



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

Station Information

Station Number: S-1024	River Basin:	St. John	
Waterbody:	Hacker Brook - Station 1024	HUC8 Name:	Aroostook
Town:	Fort Fairfield	Latitude:	46° 46' 23.677" N
Directions:	37M ABOVE RIVERSIDE AVE CROSSING/25 M UPSTREAM OF BRIDGE	Longitude:	67° 48' 46.174" W
		Stream Order:	2

Sample Information

Log Number: 2271	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: C	Date:	3/12/2015
Model Result with $P \geq 0.6$:	C	Reason for Determination:	Model
Date Last Calculated:	3/12/2015	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class C	0.95
Class B	0.03	NA	0.02
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.00
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	1.00

Model Variables

01 Total Mean Abundance	737.33	18 Relative Abundance Ephemeroptera	0.30
02 Generic Richness	37.00	19 EPT Generic Richness	8.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	7.33
04 Ephemeroptera Mean Abundance	224.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	2.42	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	23.34
06 Hilsenhoff Biotic Index	4.10	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.33
07 Relative Abundance - Chironomidae	0.08	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.43	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	385.33		
11 <i>Cheumatopsyche</i> Abundance	1.34		
12 EPT Generic Richness/ Diptera Generic Richness	0.50		
13 Relative Abundance - Oligochaeta	0.02		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	10.27		
17 Chironomini Abundance (Family Functional Group)	4.40		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	52.26
2	<i>Baetis</i>	27.31
3	<i>Ephemerella</i>	2.35
4	<i>Simulium</i>	1.81
5	<i>Lymnaea</i>	1.45



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Station Number: S-1024	Town: Fort Fairfield	Date Deployed: 7/22/2014
Log Number: 2271	Waterbody: Hacker Brook - Station 1024	Date Retrieved: 8/19/2014

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	16.2 deg C
Dissolved Oxygen:	9.7 mg/l
Specific Conductance:	467 uS/cm
Velocity:	40 cm/s
pH:	7.35
Wetted Width:	2.1 m
Bankfull Width:	6.7 m
Depth:	28 cm

Waterbody Information - Retrieval

Temperature:	15.3 deg C
Dissolved Oxygen:	9.32 mg/l
Specific Conductance:	472 uS/cm
Velocity:	16 cm/s
pH:	7.6
Wetted Width:	1.75 m
Bankfull Width:	6.7 m
Depth:	26 cm

Water Chemistry - 7/8/2014

Nitrate+nitrite As N	4.3 mg/l	Total Phosphorus	100 ug/l
Total Kjeldahl Nitrogen	0.5 mg/l	Orthophosphate As Phosphorus	64 ug/l
Total Alkalinity	145 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 5 %
		Gravel 30 %
		Rubble/Cobble 40 %
		Sand 20 %
		Silt 5 %

Landcover Summary - 2004 Data

Sample Comments

7/22 - NUMEROUS GRAVEL BARS.

8/19 - FISH PRESENT. 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-1024

Waterbody: Hacker Brook - Station 1024

Town: Fort Fairfield

Log Number: 2271

Subsample Factor: X4

Replicates: 3

Calculated: 3/12/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Turbellaria	0301	4.00	4.00		--	0.5	0.5
<i>Nais</i>	08020202009		8.00		CG		1.1
<i>Nais communis</i>	08020202009005	1.33			--	0.2	
<i>Nais variabilis</i>	08020202009009	6.67			--	0.9	
<i>Ophidonais</i>	08020202010		5.33		CG		0.7
<i>Ophidonais serpentina</i>	08020202010001	5.33			--	0.7	
<i>Erpobdella</i>	08030203002		1.33		--		0.2
<i>Erpobdella obscura</i>	08030203002006	1.33			--	0.2	
<i>Boyeria</i>	09020301004	1.33	1.33	2	PR	0.2	0.2
Baetidae	09020401	4.00	4.00		--	0.5	0.5
<i>Baetis</i>	09020401001	34.67	201.33	4	CG	4.7	27.3
<i>Baetis flavistriga</i>	09020401001004	152.00			--	20.6	
<i>Baetis tricaudatus</i>	09020401001012	14.67			--	2.0	
<i>Maccaffertium</i>	09020402015	1.33	1.33	4	SC	0.2	0.2
<i>Ephemerella</i>	09020410035	16.00	17.33	1	CG	2.2	2.4
<i>Ephemerella invaria</i>	09020410035107	1.33			--	0.2	
Hydropsychidae	09020604	1.33			--	0.2	
<i>Cheumatopsyche</i>	09020604015	1.33	1.34	5	CF	0.2	0.2
<i>Hydropsyche</i>	09020604016	242.67	385.33	4	CF	32.9	52.3
<i>Hydropsyche slossonae</i>	09020604016031	1.33			--	0.2	
<i>Hydropsyche sparna</i>	09020604016032	140.00			--	19.0	
Hydroptilidae	09020607				--		
<i>Frenesia</i>	09020610058		1.33	0	SH		0.2
<i>Frenesia difficilis</i>	09020610058117	1.33			--	0.2	
<i>Lepidostoma</i>	09020611064	5.33	5.33	1	SH	0.7	0.7
<i>Sialis</i>	09020702004	1.33	1.33	4	PR	0.2	0.2
Chironomidae	09021011	5.33			--	0.7	
<i>Ablabesmyia</i>	09021011001	1.33	7.33	8	PR	0.2	1.0
<i>Ablabesmyia mallochii</i>	09021011001004	5.33			--	0.7	
<i>Nilotanyus</i>	09021011012		2.93	6	PR		0.4
<i>Nilotanyus fimbriatus</i>	09021011012027	2.67			--	0.4	
<i>Pagastia</i>	09021011025		1.47	1	--		0.2
<i>Pagastia orthogonia</i>	09021011025001	1.33			--	0.2	
<i>Corynoneura</i>	09021011036	1.33	1.47	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037		5.87	7	SH		0.8
<i>Cricotopus bicinctus</i>	09021011037057	1.33			--	0.2	
<i>Cricotopus trifascia</i>	09021011037070	2.67			--	0.4	
<i>Cricotopus vierriensis</i>	09021011037071	1.33			--	0.2	



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Eukiefferiella</i>	09021011041		1.47	8	CG		0.2
<i>Eukiefferiella claripennis group</i>	09021011041075	1.33			--	0.2	
<i>Parakiefferiella</i>	09021011052	1.33	1.47		CG	0.2	0.2
<i>Psectrocladius</i>	09021011056	1.33	1.47	8	CG	0.2	0.2
<i>Thienemanniella</i>	09021011062	1.33	2.93	6	CG	0.2	0.4
<i>Thienemanniella boltoni</i>	09021011062113	1.33			--	0.2	
<i>Micropsectra</i>	09021011070	4.00	7.33	7	CG	0.5	1.0
<i>Micropsectra polita</i>	09021011070124	2.67		7	--	0.4	
<i>Paratanytarsus</i>	09021011071		1.47	6	--		0.2
<i>Paratanytarsus dissimilis</i>	09021011071125	1.33			--	0.2	
<i>Rheotanytarsus</i>	09021011072	4.00	10.27	6	CF	0.5	1.4
<i>Rheotanytarsus pellucidus</i>	09021011072128	5.33			CF	0.7	
<i>Tanytarsus</i>	09021011076	8.00	8.80	6	CF	1.1	1.2
<i>Microtendipes pedellus group</i>	09021011094166				--		
<i>Polypedilum</i>	09021011102		4.40	6	SH		0.6
<i>Polypedilum aviceps</i>	09021011102181	2.67			--	0.4	
<i>Polypedilum illinoense group</i>	09021011102185	1.33			--	0.2	
<i>Simulium</i>	09021012047	1.33	13.33	4	CF	0.2	1.8
<i>Simulium (Eusimulium)</i>	09021012047052	1.33			--	0.2	
<i>Simulium vittatum</i>	09021012047064	5.33			--	0.7	
<i>Simulium tuberosum</i>	09021012047067	5.33			--	0.7	
<i>Roederiodes</i>	09021016058	1.33	1.33	3	PR	0.2	0.2
<i>Dubiraphia</i>	09021113064		1.33	6	--		0.2
<i>Dubiraphia quadrinotata</i>	09021113064037	1.33			--	0.2	
<i>Optioservus</i>	09021113067		1.33	3	SC		0.2
<i>Optioservus ovalis</i>	09021113067046	1.33			--	0.2	
<i>Stenelmis</i>	09021113070		1.33	5	SC		0.2
<i>Stenelmis crenata</i>	09021113070055	1.33			--	0.2	
Basommatophora	100102	6.67	6.67		--	0.9	0.9
<i>Lymnaea</i>	10010201022	5.33	10.67		SC	0.7	1.4
<i>Lymnaea catascopium</i>	10010201022039	4.00			--	0.5	
<i>Lymnaea humilis</i>	10010201022040	1.33			--	0.2	
<i>Physa</i>	10010202027	1.33	1.33		SC	0.2	0.2
Planorbidae	10010203	1.33	1.33		--	0.2	0.2
Sphaeriidae	10020201	1.33	1.33		CF	0.2	0.2