



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

Station Information

Station Number: S-1019	River Basin: St. John
Waterbody: Birch Brook - Station 1019	HUC8 Name: Aroostook
Town: Presque Isle	Latitude: 46° 44' 49.337" N
Directions: 16M UPSTREAM OF REACH ROAD.	Longitude: 67° 58' 17.142" W
	Stream Order: 1

Sample Information

Log Number: 2729	Type of Sample: ROCK BAG	Date Deployed: 7/10/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 4/1/2020
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/30/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.67	Class A, B, or C	1.00
Class B	0.33	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.89
Class A or B	1.00	Class B or C or Non-Attainment	0.11
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	349.00	18 Relative Abundance Ephemeroptera	0.59
02 Generic Richness	41.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	6.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	6.67
04 Ephemeroptera Mean Abundance	204.67	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	2.62	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.01
06 Hilsenhoff Biotic Index	3.79	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.05	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.29	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	68.90		
11 <i>Cheumatopsyche</i> Abundance	0.68		
12 EPT Generic Richness/ Diptera Generic Richness	1.58		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00		
17 Chironomini Abundance (Family Functional Group)	0.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Baetis</i>	51.73
2	<i>Hydropsyche</i>	19.74
3	<i>Dipheter</i>	6.14
4	<i>Simulium</i>	5.73
5	<i>Micropsectra</i>	1.91



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 16.4 deg C
Dissolved Oxygen: 9.95 mg/l
Dissolved Oxygen Saturation: 101.5 %
Specific Conductance: 407.9 uS/cm
Velocity: 27.4 cm/s
pH: 8.29
Wetted Width: 3.1 m
Bankfull Width: 4.8 m
Depth: 20 cm

Waterbody Information - Retrieval

Temperature: 14 deg C
Dissolved Oxygen: 10.4 mg/l
Dissolved Oxygen Saturation: 101.1 %
Specific Conductance: 410.5 uS/cm
Velocity: 9.1 cm/s
pH: 8.35
Wetted Width: 2.9 m
Bankfull Width: 4.8 m
Depth: 9.4 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Partly Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
	Above Road Crossing	Boulder	30 %
		Gravel	25 %
		Rubble/Cobble	35 %
		Sand	5 %
		Silt	5 %

Landcover Summary - 2004 Data

Sample Comments

SCULPIN PRESENT IN 2 SIEVE BUCKETS.



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Aquatic Life Taxonomic Inventory Report

Station Number: S-1019	Waterbody: Birch Brook - Station 1019	Town: Presque Isle
Log Number: 2729	Subsample Factor: X1	Replicates: 3
		Calculated: 3/30/2020

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
		<i>Hydra</i>	02010101001			0.33	0.33
Nematoda	05	0.33	0.33		--	0.1	0.1
<i>Nais</i>	08020202009	0.33	0.33		CG	0.1	0.1
<i>Paracapnia</i>	09020203018	1.67	1.67	1	SH	0.5	0.5
<i>Leuctra</i>	09020204020	5.00	5.00	0	SH	1.4	1.4
Baetidae	09020401	1.00			--	0.3	
<i>Baetis</i>	09020401001	4.33	180.55	4	CG	1.2	51.7
<i>Baetis flavistriga</i>	09020401001004	59.33			--	17.0	
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.1	
<i>Baetis tricaudatus</i>	09020401001012	115.67			--	33.1	
<i>Acerpenna</i>	09020401007		1.00	5	CG		0.3
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.3	
<i>Dipheter</i>	09020401013		21.44		--		6.1
<i>Dipheter hageni</i>	09020401013001	21.33			--	6.1	
<i>Anafroptilum (Centroptilum)</i>	09020401016	0.67	0.67	2	CG	0.2	0.2
<i>Paraleptophlebia</i>	09020406026		1.00	1	CG		0.3
<i>Paraleptophlebia debilis</i>	09020406026079	1.00		1	CG	0.3	
<i>Gerris</i>	09020506017	0.67	0.67		PR	0.2	0.2
<i>Dolophilodes</i>	09020601001		0.33	0	CF		0.1
<i>Dolophilodes distincta</i>	09020601001001	0.33			--	0.1	
<i>Lype</i>	09020602004		0.33	2	SC		0.1
<i>Lype diversa</i>	09020602004005	0.33			--	0.1	
Hydropsychidae	09020604	1.33			--	0.4	
<i>Diplectrona</i>	09020604014		4.75	0	CF		1.4
<i>Diplectrona modesta</i>	09020604014025	4.67			--	1.3	
<i>Cheumatopsyche</i>	09020604015	0.67	0.68	5	CF	0.2	0.2
<i>Hydropsyche</i>	09020604016	15.33	68.90	4	CF	4.4	19.7
<i>Hydropsyche morosa</i>	09020604016030	0.67			--	0.2	
<i>Hydropsyche slossonae</i>	09020604016031	7.33			--	2.1	
<i>Hydropsyche sparna</i>	09020604016032	44.33			--	12.7	
<i>Rhyacophila</i>	09020605019	1.00	4.33	2	PR	0.3	1.2
<i>Rhyacophila fuscula</i>	09020605019060	2.00			PR	0.6	
<i>Rhyacophila minora</i>	09020605019063	1.33			PR	0.4	
Glossosomatidae	09020606				--		
<i>Glossosoma</i>	09020606020	6.33	6.33	0	SC	1.8	1.8
<i>Onocosmoecus</i>	09020610046		1.00	2	SH		0.3
<i>Onocosmoecus unicolor</i>	09020610046103	1.00			--	0.3	



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		Actual	Adjusted			Actual	Adjusted
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Hesperophylax</i>	09020610054		2.67	3	SH		0.8
<i>Hesperophylax designatus</i>	09020610054110	2.67			--	0.8	
<i>Psychoglypha</i>	09020610060		3.33	0	SH		1.0
<i>Psychoglypha subborealis</i>	09020610060120	3.33			--	1.0	
<i>Lepidostoma</i>	09020611064	0.67	0.67	1	SH	0.2	0.2
<i>Sialis</i>	09020702004	0.33	0.33	4	PR	0.1	0.1
<i>Antocha</i>	09021001004	0.67	0.67	3	CG	0.2	0.2
<i>Chaetocladius</i>	09021011035	0.33	0.33	6	CG	0.1	0.1
<i>Eukiefferiella</i>	09021011041		1.67	8	CG		0.5
<i>Eukiefferiella claripennis group</i>	09021011041075	1.67			--	0.5	
<i>Parametriocnemus</i>	09021011053	1.33	1.33	5	CG	0.4	0.4
<i>Rheocricotopus</i>	09021011057			6	CG		
<i>Thienemanniella</i>	09021011062	1.67	1.67	6	CG	0.5	0.5
<i>Tvetenia</i>	09021011065		2.67	5	CG		0.8
<i>Tvetenia paucunca</i>	09021011065114	2.67			--	0.8	
<i>Micropsectra</i>	09021011070	6.67	6.67	7	CG	1.9	1.9
<i>Rheotanytarsus</i>	09021011072		1.33	6	CF		0.4
<i>Rheotanytarsus exiguus group</i>	09021011072127	1.00			CF	0.3	
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.33			CF	0.1	
<i>Stempellinella</i>	09021011074			2	--		
<i>Tanytarsus</i>	09021011076	0.33	0.33	6	CF	0.1	0.1
<i>Polypedilum</i>	09021011102		0.67	6	SH		0.2
<i>Polypedilum aviceps</i>	09021011102181	0.67			--	0.2	
<i>Simulium</i>	09021012047	20.00	20.00	4	CF	5.7	5.7
<i>Simulium venustum/verecundum complex</i>	09021012047072				CF		
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.1	0.1
<i>Optioservus</i>	09021113067	1.33	1.67	3	SC	0.4	0.5
<i>Optioservus fastiditus</i>	09021113067044	0.33			--	0.1	
<i>Promoresia</i>	09021113069		0.33		--		0.1
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.1	
<i>Atractides</i>	09030102002	0.33	0.33		--	0.1	0.1
<i>Sperchon</i>	09030107001	0.33	0.33		--	0.1	0.1
<i>Physa</i>	10010202027	1.67	1.67		SC	0.5	0.5