



**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: 2751	Type of Sample: ROCK BAG	Date Deployed: 7/9/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/5/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 11/12/2019
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 11/5/2019	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.83	Class A, B, or C	1.00
Class B	0.16	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.97	Class A	0.89
Class C or Non-Attainment	0.03	Class B or C or Non-Attainment	0.11

Model Variables

01 Total Mean Abundance	75.00	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	31.00	19 EPT Generic Richness	7.00
03 Plecoptera Mean Abundance	3.67	21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i>	0.33
04 Ephemeroptera Mean Abundance	1.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.51	25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i>	0.67
06 Hilsenhoff Biotic Index	3.80	26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i>	0.33
07 Relative Abundance - Chironomidae	0.08	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.42	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.54		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.67		
17 Chironomini Abundance (Family Functional Group)	0.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Optioservus</i>	23.56
2	<i>Erpobdella</i>	17.33
3	<i>Dubiraphia</i>	15.11
4	<i>Physa</i>	14.67
5	<i>Stagnicola</i>	4.44



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Station Number: S-1024 Town: Fort Fairfield Date Deployed: 7/9/2019
Log Number: 2751 Waterbody: Hacker Brook - Station 1024 Date Retrieved: 8/5/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 16.4 deg C
Dissolved Oxygen: 8.93 mg/l
Dissolved Oxygen Saturation: 91.1 %
Specific Conductance: 396.3 uS/cm
Velocity: 42.7 cm/s
pH: 7.99
Wetted Width: 1.6 m
Bankfull Width: 6.5 m
Depth: 31 cm

Waterbody Information - Retrieval

Temperature: 18.7 deg C
Dissolved Oxygen: 9.8 mg/l
Dissolved Oxygen Saturation: 104.9 %
Specific Conductance: 358.6 uS/cm
Velocity: 6.1 cm/s
pH: 8.13
Wetted Width: 2.2 m
Bankfull Width: 4.8 m
Depth: 24 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Rolling
Pasture		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Below Agriculture NPS	Gravel 50 %
Nutrients		Rubble/Cobble 35 %
Sedimentation		Sand 15 %

Landcover Summary - 2004 Data

Sample Comments

5 BLACKNOSE DACE IN ROCK BAGS



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-1024 Waterbody: Hacker Brook - Station 1024 Town: Fort Fairfield
Log Number: 2751 Subsample Factor: X1 Replicates: 3 Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	2.33	2.33		PR	3.1	3.1
<i>Erpobdella</i>	08030203002		13.00		--		17.3
<i>Erpobdella obscura</i>	08030203002006	13.00			--	17.3	
<i>Paracapnia</i>	09020203018	1.33	1.33	1	SH	1.8	1.8
<i>Leuctra</i>	09020204020	2.33	2.33	0	SH	3.1	3.1
Calopterygidae	09020307	0.67	0.67		--	0.9	0.9
<i>Calopteryx</i>	09020307043	0.67	0.67	5	PR	0.9	0.9
<i>Maccaffertium</i>	09020402015		0.33	4	SC		0.4
<i>Maccaffertium vicarium</i>	09020402015055	0.33			--	0.4	
<i>Paraleptophlebia</i>	09020406026	1.00	1.00	1	CG	1.3	1.3
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.4	0.4
<i>Pycnopsyche</i>	09020610049	2.00	2.00	4	SH	2.7	2.7
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.4	0.4
Chironomidae	09021011				--		
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		0.9
<i>Thienemannimyia group</i>	09021011020041	0.67			--	0.9	
<i>Pagastia</i>	09021011025	0.33	0.33	1	--	0.4	0.4
<i>Brillia</i>	09021011033	0.33	0.33	5	SH	0.4	0.4
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.4	0.4
<i>Heterotrissocladius</i>	09021011044		0.33	0	CG		0.4
<i>Heterotrissocladius marcidus</i>	09021011044083	0.33			--	0.4	
<i>Parametriocnemus</i>	09021011053	0.33	0.33	5	CG	0.4	0.4
<i>Rheocricotopus</i>	09021011057	0.33	0.33	6	CG	0.4	0.4
<i>Micropsectra</i>	09021011070	0.33	0.33	7	CG	0.4	0.4
<i>Rheotanytarsus</i>	09021011072		0.33	6	CF		0.4
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.33			CF	0.4	
<i>Stempellinella</i>	09021011074	1.00	1.00	2	--	1.3	1.3
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	0.9	0.9
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.4
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.4	
<i>Phaenopsectra</i>	09021011101		0.33	7	SC		0.4
<i>Phaenopsectra punctipes group</i>	09021011101181	0.33			--	0.4	
<i>Dubiraphia</i>	09021113064	11.33	11.33	6	--	15.1	15.1
<i>Optioservus</i>	09021113067	16.67	17.67	3	SC	22.2	23.6
<i>Optioservus ovalis</i>	09021113067046	1.00			--	1.3	
<i>Stenelmis</i>	09021113070	1.00	1.00	5	SC	1.3	1.3
Acariformes	090301	0.33	0.33		--	0.4	0.4



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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>Stagnicola</i>	10010201025	3.33	3.33		--	4.4	4.4
<i>Physa</i>	10010202027	11.00	11.00		SC	14.7	14.7
<i>Gyraulus</i>	10010203029	0.33	0.33		SC	0.4	0.4