



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: 2264 Type of Sample: ROCK BAG Date Deployed: 7/21/2014
Subsample Factor: X1 Replicates: 3 Date Retrieved: 8/18/2014

Classification Attainment

Statutory Class: B Final Determination: B Date: 1/22/2015
Model Result with $P \geq 0.6$: B Reason for Determination: Model
Date Last Calculated: 1/22/2015 Comments: Indeterminate Class A (.44) not raised to Class A based on Richness of sensitive taxa and low diversity.

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.55	Class C	0.01	Class A, B, or C	1.00
Class B	0.44	NA	0.00	Non-Attainment	0.00
B or Better Model				A Model	
Class A or B			1.00	Class A	0.44
Class C or Non-Attainment			0.00	Class B or C or Non-Attainment	0.56

Model Variables

01 Total Mean Abundance	445.33	18 Relative Abundance Ephemeroptera	0.73
02 Generic Richness	46.00	19 EPT Generic Richness	18.00
03 Plecoptera Mean Abundance	4.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	10.00
04 Ephemeroptera Mean Abundance	326.33	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	2.04	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	0.69
06 Hilsenhoff Biotic Index	3.95	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.10	28 EP Generic Richness/14	0.36
08 Relative Generic Richness Diptera	0.41	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	6.85		
11 <i>Cheumatopsyche</i> Abundance	0.36		
12 EPT Generic Richness/ Diptera Generic Richness	0.95		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.00		
17 Chironomini Abundance (Family Functional Group)	2.00		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Baetis</i>	72.90
2	<i>Simulium</i>	3.37
3	<i>Parametriocnemus</i>	2.99
4	<i>Rhyacophila</i>	2.54
5	<i>Diplectrona</i>	2.35



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 13 deg C
Dissolved Oxygen: 9.5 mg/l
Specific Conductance: 450 uS/cm
Velocity: 22 cm/s
pH: 7.04
Wetted Width: 4.1 m
Bankfull Width: 4.9 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 12 deg C
Dissolved Oxygen: 10 mg/l
Specific Conductance: 458 uS/cm
Velocity: 25 cm/s
pH: 7.85
Wetted Width: 4.1 m
Bankfull Width: 4.9 m
Depth: 40 cm

Water Chemistry - 7/31/2014

Nitrate+nitrite As N	4.5 mg/l	Total Phosphorus	26 ug/l
Total Kjeldahl Nitrogen	0.2 mg/l	Orthophosphate As Phosphorus	18 ug/l
Total Alkalinity	152 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Rolling
Swamp Conifer		
Upland Conifer		
Upland Hardwood		

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 5 %
	Below Agriculture NPS	Gravel 30 %
		Rubble/Cobble 50 %
		Sand 15 %

Landcover Summary - 2004 Data

Sample Comments

LOOKS NICE

8/18 - SPINY SCULPIN FOUND, VERY FEW BUGS SEEN. NMRO METER USED FOR DO, TEMP AND SPC.



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Log Number: 2264

Subsample Factor: X1

Replicates: 3

Calculated: 1/22/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Nematoda	05	1.33	1.33		--	0.3	0.3
Enchytraeidae	08020201	0.67	0.67		--	0.1	0.1
<i>Nais</i>	08020202009		1.00		CG		0.2
<i>Nais variabilis</i>	08020202009009	1.00			--	0.2	
Lumbricidae	08020205	0.33	0.33		--	0.1	0.1
Isotomidae	09020102	0.33	0.33		--	0.1	0.1
<i>Amphinemura</i>	09020201001	0.33	0.33	2	SH	0.1	0.1
<i>Leuctra</i>	09020204020	2.33	3.33	0	SH	0.5	0.7
<i>Leuctra truncata</i>	09020204020058	1.00			--	0.2	
<i>Sweltsa</i>	09020208040	0.67	0.67		PR	0.1	0.1
<i>Baetis</i>	09020401001	48.67	324.67	4	CG	10.9	72.9
<i>Baetis flavistriga</i>	09020401001004	8.00			--	1.8	
<i>Baetis tricaudatus</i>	09020401001012	268.00			--	60.2	
Leptophlebiidae	09020406	1.67	1.67		--	0.4	0.4
<i>Dolophilodes</i>	09020601001	0.67	0.67	0	CF	0.1	0.1
<i>Chimarra</i>	09020601003		0.67	2	CF		0.1
<i>Chimarra obscura</i>	09020601003003	0.67			--	0.1	
Hydropsychidae	09020604	1.33			--	0.3	
<i>Diplectrona</i>	09020604014		10.46	0	CF		2.3
<i>Diplectrona modesta</i>	09020604014025	9.67			--	2.2	
<i>Cheumatopsyche</i>	09020604015	0.33	0.36	5	CF	0.1	0.1
<i>Hydropsyche</i>	09020604016	3.00	6.85	4	CF	0.7	1.5
<i>Hydropsyche slossonae</i>	09020604016031	0.33			--	0.1	
<i>Hydropsyche sparna</i>	09020604016032	3.00			--	0.7	
<i>Rhyacophila</i>	09020605019	7.33	11.33	2	PR	1.6	2.5
<i>Rhyacophila brunnea</i>	09020605019055	1.33			PR	0.3	
<i>Rhyacophila fuscula</i>	09020605019060	2.00			PR	0.4	
<i>Rhyacophila minor</i>	09020605019063	0.67			PR	0.1	
Glossosomatidae	09020606				--		
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.1	0.1
Limnephilidae	09020610	0.33			--	0.1	
<i>Ironoquia</i>	09020610045	0.33	0.37	3	SH	0.1	0.1
<i>Pycnopsyche</i>	09020610049	0.33	0.37	4	SH	0.1	0.1
<i>Hesperophylax</i>	09020610054		0.37	3	SH		0.1
<i>Hesperophylax designatus</i>	09020610054110	0.33			--	0.1	
<i>Limnephilus</i>	09020610055	0.33	0.37	3	SH	0.1	0.1
<i>Psychoglypha</i>	09020610060		2.20	0	SH		0.5
<i>Psychoglypha subborealis</i>	09020610060120	2.00			--	0.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.1	0.1
Tipulidae	09021001	7.00			--	1.6	
<i>Tipula</i>	09021001002	3.33	9.70	4	SH	0.7	2.2
<i>Dicranota</i>	09021001005	0.33	0.97	3	PR	0.1	0.2
<i>Dixa</i>	09021006023	0.33	0.33		CG	0.1	0.1
Chironomidae	09021011				--		
<i>Paramerina</i>	09021011013	2.00	2.00		--	0.4	0.4
<i>Pagastia</i>	09021011025		1.67	1	--		0.4
<i>Pagastia orthogonia</i>	09021011025001	1.67			--	0.4	
<i>Brillia</i>	09021011033	0.67	5.67	5	SH	0.1	1.3
<i>Brillia parva</i>	09021011033050	5.00			--	1.1	
<i>Corynoneura</i>	09021011036	4.33	4.33	7	CG	1.0	1.0
<i>Diplocladius</i>	09021011038		0.33	8	CG		0.1
<i>Diplocladius cultriger</i>	09021011038001	0.33			--	0.1	
<i>Eukiefferiella</i>	09021011041		2.33	8	CG		0.5
<i>Eukiefferiella claripennis group</i>	09021011041075	2.33			--	0.5	
<i>Heterotrissocladius</i>	09021011044		0.33	0	CG		0.1
<i>Heterotrissocladius marcidus</i>	09021011044083	0.33			--	0.1	
<i>Parametriocnemus</i>	09021011053	11.00	13.33	5	CG	2.5	3.0
<i>Parametriocnemus sp. F Epler</i>	09021011053101	2.33			--	0.5	
<i>Rheocricotopus</i>	09021011057	0.33	0.33	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		1.67	5	CG		0.4
<i>Tvetenia paucunca</i>	09021011065114	1.67			--	0.4	
<i>Micropsectra</i>	09021011070	9.67	10.00	7	CG	2.2	2.2
<i>Micropsectra polita</i>	09021011070124	0.33		7	--	0.1	
<i>Rheotanytarsus</i>	09021011072	0.67	0.67	6	CF	0.1	0.1
<i>Tanytarsus</i>	09021011076	0.33	0.33	6	CF	0.1	0.1
<i>Polypedilum</i>	09021011102		2.00	6	SH		0.4
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.2	
<i>Polypedilum albicorne</i>	09021011102195	1.00			--	0.2	
<i>Simulium</i>	09021012047	0.33	15.00	4	CF	0.1	3.4
<i>Simulium (Eusimulium)</i>	09021012047052	1.67			--	0.4	
<i>Simulium tuberosum</i>	09021012047067	10.33			--	2.3	
<i>Simulium jenningsi species group</i>	09021012047070	0.33			CF	0.1	
<i>Simulium venustum/verecundum complex</i>	09021012047072	1.00			CF	0.2	
<i>Simulium vittatum complex</i>	09021012047073	1.33			CF	0.3	
<i>Neoplasta</i>	09021016064	0.33	0.33		PR	0.1	0.1



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<i>Optioservus</i>	09021113067	0.33	2.33	3	SC	0.1	0.5
<i>Optioservus ovalis</i>	09021113067046	2.00			--	0.4	
<i>Promoresia</i>	09021113069		1.00		--		0.2
<i>Promoresia tardella</i>	09021113069052	1.00			--	0.2	
Acariformes	090301	0.33	0.33		--	0.1	0.1
<i>Sperchon</i>	09030107001	1.00	1.00		--	0.2	0.2
<i>Lymnaea</i>	10010201022		0.33		SC		0.1
<i>Lymnaea columella</i>	10010201022038	0.33			--	0.1	