



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

Station Information

Station Number: S-733 DEP Drainage: St. John  
Waterbody: Coloney Brook - Station 733 HUC8: 01010004  
Town: Fort Fairfield HUC8 Name: Aroostook River  
Directions: 29 M BELOW MARTIN RD CULVERT Latitude: 46 51 20.95 N  
Longitude: 67 47 59.99 W  
Stream Order: 2

Sample Information

Log Number: 1871 Type of Sample: ROCK BAG Date Deployed: 7/23/2009  
Subsample Factor: X4 Replicates: 3 Date Retrieved: 8/20/2009

Classification Attainment

Statutory Class: B Final Determination: C Date: 5/7/2010  
Model Result with P>.6: C Reason for Determination: Model  
Date Last Calculated: 5/6/2010 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.05	Class A, B, or C	1.00
Class B	0.54	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.28	Class A	0.02
Class C or Non-Attainment	0.72	Class B or C or Non-Attainment	0.98

Model Variables

01 Total Mean Abundance	1516.00	18 Relative Abundance Ephemeroptera	0.35
02 Generic Richness	28.00	19 EPT Generic Richness	15.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	2.70
04 Ephemeroptera Mean Abundance	537.33	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	2.53	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	44.73
06 Hilsenhoff Biotic Index	3.95	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	26.24
07 Relative Abundance - Chironomidae	0.06	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.36	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	619.24		
11 <i>Cheumatopsyche</i> Abundance	42.03		
12 EPT Generic Richness/ Diptera Generic Richness	1.50		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	1.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.06		
17 Chironomini Abundance (Family Functional Group)	0.00		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	40.85
2	<i>Baetis</i>	30.92
3	<i>Simulium</i>	9.41
4	<i>Tvetenia</i>	3.48
5	<i>Cheumatopsyche</i>	2.77



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Waterbody: Coloney Brook - Station 733

Date Retrieved: 8/20/2009

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 15.1 deg C  
Dissolved Oxygen: 9.3 mg/l  
Specific Conductance: 402 uS/cm  
Velocity: 44 cm/s  
pH: 7.02  
Wetted Width: 5.7 m  
Bankfull Width: 5.7 m  
Depth: 22 cm

**Waterbody Information - Retrieval**

Temperature: 16.6 deg C  
Dissolved Oxygen: 9 mg/l  
Specific Conductance: 442 uS/cm  
Velocity: 50 cm/s  
pH: 8.22  
Wetted Width: 6.2 m  
Bankfull Width: 7.2 m  
Depth: 26 cm

**Water Chemistry - 7/23/2009**

Soluble Reactive Phosphorus	41 ug/l	Nitrate+nitrite As N	1.3 mg/l
Total Phosphorus	0.06 mg/l	Total Kjeldahl Nitrogen	0.4 mg/l
Dissolved Organic Carbon	4.7 mg/l	Total Alkalinity	178 mg/l

**Summary of Habitat Characteristics**

Landuse Name

Canopy Cover

Terrain

Cultivated

Partly Open

Rolling

Pasture

Swamp Hardwood

Potential Stressor

Location

Substrate

Agricultural Runoff

Below Agriculture NPS

Boulder	50 %
Gravel	10 %
Rubble/Cobble	40 %

**Landcover Summary - 2004 Data**

Total Area (ac)	4549	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.2	Wetland %	6.0	Tilled Agriculture %	70.7
		Low Int. Dev. %	2.0	Upland Woody %	20.8	Grassland %	0.3
		Development %	2.2	Natural %	26.8	Human Altered %	73.2
						Impervious %	1.5

**Sample Comments**



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**Aquatic Life Taxonomic Inventory Report**

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Waterbody: Coloney Brook - Station 733

Town: Fort Fairfield

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Subsample Factor: X4

Replicates: 3

Calculated: 5/6/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Ophidonais</i>	08020202010		1.33		CG		0.1
<i>Ophidonais serpentina</i>	08020202010001	1.33			--	0.1	
<i>Agnetina</i>	09020209050		1.33	2	PR		0.1
<i>Agnetina capitata</i>	09020209050152	1.33		2	PR	0.1	
Baetidae	09020401	18.67			--	1.2	
<i>Baetis</i>	09020401001	30.67	468.69	4	CG	2.0	30.9
<i>Baetis flavistriga</i>	09020401001004	113.33			--	7.5	
<i>Baetis tricaudatus</i>	09020401001012	306.67			--	20.2	
<i>Diphetor</i>	09020401013		16.64		--		1.1
<i>Diphetor hageni</i>	09020401013001	16.00			--	1.1	
Heptageniidae	09020402	1.33			--	0.1	
<i>Stenacron</i>	09020402014	12.00	12.43	7	SC	0.8	0.8
<i>Maccaffertium</i>	09020402015	9.33	26.24	4	SC	0.6	1.7
<i>Maccaffertium luteum</i>	09020402015049	6.67			--	0.4	
<i>Maccaffertium mediopunctatum</i>	09020402015050	9.33			--	0.6	
Leptophlebiidae	09020406	5.33	5.33		--	0.4	0.4
<i>Ephemerella</i>	09020410035	8.00	8.00	1	CG	0.5	0.5
<i>Dolophilodes</i>	09020601001	37.33	37.33	0	CF	2.5	2.5
Hydropsychidae	09020604	32.00			--	2.1	
<i>Diplectrona</i>	09020604014		1.40	0	CF		0.1
<i>Diplectrona modesta</i>	09020604014025	1.33			--	0.1	
<i>Cheumatopsyche</i>	09020604015	40.00	42.03	5	CF	2.6	2.8
<i>Hydropsyche</i>	09020604016	156.00	619.24	4	CF	10.3	40.8
<i>Hydropsyche morosa</i>	09020604016030	20.00			--	1.3	
<i>Hydropsyche slossonae</i>	09020604016031	376.00			--	24.8	
<i>Hydropsyche sparna</i>	09020604016032	36.00			--	2.4	
<i>Hydropsyche depravata complex</i>	09020604016041	1.33			CF	0.1	
<i>Rhyacophila</i>	09020605019	8.00	24.00	2	PR	0.5	1.6
<i>Rhyacophila fuscula</i>	09020605019060	16.00			PR	1.1	
<i>Glossosoma</i>	09020606020	2.67	2.67	0	SC	0.2	0.2
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.1	0.1
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.1	0.1
<i>Antocha</i>	09021001004	2.67	2.67	3	CG	0.2	0.2
Chironomidae	09021011	1.33			--	0.1	
<i>Rheopelopia</i>	09021011017		4.06		PR		0.3
<i>Rheopelopia acra group</i>	09021011017036	4.00			--	0.3	
<i>Pagastia</i>	09021011025		10.82	1	--		0.7
<i>Pagastia orthogonia</i>	09021011025001	10.67			--	0.7	



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<i>Corynoneura</i>	09021011036	1.33	1.35	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037		2.70	7	SH		0.2
<i>Cricotopus bicinctus</i>	09021011037057	2.67			--	0.2	
<i>Eukiefferiella</i>	09021011041	1.33	6.76	8	CG	0.1	0.4
<i>Eukiefferiella devonica group</i>	09021011041083	5.33			CG	0.4	
<i>Tvetenia</i>	09021011065		52.74	5	CG		3.5
<i>Tvetenia paucunca</i>	09021011065114	52.00			--	3.4	
<i>Micropsectra</i>	09021011070	2.67	2.70	7	CG	0.2	0.2
<i>Rheotanytarsus</i>	09021011072	13.33	13.52	6	CF	0.9	0.9
<i>Simulium</i>	09021012047		142.67	4	CF		9.4
<i>Simulium (Eusimulium)</i>	09021012047052	2.67			--	0.2	
<i>Simulium vittatum</i>	09021012047064	88.00			--	5.8	
<i>Simulium tuberosum</i>	09021012047067	46.67			--	3.1	
<i>Simulium venustum/verecundum complex</i>	09021012047072	5.33			CF	0.4	
<i>Optioservus</i>	09021113067	4.00	5.33	3	SC	0.3	0.4
<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	