



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

Station Information

Station Number: S-1022	River Basin:	St. John
Waterbody: Frost Brook - Station 1022	HUC8 Name:	Becaguimec Stream-Saint John Riv
Town: Westfield	Latitude:	46 34 49.11 N
Directions: 20 M DOWNSTREAM OF EGYPT RD.	Longitude:	67 55 53.02 W
	Stream Order:	1

Sample Information

Log Number: 2736	Type of Sample: ROCK BAG	Date Deployed: 7/9/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2019

Classification Attainment

Statutory Class: B	Final Determination: B	Date: 3/20/2020
Model Result with P \geq 0.6: B	Reason for Determination: Model	
Date Last Calculated: 2/21/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.30	Class A, B, or C	1.00
Class B	0.48	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.93	Class A	0.25
Class C or Non-Attainment	0.07	Class B or C or Non-Attainment	0.75

Model Variables

01 Total Mean Abundance	207.67	18 Relative Abundance Ephemeroptera	0.11
02 Generic Richness	31.00	19 EPT Generic Richness	13.00
03 Plecoptera Mean Abundance	0.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	23.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	3.66	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	51.67
06 Hilsenhoff Biotic Index	4.37	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	11.00
07 Relative Abundance - Chironomidae	0.37	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.63		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	24.72
2	<i>Optioservus</i>	20.71
3	<i>Cernotina</i>	12.52
4	<i>Rheotanytarsus</i>	5.94
5	<i>Maccaffertium</i>	5.30

13 Relative Abundance - Oligochaeta	0.01
15 Perlidae Mean Abundance (Family Functional Group)	0.33
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00
17 Chironomini Abundance (Family Functional Group)	4.33



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Town: Westfield

Date Deployed: 7/9/2019

Log Number: 2736

Waterbody: Frost Brook - Station 1022

Date Retrieved: 8/6/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 17.2 deg C
 Dissolved Oxygen: 9.09 mg/l
 Dissolved Oxygen Saturation: 94.8 %
 Specific Conductance: 358.6 uS/cm
 Velocity: 7.6 cm/s
 pH: 8.11
 Wetted Width: 2.6 m
 Bankfull Width: 3.6 m
 Depth: 35 cm

Waterbody Information - Retrieval

Temperature: 19.3 deg C
 Dissolved Oxygen: 8.6 mg/l
 Dissolved Oxygen Saturation: 93.9 %
 Specific Conductance: 448.8 uS/cm
 Velocity: 0.9 cm/s
 pH: 8.21
 Wetted Width: 2.6 m
 Bankfull Width: 3.3 m
 Depth: 31 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Pasture	Dense	Rolling	
Upland Conifer			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Below Road Crossing	Boulder	10 %
		Gravel	40 %
		Rubble/Cobble	40 %
		Sand	10 %

Landcover Summary - 2004 Data

Sample Comments

BLACKNOSE DACE PRESENT.



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

Station Number: S-1022 Waterbody: Frost Brook - Station 1022 Town: Westfield
Log Number: 2736 Subsample Factor: X1 Replicates: 3 Calculated: 2/21/2020

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Tricladida	030101	0.67	0.67		--	0.3	0.3
<i>Limnodrilus</i>	08020202022	1.67	1.67		CG	0.8	0.8
<i>Agnatina</i>	09020209050		0.33	2	PR		0.2
<i>Agnatina capitata</i>	09020209050152	0.33		2	PR	0.2	
<i>Boyeria</i>	09020301004		5.33	2	PR		2.6
<i>Boyeria grafiana</i>	09020301004011	5.33			--	2.6	
<i>Calopteryx</i>	09020307043	4.33	4.33	5	PR	2.1	2.1
<i>Baetis</i>	09020401001		1.00	4	CG		0.5
<i>Baetis flavistriga</i>	09020401001004	1.00			--	0.5	
<i>Proclleon</i>	09020401010	4.00	4.00		CG	1.9	1.9
<i>Stenacron</i>	09020402014		1.33	7	SC		0.6
<i>Stenacron interpunctatum</i>	09020402014045	1.33			--	0.6	
<i>Maccaffertium</i>	09020402015		11.00	4	SC		5.3
<i>Maccaffertium vicarium</i>	09020402015055	11.00			--	5.3	
<i>Paraleptophlebia</i>	09020406026	2.67	2.67	1	CG	1.3	1.3
<i>Ephemerella</i>	09020410035	3.67	3.67	1	CG	1.8	1.8
<i>Cernotina</i>	09020603006	26.00	26.00		PR	12.5	12.5
<i>Glossosoma</i>	09020606020	4.00	4.00	0	SC	1.9	1.9
<i>Pycnopsyche</i>	09020610049	2.33	2.33	4	SH	1.1	1.1
<i>Psychoglypha</i>	09020610060	1.00	1.00	0	SH	0.5	0.5
<i>Lepidostoma</i>	09020611064	2.00	2.00	1	SH	1.0	1.0
<i>Psilotreta</i>	09020614068	2.67	2.67	0	SC	1.3	1.3
<i>Sialis</i>	09020702004	1.33	1.33	4	PR	0.6	0.6
Chironomidae	09021011				--		
<i>Pagastia</i>	09021011025	0.33	0.33	1	--	0.2	0.2
<i>Cricotopus</i>	09021011037		0.33	7	SH		0.2
<i>Cricotopus bicinctus</i>	09021011037057	0.33			--	0.2	
<i>Psectrocladius</i>	09021011056	5.33	5.33	8	CG	2.6	2.6
<i>Tvetenia</i>	09021011065		2.00	5	CG		1.0
<i>Tvetenia paucunca</i>	09021011065114	2.00			--	1.0	
<i>Rheotanytarsus</i>	09021011072	12.33	12.33	6	CF	5.9	5.9
<i>Tanytarsus</i>	09021011076	51.33	51.33	6	CF	24.7	24.7
<i>Polypedilum</i>	09021011102		4.33	6	SH		2.1
<i>Polypedilum illinoense group</i>	09021011102185	4.33			--	2.1	
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.2	0.2
<i>Dubiraphia</i>	09021113064	2.00	2.00	6	--	1.0	1.0
<i>Optioservus</i>	09021113067	43.00	43.00	3	SC	20.7	20.7



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<i>Promoresia</i>	09021113069	7.33	7.33		--	3.5	3.5
<i>Physa</i>	10010202027	3.00	3.00		SC	1.4	1.4
<i>Helisoma</i>	10010203030		0.67		SC		0.3
<i>Helisoma trivolvis</i>	10010203030061	0.67			--	0.3	