



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

Station Information

Station Number: S-47 River Basin: St. John
Waterbody: Limestone Stream - Station 47 HUC8 Name: Aroostook
Town: Limestone Latitude: 46 53 19.26 N
Directions: 2.4 KM BELOW LIMESTONE POTW. 30M UPSTREAM Longitude: 67 47 55.27 W
OF BLAKE ROAD CROSSING. Stream Order: 3

Sample Information

Log Number: 2270 Type of Sample: ROCK BAG Date Deployed: 7/21/2014
Subsample Factor: X4 Replicates: 3 Date Retrieved: 8/19/2014

Classification Attainment

Statutory Class: C **Final Determination:** C Date: 3/24/2015
Model Result with $P \geq 0.6$: C **Reason for Determination:** Model
Date Last Calculated: 3/19/2015 **Comments:**

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.00	Class A, B, or C	1.00
Class B	0.20	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.01	Class A	0.06
Class C or Non-Attainment	0.99	Class B or C or Non-Attainment	0.94

Model Variables

01 Total Mean Abundance	3472.00	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	40.00	19 EPT Generic Richness	11.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	430.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	2.91	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	883.26
06 Hilsenhoff Biotic Index	4.80	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.40	28 EP Generic Richness/14	0.36
08 Relative Generic Richness Diptera	0.40	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	1008.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.69		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	1.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.68		
17 Chironomini Abundance (Family Functional Group)	371.83		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	29.03
2	<i>Cricotopus</i>	25.44
3	<i>Baetis</i>	12.21
4	<i>Polypedilum</i>	10.67
5	<i>Simulium</i>	6.68



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING
Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	23 deg C
Dissolved Oxygen:	8.7 mg/l
Specific Conductance:	289 uS/cm
Velocity:	110 cm/s
pH:	8.23
Wetted Width:	7.85 m
Bankfull Width:	9.3 m
Depth:	35 cm

Waterbody Information - Retrieval

Temperature:	16.3 deg C
Dissolved Oxygen:	9.63 mg/l
Specific Conductance:	260 uS/cm
Velocity:	87 cm/s
pH:	7.93
Wetted Width:	7.2 m
Bankfull Width:	9.3 m
Depth:	35 cm

Water Chemistry - 7/30/2014

Nitrate+nitrite As N	0.68 mg/l	Total Phosphorus	42 ug/l
Total Kjeldahl Nitrogen	0.4 mg/l	Orthophosphate As Phosphorus	7 ug/l
Total Alkalinity	96 mg/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 5 %
		Gravel 25 %
		Rubble/Cobble 65 %
		Sand 5 %

Landcover Summary - 2004 Data

Total Area (ac)	20934	High Int. Dev. %	0.2	Water %	0.7	Non-vegetated %	0.2
		Med Int. Dev. %	0.3	Wetland %	21.6	Tilled Agriculture %	32.1
		Low Int. Dev. %	2.1	Upland Woody %	36.7	Grassland %	1.5
		Development %	2.7	Natural %	58.8	Human Altered %	40.5
						Impervious %	1.6

Sample Comments

8/19 - VERY FUZZY ROCKS, LOTS OF ALGAE. NMRO METER USED FOR DO, TEMP AND SPC.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-47

Waterbody: Limestone Stream - Station 47

Town: Limestone

Log Number: 2270

Subsample Factor: X4

Replicates: 3

Calculated: 3/19/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Turbellaria	0301	2.67	2.67		--	0.1	0.1
Lumbriculidae	08020101	5.33	5.33		--	0.2	0.2
Enchytraeidae	08020201	1.33	1.33		--	0.0	0.0
<i>Pristina</i>	08020202004	1.33	1.33		--	0.0	0.0
<i>Nais</i>	08020202009		24.00		CG		0.7
<i>Nais behningi</i>	08020202009003	2.67			--	0.1	
<i>Nais communis</i>	08020202009005	20.00			--	0.6	
<i>Nais variabilis</i>	08020202009009	1.33			--	0.0	
<i>Erpobdella</i>	08030203002		1.33		--		0.0
<i>Erpobdella obscura</i>	08030203002006	1.33			--	0.0	
<i>Cambarus</i>	09010301007		1.33		CG		0.0
<i>Cambarus bartonii</i>	09010301007012	1.33			--	0.0	
Isotomidae	09020102	1.33	1.33		--	0.0	0.0
<i>Paragnetina</i>	09020209049	1.33	1.33	1	PR	0.0	0.0
Baetidae	09020401	26.67			--	0.8	
<i>Baetis</i>	09020401001	90.67	423.82	4	CG	2.6	12.2
<i>Baetis flavistriga</i>	09020401001004	170.67			--	4.9	
<i>Baetis tricaudatus</i>	09020401001012	136.00			--	3.9	
<i>Acentrella</i>	09020401008		2.84	3	CG		0.1
<i>Acentrella turbida</i>	09020401008021	2.67			--	0.1	
<i>Serratella</i>	09020410037		2.67	2	CG		0.1
<i>Serratella serratoides</i>	09020410037124	2.67			--	0.1	
<i>Tricorythodes</i>	09020411038	1.33	1.33	4	CG	0.0	0.0
<i>Dolophilodes</i>	09020601001		226.67	0	CF		6.5
<i>Dolophilodes distinctus</i>	09020601001001	226.67			--	6.5	
Hydropsychidae	09020604	96.00	96.00		--	2.8	2.8
<i>Hydropsyche</i>	09020604016	926.67	1008.00	4	CF	26.7	29.0
<i>Hydropsyche bronta</i>	09020604016029	8.00			--	0.2	
<i>Hydropsyche morosa</i>	09020604016030	57.33			--	1.7	
<i>Hydropsyche sparna</i>	09020604016032	16.00			--	0.5	
<i>Rhyacophila</i>	09020605019	8.00	8.00	2	PR	0.2	0.2
<i>Glossosoma</i>	09020606020	14.67	14.67	0	SC	0.4	0.4
<i>Psychoglypha</i>	09020610060		1.33	0	SH		0.0
<i>Psychoglypha subborealis</i>	09020610060120	1.33			--	0.0	
<i>Tipula</i>	09021001002	1.33	1.33	4	SH	0.0	0.0
Chironomidae	09021011	9.33			--	0.3	
<i>Nilotanytus</i>	09021011012		2.68	6	PR		0.1
<i>Nilotanytus fimbriatus</i>	09021011012027	2.67			--	0.1	



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		Actual	Adjusted			Actual	Adjusted
<i>Potthastia</i>	09021011026		2.68	2	CG		0.1
<i>Potthastia gaedii</i>	09021011026045	2.67			--	0.1	
<i>Cardiocladius</i>	09021011034		4.03	5	PR		0.1
<i>Cardiocladius obscurus</i>	09021011034053	4.00			--	0.1	
<i>Corynoneura</i>	09021011036	1.33	1.34	7	CG	0.0	0.0
<i>Cricotopus</i>	09021011037	26.67	883.26	7	SH	0.8	25.4
<i>Cricotopus bicinctus</i>	09021011037057	213.33			--	6.1	
<i>Cricotopus trifascia</i>	09021011037070	502.67			--	14.5	
<i>Cricotopus luciae</i>	09021011037073	30.67			--	0.9	
<i>Cricotopus politus</i>	09021011037077	74.67			--	2.2	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	29.33			SH	0.8	
<i>Eukiefferiella</i>	09021011041	1.33	17.45	8	CG	0.0	0.5
<i>Eukiefferiella brevicar group</i>	09021011041074	8.00			--	0.2	
<i>Eukiefferiella claripennis group</i>	09021011041075	5.33			--	0.2	
<i>Eukiefferiella devonica group</i>	09021011041083	2.67			CG	0.1	
<i>Synorthocladius</i>	09021011061	4.00	4.03	2	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	2.67	12.08	6	CG	0.1	0.3
<i>Thienemanniella xena</i>	09021011062110	9.33			--	0.3	
<i>Tvetenia</i>	09021011065		13.42	5	CG		0.4
<i>Tvetenia paucunca</i>	09021011065114	13.33			--	0.4	
<i>Paratanytarsus</i>	09021011071	5.33	5.37	6	--	0.2	0.2
<i>Rheotanytarsus</i>	09021011072	5.33	73.83	6	CF	0.2	2.1
<i>Rheotanytarsus pellucidus</i>	09021011072128	68.00			CF	2.0	
<i>Cryptochironomus</i>	09021011082	1.33	1.34	8	PR	0.0	0.0
<i>Paracladopelma undine</i>	09021011098177				--		
<i>Polypedilum</i>	09021011102		370.48	6	SH		10.7
<i>Polypedilum aviceps</i>	09021011102181	197.33			--	5.7	
<i>Polypedilum flavum</i>	09021011102182	170.67			--	4.9	
<i>Simulium</i>	09021012047	53.33	232.00	4	CF	1.5	6.7
<i>Simulium vittatum</i>	09021012047064	140.00			--	4.0	
<i>Simulium tuberosum</i>	09021012047067	36.00			--	1.0	
<i>Simulium venustum/verecundum complex</i>	09021012047072	2.67			CF	0.1	
<i>Neoplasta</i>	09021016064	1.33	1.33		PR	0.0	0.0
<i>Promoresia</i>	09021113069		9.33		--		0.3
<i>Promoresia tardella</i>	09021113069052	9.33			--	0.3	
<i>Stenelmis</i>	09021113070	2.67	5.33	5	SC	0.1	0.2
<i>Stenelmis crenata</i>	09021113070055	2.67			--	0.1	



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<i>Sperchon</i>	09030107001	1.33	1.33		--	0.0	0.0
<i>Physa</i>	10010202027	1.33	1.33		SC	0.0	0.0
Sphaeriidae	10020201	2.67	2.67		CF	0.1	0.1