



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

Station Information

Station Number: S-646
Waterbody: Kennedy Brook - Station 646
Town: Presque Isle
Directions: KB 4B - DOWNSTREAM OF RAILROAD TRACKS

DEP Drainage: St. John
HUC8: 01010004
HUC8 Name: Aroostook River
Latitude: 46 40 39.78 N
Longitude: 68 1 10.23 W
Stream Order: 2

Sample Information

Log Number: 1870
Subsample Factor: X1
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/23/2009
Date Retrieved: 8/20/2009

Classification Attainment

Statutory Class: B
Model Result with P>.6: B
Date Last Calculated: 5/12/2010
Final Determination: B
Reason for Determination: Model
Comments:

Date: 5/13/2010

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.48	Class A, B, or C	1.00
Class B	0.43	Non-Attainment	0.00
Class C			
0.09			
0.00			
B or Better Model		A Model	
Class A or B	0.90	Class A	0.14
Class C or Non-Attainment	0.10	Class B or C or Non-Attainment	0.86

Model Variables

01 Total Mean Abundance	393.67	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	47.00	19 EPT Generic Richness	11.00
03 Plecoptera Mean Abundance	0.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	4.76
04 Ephemeroptera Mean Abundance	45.33	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.97	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	45.99
06 Hilsenhoff Biotic Index	4.15	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.25	28 EP Generic Richness/14	0.36
08 Relative Generic Richness Diptera	0.43	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	46.57		
11 <i>Cheumatopsyche</i> Abundance	18.43		
12 EPT Generic Richness/ Diptera	0.55		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	0.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	6.81		
(Family Functional Group)			
17 Chironomini Abundance (Family	7.83		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Simulium</i>	19.31
2	<i>Rhyacophila</i>	13.21
3	<i>Hydropsyche</i>	11.83
4	<i>Baetis</i>	10.75
5	<i>Cricotopus</i>	7.00



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 18 deg C
Dissolved Oxygen: 9.1 mg/l
Specific Conductance: 590 uS/cm
Velocity: 65 cm/s
pH: 8.32
Wetted Width: 3.7 m
Bankfull Width: 4.2 m
Depth: 23 cm

Waterbody Information - Retrieval

Temperature: 17.6 deg C
Dissolved Oxygen: 8.9 mg/l
Specific Conductance: 559 uS/cm
Velocity: 46 cm/s
pH: 7.03
Wetted Width: 3.7 m
Bankfull Width: 4.2 m
Depth: 23 cm

Water Chemistry - 7/23/2009

Soluble Reactive Phosphorus	37 ug/l	Nitrate+nitrite As N	2.3 mg/l
Total Phosphorus	0.057 mg/l	Total Kjeldahl Nitrogen	0.3 mg/l
Dissolved Organic Carbon	3.1 mg/l	Total Alkalinity	188 mg/l

Summary of Habitat Characteristics

Landuse Name

Canopy Cover

Terrain

Cultivated

Partly Open

Pasture

Urban

Potential Stressor

Location

Substrate

Urban Runoff

Below Urban NPS

Boulder	30 %
Gravel	20 %
Rubble/Cobble	30 %
Sand	20 %

Landcover Summary - 2004 Data

Total Area (ac)	1997	High Int. Dev. %	8.9	Water %	0.2	Non-vegetated %	0.0
		Med Int. Dev. %	4.3	Wetland %	5.0	Tilled Agriculture %	56.3
		Low Int. Dev. %	11.2	Upland Woody %	8.7	Grassland %	0.4
		Development %	24.4	Natural %	13.7	Human Altered %	86.1
						Impervious %	14.8

Sample Comments



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Replicates: 3

Calculated: 5/12/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Chaetogaster</i>	08020202002		0.67		--		0.2
<i>Chaetogaster limnaei</i>	08020202002004	0.67			--	0.2	
<i>Ophidonais</i>	08020202010		0.33		CG		0.1
<i>Ophidonais serpentina</i>	08020202010001	0.33			--	0.1	
Lumbricidae	08020205	0.33	0.33		--	0.1	0.1
<i>Glossiphonia</i>	08030101004		0.33		--		0.1
<i>Glossiphonia complanata</i>	08030101004001	0.33			--	0.1	
<i>Erpobdella</i>	08030301002	0.33	1.00		--	0.1	0.3
<i>Erpobdella punctata</i>	08030301002001	0.67			--	0.2	
<i>Mooreobdella</i>	08030301003		1.67		--		0.4
<i>Mooreobdella microstoma</i>	08030301003004	1.67			--	0.4	
<i>Sweltsa</i>	09020208040	0.33	0.33		PR	0.1	0.1
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.1	
Baetidae	09020401	0.33			--	0.1	
<i>Baetis</i>	09020401001	2.67	42.31	4	CG	0.7	10.7
<i>Baetis flavistriga</i>	09020401001004	5.67			--	1.4	
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.1	
<i>Baetis tricaudatus</i>	09020401001012	33.33			--	8.5	
<i>Plauditus</i>	09020401012	0.33	0.34		CG	0.1	0.1
<i>Diphetor</i>	09020401013		2.35		--		0.6
<i>Diphetor hageni</i>	09020401013001	2.33			--	0.6	
<i>Ephemerella</i>	09020410035	0.33	0.33	1	CG	0.1	0.1
<i>Dolophilodes</i>	09020601001	3.33	3.33	0	CF	0.8	0.8
Hydropsychidae	09020604	0.33			--	0.1	
<i>Diplectrona</i>	09020604014		0.67	0	CF		0.2
<i>Diplectrona modesta</i>	09020604014025	0.67			--	0.2	
<i>Cheumatopsyche</i>	09020604015	18.33	18.43	5	CF	4.7	4.7
<i>Hydropsyche</i>	09020604016	10.00	46.57	4	CF	2.5	11.8
<i>Hydropsyche slossonae</i>	09020604016031	34.33			--	8.7	
<i>Hydropsyche sparna</i>	09020604016032	1.33			--	0.3	
<i>Hydropsyche depravata complex</i>	09020604016041	0.67			CF	0.2	
<i>Rhyacophila</i>	09020605019	1.33	52.00	2	PR	0.3	13.2
<i>Rhyacophila fuscula</i>	09020605019060	50.67			PR	12.9	
<i>Hydroptila</i>	09020607026	4.33	4.33	6	P	1.1	1.1
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.1	0.1
<i>Antocha</i>	09021001004	1.67	1.67	3	CG	0.4	0.4
<i>Dicranota</i>	09021001005	0.67	0.67	3	PR	0.2	0.2



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		Actual	Adjusted			Actual	Adjusted
Chironomidae	09021011	2.00			--	0.5	
<i>Conchapelopia</i>	09021011004	5.00	5.10	6	PR	1.3	1.3
<i>Natarsia</i>	09021011011	0.33	0.34	8	PR	0.1	0.1
<i>Paramerina</i>	09021011013	1.33	1.36		--	0.3	0.3
<i>Pagastia</i>	09021011025		5.44	1	--		1.4
<i>Pagastia orthogonia</i>	09021011025001	5.33			--	1.4	
<i>Brillia</i>	09021011033		2.04	5	SH		0.5
<i>Brillia flavifrons</i>	09021011033049	2.00			--	0.5	
<i>Corynoneura</i>	09021011036	0.33	0.34	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037	3.33	27.56	7	SH	0.8	7.0
<i>Cricotopus bicinctus</i>	09021011037057	5.33			--	1.4	
<i>Cricotopus vierriensis</i>	09021011037071	0.33			--	0.1	
<i>Cricotopus luciae</i>	09021011037073	17.67			--	4.5	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	0.33			SH	0.1	
<i>Eukiefferiella</i>	09021011041		7.49	8	CG		1.9
<i>Eukiefferiella claripennis group</i>	09021011041075	6.00			--	1.5	
<i>Eukiefferiella devonica group</i>	09021011041083	1.33			CG	0.3	
<i>Parametriocnemus</i>	09021011053	8.00	8.17	5	CG	2.0	2.1
<i>Synorthocladius</i>	09021011061	2.00	2.04	2	CG	0.5	0.5
<i>Tvetenia</i>	09021011065		24.84	5	CG		6.3
<i>Tvetenia paucunca</i>	09021011065114	24.33			--	6.2	
<i>Micropsectra</i>	09021011070	4.67	4.76	7	CG	1.2	1.2
<i>Rheotanytarsus</i>	09021011072	0.33	0.34	6	CF	0.1	0.1
<i>Polypedilum</i>	09021011102		7.83	6	SH		2.0
<i>Polypedilum aviceps</i>	09021011102181	7.00			--	1.8	
<i>Polypedilum angulum</i>	09021011102198	0.67			--	0.2	
<i>Simulium</i>	09021012047	0.67	76.00	4	CF	0.2	19.3
<i>Simulium (Eusimulium)</i>	09021012047052	6.33			--	1.6	
<i>Simulium vittatum</i>	09021012047064	47.67			--	12.1	
<i>Simulium tuberosum</i>	09021012047067	11.67			--	3.0	
<i>Simulium venustum/verecundum complex</i>	09021012047072	9.67			CF	2.5	
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.2	0.2
<i>Limnophora</i>	09021022080	2.00	2.00	2	PR	0.5	0.5
<i>Agabus</i>	09021103016	1.33	1.33		PR	0.3	0.3
<i>Dubiraphia</i>	09021113064	0.33	0.33	6	--	0.1	0.1
<i>Optioservus</i>	09021113067	12.67	15.33	3	SC	3.2	3.9
<i>Optioservus fastiditus</i>	09021113067044	2.67			--	0.7	



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<i>Promoresia</i>	09021113069		10.33		--		2.6
<i>Promoresia tardella</i>	09021113069052	10.33			--	2.6	
Curculionidae	09021115	0.33	0.33		--	0.1	0.1
<i>Hygrobates</i>	09030102001	0.67	0.67		--	0.2	0.2
Lymnaeidae	10010201	0.67			--	0.2	
<i>Fossaria</i>	10010201021	0.33	0.67		--	0.1	0.2
<i>Lymnaea</i>	10010201022		0.67		SC		0.2
<i>Lymnaea columella</i>	10010201022038	0.33			--	0.1	
<i>Physa</i>	10010202026	9.33	9.33		SC	2.4	2.4