



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

Station Information

Station Number: S-1035 River Basin: St. John
Waterbody: Otter Brook - Station 1035 HUC8 Name: Aroostook
Town: Caribou Latitude: 46° 52' 22.632" N
Directions: 26M UPSTREAM OF BELANGER ROAD CROSSING Longitude: 67° 59' 6.684" W
Stream Order: 2

Sample Information

Log Number: 2265 Type of Sample: ROCK BAG Date Deployed: 7/21/2014
Subsample Factor: X4 Replicates: 3 Date Retrieved: 8/18/2014

Classification Attainment

Statutory Class: B Final Determination: B Date: 1/8/2015
Model Result with $P \geq 0.6$: B Reason for Determination: Model
Date Last Calculated: 1/7/2015 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.04	Class A, B, or C	1.00
Class B	0.61	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.87	Class A	0.11
Class C or Non-Attainment	0.13	Class B or C or Non-Attainment	0.89

Model Variables

01 Total Mean Abundance	1890.67	18 Relative Abundance Ephemeroptera	0.10
02 Generic Richness	48.00	19 EPT Generic Richness	22.00
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	190.67	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	1.93	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	82.69
06 Hilsenhoff Biotic Index	4.23	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	4.00
07 Relative Abundance - Chironomidae	0.14	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.38	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	1326.52		
11 <i>Cheumatopsyche</i> Abundance	10.82		
12 EPT Generic Richness/ Diptera Generic Richness	1.22		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	5.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.15		
17 Chironomini Abundance (Family Functional Group)	38.70		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	70.16
2	<i>Baetis</i>	9.22
3	<i>Rheotanytarsus</i>	6.43
4	<i>Cricotopus</i>	3.80
5	<i>Simulium</i>	1.90



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	17.1 deg C
Dissolved Oxygen:	9.3 mg/l
Specific Conductance:	350 uS/cm
Velocity:	45 cm/s
pH:	6.7
Wetted Width:	4.35 m
Bankfull Width:	10.4 m
Depth:	40 cm

Waterbody Information - Retrieval

Temperature:	14.6 deg C
Dissolved Oxygen:	9.77 mg/l
Specific Conductance:	337 uS/cm
Velocity:	43 cm/s
pH:	7.98
Wetted Width:	4.1 m
Bankfull Width:	10.4 m
Depth:	40 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name

Cultivated

Upland Hardwood

Urban

Canopy Cover

Open

Terrain

Rolling

Potential Stressor

Agricultural Runoff

Altered Habitat

Altered Hydrology

Location

Above Road Crossing

Below Agriculture NPS

Below Town

Substrate

Boulder 10 %

Gravel 30 %

Rubble/Cobble 60 %

Landcover Summary - 2004 Data

Sample Comments

8/18-SCULPIN FOUND, PH METER CALIBRATED TWICE AT PICK UP. NMRO METER USED FOR DO, TEMP AND SPC.



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Town: Caribou

Log Number: 2265

Subsample Factor: X4

Replicates: 3

Calculated: 1/7/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Dugesidae	03010102	1.33	1.33		--	0.1	0.1
Entomobryidae	09020103	1.33	1.33		--	0.1	0.1
<i>Pteronarcys</i>	09020205023		2.67	0	SH		0.1
<i>Pteronarcys biloba</i>	09020205023061	2.67			--	0.1	
<i>Acroneuria</i>	09020209042		1.33	0	PR		0.1
<i>Acroneuria abnormis</i>	09020209042121	1.33		0	PR	0.1	
<i>Paragnetina</i>	09020209049		4.00	1	PR		0.2
<i>Paragnetina immarginata</i>	09020209049149	4.00			--	0.2	
Baetidae	09020401	13.33			--	0.7	
<i>Baetis</i>	09020401001	18.67	174.24	4	CG	1.0	9.2
<i>Baetis flavistriga</i>	09020401001004	49.33			--	2.6	
<i>Baetis intercalaris</i>	09020401001008	80.00			--	4.2	
<i>Baetis tricaudatus</i>	09020401001012	13.33			--	0.7	
<i>Acentrella</i>	09020401008		2.88	3	CG		0.2
<i>Acentrella turbida</i>	09020401008021	2.67			--	0.1	
<i>Plauditus</i>	09020401012	1.33	1.44		CG	0.1	0.1
<i>Diphetor</i>	09020401013		1.44		--		0.1
<i>Diphetor hageni</i>	09020401013001	1.33			--	0.1	
Heptageniidae	09020402	2.67			--	0.1	
<i>Epeorus</i>	09020402009	1.33	2.67	0	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015		2.67	4	SC		0.1
<i>Maccaffertium luteum</i>	09020402015049	1.33			--	0.1	
Ephemerellidae	09020410	1.33	1.33		--	0.1	0.1
<i>Ephemerella</i>	09020410035		2.67	1	CG		0.1
<i>Ephemerella aurivillii</i>	09020410035104	2.67			--	0.1	
<i>Tricorythodes</i>	09020411038	1.33	1.33	4	CG	0.1	0.1
Trichoptera	090206				--		
<i>Dolophilodes</i>	09020601001	8.00	8.00	0	CF	0.4	0.4
<i>Chimarra</i>	09020601003	2.67	4.00	2	CF	0.1	0.2
<i>Chimarra obscura</i>	09020601003003	1.33			--	0.1	
Hydropsychidae	09020604	18.67			--	1.0	
<i>Cheumatopsyche</i>	09020604015	10.67	10.82	5	CF	0.6	0.6
<i>Hydropsyche</i>	09020604016	914.67	1326.52	4	CF	48.4	70.2
<i>Hydropsyche bronta</i>	09020604016029	33.33			--	1.8	
<i>Hydropsyche morosa</i>	09020604016030	258.67			--	13.7	
<i>Hydropsyche slossonae</i>	09020604016031	17.33			--	0.9	
<i>Hydropsyche sparna</i>	09020604016032	84.00			--	4.4	
<i>Rhyacophila</i>	09020605019		5.33	2	PR		0.3



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		Actual	Adjusted			Actual	Adjusted
<i>Rhyacophila fuscula</i>	09020605019060	5.33			PR	0.3	
Glossosomatidae	09020606				--		
<i>Glossosoma</i>	09020606020		2.67	0	SC		0.1
<i>Glossosoma nigrrior</i>	09020606020068	2.67			SC	0.1	
<i>Protoptila</i>	09020606022	1.33	1.33	1	SC	0.1	0.1
<i>Hydroptila</i>	09020607026	2.67	2.67	6	P	0.1	0.1
Limnephilidae	09020610	1.33	1.33		--	0.1	0.1
<i>Apatania</i>	09020610061	1.33	1.33		SC	0.1	0.1
<i>Antocha</i>	09021001004	5.33	5.33	3	CG	0.3	0.3
<i>Bezzia/palpomyia</i>	09021010043	1.33	1.33	6	PR	0.1	0.1
Chironomidae	09021011	9.33			--	0.5	
<i>Conchapelopia</i>	09021011004	1.33	1.38	6	PR	0.1	0.1
<i>Rheopelopia</i>	09021011017		2.76		PR		0.1
<i>Rheopelopia acra group</i>	09021011017036	2.67			--	0.1	
<i>Pagastia</i>	09021011025		2.76	1	--		0.1
<i>Pagastia orthogonia</i>	09021011025001	2.67			--	0.1	
<i>Potthastia</i>	09021011026		4.15	2	CG		0.2
<i>Potthastia gaedii</i>	09021011026045	4.00			--	0.2	
<i>Cricotopus</i>	09021011037	5.33	71.87	7	SH	0.3	3.8
<i>Cricotopus bicinctus</i>	09021011037057	30.67			--	1.6	
<i>Cricotopus luciae</i>	09021011037073	13.33			--	0.7	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	20.00			SH	1.1	
<i>Eukiefferiella</i>	09021011041		1.38	8	CG		0.1
<i>Eukiefferiella claripennis group</i>	09021011041075	1.33			--	0.1	
<i>Parametriocnemus</i>	09021011053			5	CG		
<i>Rheocricotopus robacki</i>	09021011057105				--		
<i>Synorthocladius</i>	09021011061	2.67	2.76	2	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062			6	CG		
<i>Tvetenia</i>	09021011065		12.44	5	CG		0.7
<i>Tvetenia vitracies</i>	09021011065113	2.67			--	0.1	
<i>Tvetenia paucunca</i>	09021011065114	9.33			--	0.5	
<i>Cladotanytarsus</i>	09021011068	1.33	1.38	7	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072	9.33	121.63	6	CF	0.5	6.4
<i>Rheotanytarsus pellucidus</i>	09021011072128	108.00			CF	5.7	
<i>Stempellinella</i>	09021011074		2.76	2	--		0.1
<i>Stempellinella fimbriata</i>	09021011074002	2.67			--	0.1	
<i>Microtendipes</i>	09021011094		13.82	6	CF		0.7
<i>Microtendipes pedellus group</i>	09021011094166	13.33			--	0.7	



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<i>Polypedilum</i>	09021011102		24.88	6	SH		1.3
<i>Polypedilum aviceps</i>	09021011102181	13.33			--	0.7	
<i>Polypedilum flavum</i>	09021011102182	10.67			--	0.6	
<i>Simulium</i>	09021012047		36.00	4	CF		1.9
<i>Simulium jenningsi</i>	09021012047060				--		
<i>Simulium tuberosum</i>	09021012047067	34.67			--	1.8	
<i>Simulium vittatum complex</i>	09021012047073	1.33			CF	0.1	
<i>Atherix</i>	09021015055	1.33	1.33	2	PR	0.1	0.1
<i>Hemerodromia</i>	09021016057	2.67	2.67	3	PR	0.1	0.1
<i>Dubiraphia</i>	09021113064		1.33	6	--		0.1
<i>Dubiraphia quadrinotata</i>	09021113064037	1.33			--	0.1	
<i>Optioservus</i>	09021113067	1.33	2.67	3	SC	0.1	0.1
<i>Optioservus ovalis</i>	09021113067046	1.33			--	0.1	
<i>Promoresia</i>	09021113069		1.33		--		0.1
<i>Promoresia tardella</i>	09021113069052	1.33			--	0.1	
<i>Hygrobates</i>	09030102001	1.33	1.33		--	0.1	0.1
<i>Physa</i>	10010202027	6.67	6.67		SC	0.4	0.4
<i>Gyraulus</i>	10010203029		1.33		SC		0.1
<i>Gyraulus parvus</i>	10010203029057	1.33			--	0.1	