



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

Station Information

Station Number: S-370
Waterbody: Aroostook River - Station 370
Town: Caribou
Directions: BELOW POTW - DOWNSTREAM OF MOORE BROOK

DEP Drainage: St. John
HUC8: 01010004
HUC8 Name: Aroostook
Latitude: 46 49 37.56 N
Longitude: 67 55 40.92 W
Stream Order: 5

Sample Information

Log Number: 2133
Subsample Factor: X4

Type of Sample: ROCK BAG
Replicates: 3

Date Deployed: 7/30/2012
Date Retrieved: 8/28/2012

Classification Attainment

Statutory Class: C
Model Result with P>.6: A
Date Last Calculated: 1/18/2013

Final Determination: A
Reason for Determination: Model
Comments:

Date: 1/22/2013

Model Probabilities

<u>First Stage Model</u>				<u>C or Better Model</u>	
Class A	0.57	Class C	0.01	Class A, B, or C	1.00
Class B	0.42	NA	0.00	Non-Attainment	0.00
<u>B or Better Model</u>				<u>A Model</u>	
Class A or B		1.00		Class A	0.96
Class C or Non-Attainment		0.00		Class B or C or Non-Attainment	0.04

Model Variables

01 Total Mean Abundance	574.67	18 Relative Abundance Ephemeroptera	0.49
02 Generic Richness	39.00	19 EPT Generic Richness	20.00
03 Plecoptera Mean Abundance	16.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	281.33	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	4.04	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	75.86
06 Hilsenhoff Biotic Index	4.09	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	121.96
07 Relative Abundance - Chironomidae	0.13	28 EP Generic Richness/14	1.07
08 Relative Generic Richness Diptera	0.33	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	102.01		
11 <i>Cheumatopsyche</i> Abundance	60.66		
12 EPT Generic Richness/ Diptera Generic Richness	1.54		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	16.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	8.29		
17 Chironomini Abundance (Family Functional Group)	34.55		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	20.06
2	<i>Hydropsyche</i>	17.75
3	<i>Cheumatopsyche</i>	10.55
4	<i>Ephemerella</i>	9.05
5	<i>Acerpenna</i>	3.94



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	28.8 deg C
Dissolved Oxygen:	12.2 mg/l
Specific Conductance:	177 uS/cm
Velocity:	19 cm/s
pH:	9.22
Wetted Width:	93 m
Bankfull Width:	104 m
Depth:	55 cm

Waterbody Information - Retrieval

Temperature:	22.1 deg C
Dissolved Oxygen:	8.2 mg/l
Specific Conductance:	167 uS/cm
Velocity:	10 cm/s
pH:	8.1
Wetted Width:	72 m
Bankfull Width:	104 m
Depth:	46 cm

Water Chemistry - 8/28/2012

Ammonia As Nitrogen	0.02 mg/l	Soluble Reactive Phosphorus	4 ug/l
Nitrate+nitrite As N	0.31 mg/l	Total Phosphorus	0.024 mg/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	4.5 mg/l	Total Dissolved Solids	90 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Open	Rolling
Upland Hardwood		
Urban		

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Below Agriculture NPS	Boulder	40 %
Pesticides	Below Urban NPS	Gravel	10 %
Urban Runoff	Main Stem	Rubble/Cobble	40 %
		Sand	10 %

Landcover Summary - 2004 Data

Sample Comments

8/28/12: FISH OBSERVED (BLACK NOSE DACE, COMMON SHINER, CREEK CHUB).
7/30/12: FISH OBSERVED.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-370

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Log Number: 2133

Subsample Factor: X4

Replicates: 3

Calculated: 1/18/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Chaetogaster</i>	08020202002		1.33		--		0.2
<i>Chaetogaster limnaei</i>	08020202002004	1.33			--	0.2	
<i>Orconectes</i>	09010301008		1.33		CG		0.2
<i>Orconectes virilis</i>	09010301008016	1.33			--	0.2	
<i>Acroneuria</i>	09020209042		6.67	0	PR		1.2
<i>Acroneuria lycorias</i>	09020209042125	6.67			--	1.2	
<i>Agnatina</i>	09020209050		9.33	2	PR		1.6
<i>Agnatina capitata</i>	09020209050152	9.33		2	PR	1.6	
Baetidae	09020401	2.67			--	0.5	
<i>Baetis</i>	09020401001		1.42	4	CG		0.2
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.2	
<i>Acerpenna</i>	09020401007	5.33	22.67	5	CG	0.9	3.9
<i>Acerpenna pygmaea</i>	09020401007011	16.00			--	2.8	
<i>Procloeon</i>	09020401010	18.67	19.83		CG	3.2	3.5
<i>Plauditus</i>	09020401012	1.33	1.42		CG	0.2	0.2
Heptageniidae	09020402	26.67			--	4.6	
<i>Leucrocuta</i>	09020402011	10.67	13.18	1	SC	1.9	2.3
<i>Stenacron</i>	09020402014		11.53	7	SC		2.0
<i>Stenacron interpunctatum</i>	09020402014045	9.33			--	1.6	
<i>Maccaffertium</i>	09020402015	22.67	115.29	4	SC	3.9	20.1
<i>Maccaffertium luteum</i>	09020402015049	42.67			--	7.4	
<i>Maccaffertium mediopunctatum</i>	09020402015050	28.00			--	4.9	
<i>Isonychia</i>	09020404018	17.33	17.33	2	CF	3.0	3.0
Leptophlebiidae	09020406	2.67	2.67		--	0.5	0.5
<i>Ephemerella</i>	09020410035	52.00	52.00	1	CG	9.0	9.0
<i>Eurylophella</i>	09020410036	5.33	5.33	3	CG	0.9	0.9
<i>Serratella</i>	09020410037		14.67	2	CG		2.6
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	14.67			--	2.6	
<i>Caenis</i>	09020412040	1.33	4.00	7	CG	0.2	0.7
<i>Caenis tardella</i>	09020412040137	2.67			--	0.5	
<i>Polycentropus</i>	09020603010	2.67	2.67	6	PR	0.5	0.5
Hydropsychidae	09020604	5.33			--	0.9	
<i>Cheumatopsyche</i>	09020604015	58.67	60.66	5	CF	10.2	10.6
<i>Hydropsyche</i>	09020604016	26.67	102.01	4	CF	4.6	17.8
<i>Hydropsyche bronta</i>	09020604016029	14.67			--	2.6	
<i>Hydropsyche morosa</i>	09020604016030	29.33			--	5.1	
<i>Hydropsyche placoda</i>	09020604016059	28.00			--	4.9	
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.2	0.2



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		Actual	Adjusted			Actual	Adjusted
<i>Oecetis</i>	09020618078		8.00	8	PR		1.4
<i>Oecetis avara</i>	09020618078153	5.33			--	0.9	
<i>Oecetis persimilis</i>	09020618078157	2.67			--	0.5	
<i>Antocha</i>	09021001004	1.33	1.33	3	CG	0.2	0.2
Chironomidae	09021011	2.67			--	0.5	
<i>Ablabesmyia</i>	09021011001		2.76	8	PR		0.5
<i>Ablabesmyia mallochii</i>	09021011001004	2.67			--	0.5	
<i>Labrundinia</i>	09021011008		1.38	7	PR		0.2
<i>Labrundinia pilosella</i>	09021011008022	1.33			--	0.2	
<i>Meropelopia</i>	09021011010	2.67	2.76		--	0.5	0.5
<i>Rheopelopia</i>	09021011017		1.38		PR		0.2
<i>Rheopelopia acra group</i>	09021011017036	1.33			--	0.2	
<i>Cricotopus</i>	09021011037	1.33	8.29	7	SH	0.2	1.4
<i>Cricotopus bicinctus</i>	09021011037057	1.33			--	0.2	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	5.33			SH	0.9	
<i>Nanocladius crassicornus</i>	09021011049086				--		
<i>Synorthocladius</i>	09021011061			2	CG		
<i>Tvetenia</i>	09021011065		1.38	5	CG		0.2
<i>Tvetenia vitracies</i>	09021011065113	1.33			--	0.2	
<i>Rheotanytarsus</i>	09021011072	14.67	15.20	6	CF	2.6	2.6
<i>Sublettea</i>	09021011075		4.15		--		0.7
<i>Sublettea coffmani</i>	09021011075131	4.00			--	0.7	
<i>Tanytarsus</i>	09021011076	4.00	4.15	6	CF	0.7	0.7
<i>Microtendipes</i>	09021011094		6.91	6	CF		1.2
<i>Microtendipes pedellus group</i>	09021011094166	6.67			--	1.2	
<i>Phaenopsectra</i>	09021011101		9.67	7	SC		1.7
<i>Phaenopsectra obediens</i>	09021011101182	9.33			SC	1.6	
<i>Polypedilum</i>	09021011102		17.96	6	SH		3.1
<i>Polypedilum aviceps</i>	09021011102181	1.33			--	0.2	
<i>Polypedilum flavum</i>	09021011102182	14.67			--	2.6	
<i>Polypedilum scalaenum group</i>	09021011102189	1.33			--	0.2	
Elmidae	09021113	1.33			--	0.2	
<i>Dubiraphia</i>	09021113064		14.44	6	--		2.5
<i>Dubiraphia minima</i>	09021113064036	13.33			--	2.3	
<i>Promoresia</i>	09021113069		1.44		--		0.3
<i>Promoresia elegans</i>	09021113069051	1.33			--	0.2	
<i>Stenelmis</i>	09021113070	1.33	1.44	5	SC	0.2	0.3
<i>Ferrissia</i>	10010204035		5.33		SC		0.9



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		Actual	Adjusted			Actual	Adjusted
<i>Ferrissia rivularis</i>	10010204035066	5.33			--	0.9	