



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

Station Information

Station Number: S-731
Waterbody: Little Madawaska River - Station 731
Town: Caribou
Directions: 44M BELOW NOYES RD, RIGHT SIDE BELOW SAND BAR
DEP Drainage: St. John
HUC8: 01010004
HUC8 Name: Aroostook River
Latitude: 46 53 4.13 N
Longitude: 67 56 52.63 W
Stream Order: 4

Sample Information

Log Number: 1865
Subsample Factor: X4
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/22/2009
Date Retrieved: 8/19/2009

Classification Attainment

Statutory Class: B
Model Result with P>.6: A
Date Last Calculated: 4/22/2010
Final Determination: A
Reason for Determination: Model
Comments: Enriched.
Date: 4/22/2010

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.16	Class A, B, or C	1.00
Class B	0.76	Non-Attainment	0.00
Class C			
NA			
0.00			
B or Better Model		A Model	
Class A or B	1.00	Class A	0.75
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.25

Model Variables

01 Total Mean Abundance	2402.67	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	54.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	29.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	2.81
04 Ephemeroptera Mean Abundance	382.67	23 Relative Generic Richness- Plecoptera	0.09
05 Shannon-Wiener Generic Diversity	3.12	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	134.63
06 Hilsenhoff Biotic Index	3.93	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	15.82
07 Relative Abundance - Chironomidae	0.17	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.41	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	1206.55		
11 <i>Cheumatopsyche</i> Abundance	85.38		
12 EPT Generic Richness/ Diptera Generic Richness	1.14		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	24.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	11.26		
17 Chironomini Abundance (Family Functional Group)	206.85		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	50.22
2	<i>Polypedilum</i>	7.56
3	<i>Chimarra</i>	7.25
4	<i>Plauditus</i>	5.53
5	<i>Baetis</i>	4.62



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 19.7 deg C
Dissolved Oxygen: 8.8 mg/l
Specific Conductance: 119 uS/cm
Velocity: 82 cm/s
pH: 7.81
Wetted Width: 41 m
Bankfull Width: 41.7 m
Depth: 48 cm

Waterbody Information - Retrieval

Temperature: 23.4 deg C
Dissolved Oxygen: 9.1 mg/l
Specific Conductance: 194 uS/cm
Velocity: 66 cm/s
pH: 8.35
Wetted Width: 39 m
Bankfull Width: 41.7 m
Depth: 33 cm

Water Chemistry - 7/22/2009

Soluble Reactive Phosphorus	2 ug/l	Nitrate+nitrite As N	0.18 mg/l
Total Phosphorus	0.016 mg/l	Total Kjeldahl Nitrogen	0.4 mg/l
Dissolved Organic Carbon	8.3 mg/l	Total Alkalinity	61 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	Below Agriculture NPS	Boulder 40 %
	Main Stem	Gravel 10 %
		Rubble/Cobble 50 %

Landcover Summary - 2004 Data

Total Area (ac)	152858	High Int. Dev. %	0.3	Water %	1.3	Non-vegetated %	0.4
		Med Int. Dev. %	0.2	Wetland %	9.8	Tilled Agriculture %	10.1
		Low Int. Dev. %	1.8	Upland Woody %	73.3	Grassland %	2.1
		Development %	2.3	Natural %	83.5	Human Altered %	15.2
						Impervious %	1.1

Sample Comments



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Subsample Factor: X4

Replicates: 3

Calculated: 4/22/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Turbellaria	0301	1.33	1.33		--	0.1	0.1
<i>Pteronarcys</i>	09020205023		1.33	0	SH		0.1
<i>Pteronarcys biloba</i>	09020205023061	1.33			--	0.1	
Perlodidae	09020207	4.00	4.00		--	0.2	0.2
Perlidae	09020209	1.33			--	0.1	
<i>Acroneuria</i>	09020209042	1.33	2.82	0	PR	0.1	0.1
<i>Acroneuria abnormis</i>	09020209042121	1.33		0	PR	0.1	
<i>Paragnetina</i>	09020209049	4.00	5.65	1	PR	0.2	0.2
<i>Paragnetina immarginata</i>	09020209049149	1.33			--	0.1	
<i>Agnatina</i>	09020209050		15.53	2	PR		0.6
<i>Agnatina capitata</i>	09020209050152	14.67		2	PR	0.6	
Baetidae	09020401	50.67			--	2.1	
<i>Baetis</i>	09020401001	14.67	110.90	4	CG	0.6	4.6
<i>Baetis flavistriga</i>	09020401001004	6.67			--	0.3	
<i>Baetis intercalaris</i>	09020401001008	58.67			--	2.4	
<i>Baetis tricaudatus</i>	09020401001012	8.00			--	0.3	
<i>Acerpenna</i>	09020401007		1.68	5	CG		0.1
<i>Acerpenna pygmaea</i>	09020401007011	1.33			--	0.1	
<i>Plauditus</i>	09020401012	105.33	132.75		CG	4.4	5.5
Heptageniidae	09020402	2.67			--	0.1	
<i>Epeorus</i>	09020402009	20.00	21.67	0	SC	0.8	0.9
<i>Maccaffertium</i>	09020402015	8.00	13.00	4	SC	0.3	0.5
<i>Maccaffertium luteum</i>	09020402015049	4.00			--	0.2	
<i>Isonychia</i>	09020404018	13.33	13.33	2	CF	0.6	0.6
Leptophlebiidae	09020406	2.67	2.67		--	0.1	0.1
Ephemerellidae	09020410	22.67			--	0.9	
<i>Ephemerella</i>	09020410035	14.67	19.86	1	CG	0.6	0.8
<i>Serratella</i>	09020410037		66.81	2	CG		2.8
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	49.33			--	2.1	
Philopotamidae	09020601	5.33			--	0.2	
<i>Dolophilodes</i>	09020601001	16.00	16.46	0	CF	0.7	0.7
<i>Chimarra</i>	09020601003	169.33	174.21	2	CF	7.0	7.3
<i>Polycentropus</i>	09020603010	1.33	1.33	6	PR	0.1	0.1
Hydropsychidae	09020604	61.33			--	2.6	
<i>Cheumatopsyche</i>	09020604015	81.33	85.38	5	CF	3.4	3.6
<i>Hydropsyche</i>	09020604016	420.00	1206.55	4	CF	17.5	50.2
<i>Hydropsyche morosa</i>	09020604016030	554.67			--	23.1	
<i>Hydropsyche slossonae</i>	09020604016031	106.67			--	4.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche sparna</i>	09020604016032	37.33			--	1.6	
<i>Hydropsyche scalaris group</i>	09020604016048	30.67			--	1.3	
<i>Macrostemum</i>	09020604018		1.40	3	CF		0.1
<i>Macrostemum zebratum</i>	09020604018054	1.33			--	0.1	
<i>Rhyacophila</i>	09020605019		4.00	2	PR		0.2
<i>Rhyacophila fuscula</i>	09020605019060	2.67			PR	0.1	
<i>Rhyacophila minor</i>	09020605019063	1.33			PR	0.1	
<i>Glossosoma</i>	09020606020	2.67	2.67	0	SC	0.1	0.1
<i>Brachycentrus</i>	09020609043		34.67	0	CF		1.4
<i>Brachycentrus appalachia</i>	09020609043096	34.67			--	1.4	
Limnephilidae	09020610				--		
<i>Lepidostoma</i>	09020611064	21.33	21.33	1	SH	0.9	0.9
<i>Ceraclea</i>	09020618072	1.33	1.33	3	CG	0.1	0.1
<i>Antocha</i>	09021001004	2.67	2.67	3	CG	0.1	0.1
Chironomidae	09021011	21.33			--	0.9	
<i>Meropelopia</i>	09021011010	2.67	2.81		--	0.1	0.1
<i>Rheopelopia</i>	09021011017		8.44		PR		0.4
<i>Rheopelopia acra group</i>	09021011017036	8.00			--	0.3	
<i>Potthastia</i>	09021011026		12.66	2	CG		0.5
<i>Potthastia gaedii</i>	09021011026045	12.00			--	0.5	
<i>Cardiocladius</i>	09021011034		1.41	5	PR		0.1
<i>Cardiocladius obscurus</i>	09021011034053	1.33			--	0.1	
<i>Corynoneura</i>	09021011036	4.00	4.22	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037	1.33	46.44	7	SH	0.1	1.9
<i>Cricotopus bicinctus</i>	09021011037057	18.67			--	0.8	
<i>Cricotopus trifascia</i>	09021011037070	2.67			--	0.1	
<i>Cricotopus luciae</i>	09021011037073	10.67			--	0.4	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	10.67			SH	0.4	
<i>Eukiefferiella</i>	09021011041	2.67	14.07	8	CG	0.1	0.6
<i>Eukiefferiella pseudomontana group</i>	09021011041080	8.00			--	0.3	
<i>Eukiefferiella devonica group</i>	09021011041083	2.67			CG	0.1	
<i>Parakiefferiella</i>	09021011052	1.33	1.41		CG	0.1	0.1
<i>Parametriocnemus</i>	09021011053	1.33	1.41	5	CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057		2.81	6	CG		0.1
<i>Rheocricotopus robacki</i>	09021011057105	2.67			--	0.1	
<i>Synorthocladius</i>	09021011061	4.00	4.22	2	CG	0.2	0.2
<i>Thienemanniella</i>	09021011062		8.44	6	CG		0.4
<i>Thienemanniella xena</i>	09021011062110	2.67			--	0.1	



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<i>Thienemanniella boltoni</i>	09021011062113	5.33			--	0.2	
<i>Tvetenia</i>	09021011065		29.55	5	CG		1.2
<i>Tvetenia vitracies</i>	09021011065113	13.33			--	0.6	
<i>Tvetenia paucunca</i>	09021011065114	14.67			--	0.6	
<i>Micropsectra</i>	09021011070	2.67	2.81	7	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072	53.33	56.29	6	CF	2.2	2.3
<i>Tanytarsus</i>	09021011076	2.67	2.81	6	CF	0.1	0.1
<i>Microtendipes</i>	09021011094		25.33	6	CF		1.1
<i>Microtendipes pedellus group</i>	09021011094166	4.00			--	0.2	
<i>Microtendipes rydalensis group</i>	09021011094168	20.00			--	0.8	
<i>Polypedilum</i>	09021011102		181.52	6	SH		7.6
<i>Polypedilum aviceps</i>	09021011102181	141.33			--	5.9	
<i>Polypedilum flavum</i>	09021011102182	30.67			--	1.3	
<i>Simulium</i>	09021012047		6.67	4	CF		0.3
<i>Simulium penobscotensis</i>	09021012047063	1.33			--	0.1	
<i>Simulium jenningsi complex</i>	09021012047070	5.33			CF	0.2	
<i>Atherix</i>	09021015055	9.33	9.33	2	PR	0.4	0.4
<i>Roederiodes</i>	09021016058	1.33	1.33	3	PR	0.1	0.1
<i>Ectopria</i>	09021109059		1.33	5	SC		0.1
<i>Ectopria nervosa</i>	09021109059029	1.33			--	0.1	
<i>Dubiraphia</i>	09021113064	4.00	4.00	6	--	0.2	0.2
<i>Optioservus</i>	09021113067	1.33	2.67	3	SC	0.1	0.1
<i>Optioservus trivittatus</i>	09021113067048	1.33			--	0.1	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.1	0.1
Acariformes	090301	1.33	1.33		--	0.1	0.1
<i>Ferrissia</i>	10010204035		2.67		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	2.67			--	0.1	