



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

Station Information

Station Number: S-368
Waterbody: St John River - Station 368
Town: Madawaska
Directions: 4.7 KM DWNSTRM US-CAN BRIDGE

DEP Drainage: St. John
HUC8: 01010001
HUC8 Name: St. John River at Bay of Fundy
Latitude: 47 21 15.87 N
Longitude: 68 16 20.15 W
Stream Order: 5

Sample Information

Log Number: 1849
Subsample Factor: X4

Type of Sample: ROCK BAG
Replicates: 3

Date Deployed: 7/21/2009
Date Retrieved: 8/18/2009

Classification Attainment

Statutory Class: C
Model Result with P>.6: C
Date Last Calculated: 4/15/2010

Final Determination: C
Reason for Determination: Model
Comments:

Date: 4/16/2010

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.01	Class C	0.69	Class A, B, or C	1.00
Class B	0.30	NA	0.00	Non-Attainment	0.00
B or Better Model				A Model	
Class A or B			0.25	Class A	0.06
Class C or Non-Attainment			0.75	Class B or C or Non-Attainment	0.94

Model Variables

01 Total Mean Abundance	3336.00	18 Relative Abundance Ephemeroptera	0.14
02 Generic Richness	38.00	19 EPT Generic Richness	17.00
03 Plecoptera Mean Abundance	8.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	461.33	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	2.83	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	173.61
06 Hilsenhoff Biotic Index	4.06	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	35.51
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	0.79
08 Relative Generic Richness Diptera	0.34	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	1607.07		
11 <i>Cheumatopsyche</i> Abundance	127.41		
12 EPT Generic Richness/ Diptera Generic Richness	1.31		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	2.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00		
17 Chironomini Abundance (Family Functional Group)	216.03		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	48.17
2	<i>Baetis</i>	10.76
3	<i>Rheotanytarsus</i>	7.09
4	<i>Polypedilum</i>	6.39
5	<i>Chimarra</i>	6.12



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Date Retrieved: 8/18/2009

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 22.6 deg C
Dissolved Oxygen: 7.6 mg/l
Specific Conductance: 65 uS/cm
Velocity: 103 cm/s
pH: 7.39
Wetted Width: 267 m
Bankfull Width: 267 m
Depth: 68 cm

Waterbody Information - Retrieval

Temperature: 26.8 deg C
Dissolved Oxygen: 10.9 mg/l
Specific Conductance: 77 uS/cm
Velocity: 37 cm/s
pH: 8.38
Wetted Width: 267 m
Bankfull Width: 260 m
Depth: 45 cm

Water Chemistry - 7/21/2009

Soluble Reactive Phosphorus	5 ug/l	Nitrate+nitrite As N	0.05 mg/l
Total Phosphorus	0.023 mg/l	Total Kjeldahl Nitrogen	0.4 mg/l
Dissolved Organic Carbon	8.9 mg/l	Total Alkalinity	28 mg/l

Summary of Habitat Characteristics

Landuse Name

Canopy Cover

Terrain

Cultivated

Open

Hilly

Pasture

Swamp Hardwood

Upland Hardwood

Urban

Potential Stressor

Location

Substrate

Nutrients

Below Point Source

Boulder

30 %

Main Stem

Gravel

30 %

Rubble/Cobble

30 %

Sand

10 %

Landcover Summary - 2004 Data

Sample Comments



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Town: Madawaska

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Subsample Factor: X4

Replicates: 3

Calculated: 4/15/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Mooreobdella</i>	08030301003		1.33		--		0.0
<i>Mooreobdella melanostoma</i>	08030301003002	1.33			--	0.0	
<i>Nephelopsis</i>	08030301004		5.33		--		0.2
<i>Nephelopsis obscura</i>	08030301004001	5.33			--	0.2	
<i>Orconectes</i>	09010301008		1.33		CG		0.0
<i>Orconectes virilis</i>	09010301008016	1.33			--	0.0	
Perlodidae	09020207	5.33	5.33		--	0.2	0.2
<i>Acroneuria</i>	09020209042		2.67	0	PR		0.1
<i>Acroneuria abnormis</i>	09020209042121	2.67		0	PR	0.1	
<i>Ophiogomphus</i>	09020302015		1.33	1	PR		0.0
<i>Ophiogomphus carolus</i>	09020302015033	1.33			--	0.0	
Baetidae	09020401	41.33			--	1.2	
<i>Baetis</i>	09020401001	40.00	359.04	4	CG	1.2	10.8
<i>Baetis flavistriga</i>	09020401001004	18.67			--	0.6	
<i>Baetis intercalaris</i>	09020401001008	228.00			--	6.8	
<i>Baetis tricaudatus</i>	09020401001012	36.00			--	1.1	
<i>Heterocloeon</i>	09020401005		2.97	2	SC		0.1
<i>Heterocloeon curiosum</i>	09020401005020	2.67			--	0.1	
<i>Acentrella</i>	09020401008	4.00	4.45	3	CG	0.1	0.1
<i>Plauditus</i>	09020401012		41.54		CG		1.2
<i>Plauditus cingulatus</i>	09020401012003	37.33			--	1.1	
Heptageniidae	09020402	9.33			--	0.3	
<i>Epeorus</i>	09020402009	1.33	1.82	0	SC	0.0	0.1
<i>Maccaffertium</i>	09020402015	17.33	32.84	4	SC	0.5	1.0
<i>Maccaffertium luteum</i>	09020402015049	6.67			--	0.2	
<i>Isonychia</i>	09020404018	2.67	2.67	2	CF	0.1	0.1
<i>Ephemerella</i>	09020410035	13.33	14.67	1	CG	0.4	0.4
<i>Ephemerella invaria</i>	09020410035107	1.33			--	0.0	
<i>Eurylophella</i>	09020410036	1.33	1.33	3	CG	0.0	0.0
<i>Chimarra</i>	09020601003	204.00	204.00	2	CF	6.1	6.1
Hydropsychidae	09020604	46.67			--	1.4	
<i>Cheumatopsyche</i>	09020604015	124.00	127.41	5	CF	3.7	3.8
<i>Hydropsyche</i>	09020604016	630.67	1607.07	4	CF	18.9	48.2
<i>Hydropsyche bronta</i>	09020604016029	90.67			--	2.7	
<i>Hydropsyche morosa</i>	09020604016030	805.33			--	24.1	
<i>Hydropsyche slossonae</i>	09020604016031	21.33			--	0.6	
<i>Hydropsyche sparna</i>	09020604016032	2.67			--	0.1	
<i>Hydropsyche phalerata</i>	09020604016047	12.00			--	0.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche scalaris group</i>	09020604016048	1.33			--	0.0	
<i>Macrostemum</i>	09020604018		6.85	3	CF		0.2
<i>Macrostemum zebratum</i>	09020604018054	6.67			--	0.2	
<i>Brachycentrus</i>	09020609043		152.00	0	CF		4.6
<i>Brachycentrus appalachia</i>	09020609043096	4.00			--	0.1	
<i>Brachycentrus incanus</i>	09020609043101	148.00			--	4.4	
Limnephilidae	09020610				--		
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.0	0.0
Chironomidae	09021011	12.00			--	0.4	
<i>Cricotopus</i>	09021011037		40.76	7	SH		1.2
<i>Cricotopus bicinctus</i>	09021011037057	29.33			--	0.9	
<i>Cricotopus luciae</i>	09021011037073	5.33			--	0.2	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	5.33			SH	0.2	
<i>Eukiefferiella</i>	09021011041		2.72	8	CG		0.1
<i>Eukiefferiella similis group</i>	09021011041082	2.67			--	0.1	
<i>Nanocladius</i>	09021011049		5.43	3	CG		0.2
<i>Nanocladius spinipennis</i>	09021011049090	5.33			--	0.2	
<i>Orthocladius</i>	09021011050	4.00	6.79	6	CG	0.1	0.2
<i>Orthocladius annectens</i>	09021011050092	2.67			--	0.1	
<i>Thienemanniella</i>	09021011062	2.67	2.72	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		126.36	5	CG		3.8
<i>Tvetenia vitracies</i>	09021011065113	102.67			--	3.1	
<i>Tvetenia paucunca</i>	09021011065114	21.33			--	0.6	
<i>Paratanytarsus</i>	09021011071			6	--		
<i>Rheotanytarsus</i>	09021011072	232.00	236.41	6	CF	7.0	7.1
<i>Tanytarsus</i>	09021011076	5.33	5.43	6	CF	0.2	0.2
<i>Microtendipes</i>	09021011094		2.72	6	CF		0.1
<i>Microtendipes rydalensis group</i>	09021011094168	2.67			--	0.1	
<i>Polypedilum</i>	09021011102		213.32	6	SH		6.4
<i>Polypedilum aviceps</i>	09021011102181	28.00			--	0.8	
<i>Polypedilum flavum</i>	09021011102182	173.33			--	5.2	
<i>Polypedilum illinoense group</i>	09021011102185	8.00			--	0.2	
<i>Simulium</i>	09021012047	10.67	102.67	4	CF	0.3	3.1
<i>Simulium jenningsi</i>	09021012047060	1.33			--	0.0	
<i>Simulium penobscotensis</i>	09021012047063	1.33			--	0.0	
<i>Simulium vittatum</i>	09021012047064	12.00			--	0.4	
<i>Simulium tuberosum</i>	09021012047067	26.67			--	0.8	
<i>Simulium jenningsi complex</i>	09021012047070	50.67			CF	1.5	



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<i>Simulium venustum/verecundum</i> <i>complex</i>	09021012047072				CF		
<i>Atherix</i>	09021015055	1.33	1.33	2	PR	0.0	0.0
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.0	0.0
<i>Optioservus</i>	09021113067		2.67	3	SC		0.1
<i>Optioservus fastiditus</i>	09021113067044	1.33			--	0.0	
<i>Optioservus trivittatus</i>	09021113067048	1.33			--	0.0	
<i>Sperchon</i>	09030107001	1.33	1.33		--	0.0	0.0
<i>Ferrissia</i>	10010204035		2.67		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	2.67			--	0.1	
<i>Pisidium</i>	10020201002	4.00	4.00		CF	0.1	0.1