FOR DO, TEMP AND SPC.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-1026	Waterbody: Hockenhull Brook - Station 1026	Town: Fort Fairfield
Log Number: 2274	Subsample Factor: X4	Replicates: 3
		Calculated: 3/19/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Tubificida	080202	1.33	1.33		--	0.0	0.0
<i>Chaetogaster</i>	08020202002		1.33		--		0.0
<i>Chaetogaster diastrophus</i>	08020202002002	1.33			--	0.0	
<i>Nais</i>	08020202009		6.67		CG		0.2
<i>Nais bretscheri</i>	08020202009004	5.33			--	0.2	
<i>Nais variabilis</i>	08020202009009	1.33			--	0.0	
<i>Ophidonais</i>	08020202010		1.33		CG		0.0
<i>Ophidonais serpentina</i>	08020202010001	1.33			--	0.0	
<i>Pteronarcys</i>	09020205023		1.33	0	SH		0.0
<i>Pteronarcys biloba</i>	09020205023061	1.33			--	0.0	
Perlodidae	09020207	1.33	1.33		--	0.0	0.0
<i>Isoperla</i>	09020207026	4.00	4.00	2	PR	0.1	0.1
Baetidae	09020401	26.67			--	1.0	
<i>Baetis</i>	09020401001	57.33	522.42	4	CG	2.0	18.6
<i>Baetis flavistriga</i>	09020401001004	221.33			--	7.9	
<i>Baetis intercalaris</i>	09020401001008	9.33			--	0.3	
<i>Baetis tricaudatus</i>	09020401001012	212.00			--	7.6	
<i>Acentrella</i>	09020401008		94.73	3	CG		3.4
<i>Acentrella turbida</i>	09020401008021	90.67			--	3.2	
<i>Plauditus</i>	09020401012	1.33	1.39		CG	0.0	0.0
<i>Diphetor</i>	09020401013		2.79		--		0.1
<i>Diphetor hageni</i>	09020401013001	2.67			--	0.1	
<i>Heptagenia</i>	09020402010	2.67	2.67	2	SC	0.1	0.1
<i>Leucrocuta</i>	09020402011	1.33	1.33	1	SC	0.0	0.0
<i>Maccaffertium</i>	09020402015	8.00	17.33	4	SC	0.3	0.6
<i>Maccaffertium luteum</i>	09020402015049	1.33			--	0.0	
<i>Maccaffertium modestum</i>	09020402015051	8.00			--	0.3	
Leptophlebiidae	09020406	4.00	4.00		--	0.1	0.1
<i>Ephemerella</i>	09020410035	5.33	6.67	1	CG	0.2	0.2
<i>Ephemerella invaria</i>	09020410035107	1.33			--	0.0	
<i>Dolophilodes</i>	09020601001		70.67	0	CF		2.5
<i>Dolophilodes distinctus</i>	09020601001001	70.67			--	2.5	
Hydropsychidae	09020604	14.67			--	0.5	
<i>Cheumatopsyche</i>	09020604015	5.33	5.54	5	CF	0.2	0.2
<i>Hydropsyche</i>	09020604016	104.00	387.79	4	CF	3.7	13.8
<i>Hydropsyche bronta</i>	09020604016029	40.00			--	1.4	
<i>Hydropsyche morosa</i>	09020604016030	69.33			--	2.5	
<i>Hydropsyche slossonae</i>	09020604016031	88.00			--	3.1	



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Log Number: 2274 Subsample Factor: X4 Replicates: 3 Calculated: 3/19/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche sparna</i>	09020604016032	72.00			--	2.6	
<i>Rhyacophila</i>	09020605019		1.33	2	PR		0.0
<i>Rhyacophila fuscata</i>	09020605019060	1.33			PR	0.0	
Hydroptilidae	09020607				--		
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.0	0.0
<i>Tipula</i>	09021001002	2.67	2.67	4	SH	0.1	0.1
<i>Antocha</i>	09021001004	9.33	9.33	3	CG	0.3	0.3
<i>Dicranota</i>	09021001005	1.33	1.33	3	PR	0.0	0.0
Chironomidae	09021011	37.33			--	1.3	
<i>Ablabesmyia</i>	09021011001		1.37	8	PR		0.0
<i>Ablabesmyia mallochii</i>	09021011001004	1.33			--	0.0	
<i>Conchapelopia</i>	09021011004	20.00	20.50	6	PR	0.7	0.7
<i>Nilotanyus</i>	09021011012		1.37	6	PR		0.0
<i>Nilotanyus fimbriatus</i>	09021011012027	1.33			--	0.0	
<i>Rheopelopia</i>	09021011017		4.10		PR		0.1
<i>Rheopelopia acra group</i>	09021011017036	4.00			--	0.1	
<i>Pagastia</i>	09021011025		2.73	1	--		0.1
<i>Pagastia orthogonia</i>	09021011025001	2.67			--	0.1	
<i>Potthastia</i>	09021011026		53.31	2	CG		1.9
<i>Potthastia gaedii</i>	09021011026045	52.00			--	1.9	
<i>Cardiocladius</i>	09021011034		4.10	5	PR		0.1
<i>Cardiocladius obscurus</i>	09021011034053	4.00			--	0.1	
<i>Corynoneura</i>	09021011036	5.33	5.47	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037		1120.81	7	SH		39.9
<i>Cricotopus bicinctus</i>	09021011037057	288.00			--	10.3	
<i>Cricotopus trifascia</i>	09021011037070	758.67			--	27.0	
<i>Cricotopus luciae</i>	09021011037073	25.33			--	0.9	
<i>Cricotopus politus</i>	09021011037077	5.33			--	0.2	
<i>Cricotopus triannulatus/infusatus</i>	09021011037078	16.00			SH	0.6	
<i>Doncricotopus</i>	09021011039		12.30		--		0.4
<i>Doncricotopus bicaudatus</i>	09021011039072	12.00			--	0.4	
<i>Eukiefferiella</i>	09021011041		15.04	8	CG		0.5
<i>Eukiefferiella claripennis group</i>	09021011041075	10.67			--	0.4	
<i>Eukiefferiella devonica group</i>	09021011041083	4.00			CG	0.1	
<i>Nanocladius spinipennis</i>	09021011049090				--		
<i>Orthocladius carlatus</i>	09021011050093				--		
<i>Parakiefferiella</i>	09021011052	2.67	4.10		CG	0.1	0.1
<i>Parakiefferiella coronata</i>	09021011052002	1.33			--	0.0	



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<i>Parametriocnemus</i>	09021011053	2.67	2.73	5	CG	0.1	0.1
<i>Synorthocladius</i>	09021011061			2	CG		
<i>Thienemanniella</i>	09021011062		17.77	6	CG		0.6
<i>Thienemanniella xena</i>	09021011062110	17.33			--	0.6	
<i>Tvetenia</i>	09021011065		42.37	5	CG		1.5
<i>Tvetenia paucunca</i>	09021011065114	41.33			--	1.5	
<i>Cladotanytarsus</i>	09021011068		1.37	7	CG		0.0
<i>Cladotanytarsus acornutus</i>	09021011068121	1.33			--	0.0	
<i>Rheotanytarsus</i>	09021011072	32.00	83.38	6	CF	1.1	3.0
<i>Rheotanytarsus pellucidus</i>	09021011072128	49.33			CF	1.8	
<i>Tanytarsus</i>	09021011076	1.33	8.20	6	CF	0.0	0.3
<i>Tanytarsus buckleyi</i>	09021011076139	6.67			CF	0.2	
<i>Microtendipes</i>	09021011094		6.83	6	CF		0.2
<i>Microtendipes pedellus group</i>	09021011094166	6.67			--	0.2	
<i>Polypedilum</i>	09021011102		114.82	6	SH		4.1
<i>Polypedilum aviceps</i>	09021011102181	112.00			--	4.0	
<i>Simulium</i>	09021012047		93.33	4	CF		3.3
<i>Simulium vittatum</i>	09021012047064	82.67			--	2.9	
<i>Simulium tuberosum</i>	09021012047067	10.67			--	0.4	
<i>Hemerodromia</i>	09021016057	4.00	4.00	3	PR	0.1	0.1
<i>Roederiodes</i>	09021016058	2.67	2.67	3	PR	0.1	0.1
<i>Dubiraphia</i>	09021113064		4.00	6	--		0.1
<i>Dubiraphia minima</i>	09021113064036	1.33			--	0.0	
<i>Dubiraphia quadrinotata</i>	09021113064037	2.67			--	0.1	
<i>Optioservus</i>	09021113067	1.33	2.67	3	SC	0.0	0.1
<i>Optioservus ovalis</i>	09021113067046	1.33			--	0.0	
<i>Promoresia</i>	09021113069		25.33		--		0.9
<i>Promoresia tardella</i>	09021113069052	25.33			--	0.9	
<i>Lymnaea</i>	10010201022		1.33		SC		0.0
<i>Lymnaea columella</i>	10010201022038	1.33			--	0.0	