



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

Station Information

Station Number: S-1031	River Basin: St. John
Waterbody: Williams Brook - Station 1031	HUC8 Name: Becaguimec Stream-Saint John Riv
Town: Presque Isle	Latitude: 46° 36' 38.727" N
Directions: 20M DOWNSTREAM OF EGYPT ROAD	Longitude: 67° 56' 1.635" W
	Stream Order: 2

Sample Information

Log Number: 2737	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: 1/4/2021
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 12/23/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.36	Class A, B, or C	1.00
Class B	0.57	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.99	Class A	0.52
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.48

Model Variables

01 Total Mean Abundance	173.33	18 Relative Abundance Ephemeroptera	0.09
02 Generic Richness	30.00	19 EPT Generic Richness	14.00
03 Plecoptera Mean Abundance	8.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Microsetra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	15.00	23 Relative Generic Richness- Plecoptera	0.10
05 Shannon-Wiener Generic Diversity	3.34	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	0.67
06 Hilsenhoff Biotic Index	4.97	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.35	28 EP Generic Richness/14	0.64
08 Relative Generic Richness Diptera	0.27	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.75		

Five Most Dominant Taxa

13 Relative Abundance - Oligochaeta	0.00	Rank	Taxon Name	Percent
15 Perlidae Mean Abundance (Family Functional Group)	0.33	1	<i>Dubiraphia</i>	24.81
16 Tanypodinae Mean Abundance (Family Functional Group)	11.33	2	<i>Microtendipes</i>	24.23
17 Chironomini Abundance (Family Functional Group)	43.67	3	<i>Cernotina</i>	15.58
		4	<i>Thienemannimyia</i>	5.58
		5	<i>Leuctra</i>	4.62
		6	<i>Procladius</i>	4.62



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature:	18.2 deg C
Dissolved Oxygen:	9.2 mg/l
Dissolved Oxygen Saturation:	97.9 %
Specific Conductance:	390.3 uS/cm
Velocity:	15.2 cm/s
pH:	8.08
Wetted Width:	5.2 m
Bankfull Width:	5.2 m
Depth:	20 cm

Waterbody Information - Retrieval

Temperature:	19.9 deg C
Dissolved Oxygen:	9 mg/l
Dissolved Oxygen Saturation:	99.4 %
Specific Conductance:	427.4 uS/cm
Velocity:	1.5 cm/s
pH:	8.2
Wetted Width:	4.6 m
Bankfull Width:	5.5 m
Depth:	30 cm

Water Chemistry - 7/9/2019

Nitrate + Nitrite As Nitrogen	0.53 mg/l	Nitrate As Nitrogen	0.53 mg/l
Nitrite As Nitrogen	<0.01 mg/l	Orthophosphate As Phosphorus	11 ug/l
Total Alkalinity	181 mg/l	Total Kjeldahl Nitrogen (organic A	0.4 mg/l
Total Phosphorus Mixed Forms (po	21 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Conifer	Open	Rolling
Swamp Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Habitat	Below Road Crossing	Boulder 5 %
		Gravel 40 %
		Rubble/Cobble 40 %
		Sand 5 %
		Silt 10 %

Landcover Summary - 2004 Data

Total Area (ac)	4023	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.1	Wetland %	9.1	Tilled Agriculture %	60.3
		Low Int. Dev. %	2.5	Upland Woody %	26.6	Grassland %	0.8
		Development %	2.6	Natural %	35.7	Human Altered %	64.2
						Impervious %	1.2
Total Land (ac)	4022	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.1	Wetland %	9.1	Tilled Agriculture %	60.3
		Low Int. Dev. %	2.5	Upland Woody %	26.6	Grassland %	0.8
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Sample Comments



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Town: Presque Isle

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Subsample Factor: X1

Replicates: 3

Calculated: 12/23/2020

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009	0.33	0.33		CG	0.2	0.2
<i>Orconectes</i>	09010301008	1.33	1.33		CG	0.8	0.8
<i>Leuctra</i>	09020204020	8.00	8.00	0	SH	4.6	4.6
<i>Pteronarcys</i>	09020205023		0.33	0	SH		0.2
<i>Pteronarcys biloba</i>	09020205023061	0.33			--	0.2	
<i>Agnatina</i>	09020209050	0.33	0.33	2	PR	0.2	0.2
<i>Boyeria</i>	09020301004		3.33	2	PR		1.9
<i>Boyeria grafiana</i>	09020301004011	3.33			--	1.9	
<i>Acerpenna</i>	09020401007	0.33	0.33	5	CG	0.2	0.2
<i>Proclaeon</i>	09020401010	8.00	8.00		CG	4.6	4.6
<i>Stenacron</i>	09020402014		1.33	7	SC		0.8
<i>Stenacron interpunctatum</i>	09020402014045	1.33			--	0.8	
<i>Paraleptophlebia</i>	09020406026	2.00	2.00	1	CG	1.2	1.2
<i>Eurylophella</i>	09020410036	2.67	2.67	3	CG	1.5	1.5
<i>Tricorythodes</i>	09020411038	0.67	0.67	4	CG	0.4	0.4
<i>Cernotina</i>	09020603006	27.00	27.00		PR	15.6	15.6
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.2	0.2
<i>Rhyacophila</i>	09020605019	0.33	0.33	2	PR	0.2	0.2
Limnephilidae	09020610				--		
<i>Pycnopsyche</i>	09020610049	6.00	6.00	4	SH	3.5	3.5
<i>Lepidostoma</i>	09020611064	0.67	0.67	1	SH	0.4	0.4
<i>Sialis</i>	09020702004	3.00	3.00	4	PR	1.7	1.7
Chironomidae	09021011				--		
<i>Procladius</i>	09021011015	1.67	1.67	9	PR	1.0	1.0
<i>Thienemannimyia</i>	09021011020		9.67	3	PR		5.6
<i>Thienemannimyia group</i>	09021011020041	9.67			--	5.6	
<i>Cricotopus</i>	09021011037	0.33	0.33	7	SH	0.2	0.2
<i>Paratanytarsus</i>	09021011071	4.33	4.33	6	--	2.5	2.5
<i>Tanytarsus</i>	09021011076	0.33	0.33	6	CF	0.2	0.2
<i>Microtendipes</i>	09021011094		42.00	6	CF		24.2
<i>Microtendipes pedellus group</i>	09021011094166	40.33			--	23.3	
<i>Microtendipes rydalensis group</i>	09021011094168	1.67			--	1.0	
<i>Polypedilum</i>	09021011102		1.67	6	SH		1.0
<i>Polypedilum illinoense</i>	09021011102204	1.67			--	1.0	
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.2	0.2
<i>Dubiraphia</i>	09021113064	9.67	43.00	6	--	5.6	24.8
<i>Dubiraphia quadrinotata</i>	09021113064037	33.33			--	19.2	



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<i>Optioservus</i>	09021113067	2.00	3.00	3	SC	1.2	1.7
<i>Optioservus fastiditus</i>	09021113067044	1.00			--	0.6	
<i>Helisoma</i>	10010203030		0.33		SC		0.2
<i>Helisoma trivolvis</i>	10010203030061	0.33			--	0.2	
<i>Sphaerium</i>	10020201003	0.67	0.67		CF	0.4	0.4