



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

Station Information

**Station Number:** S-637  
**Waterbody:** Madawaska Brook - Station 637  
**Town:** Palmyra  
**Directions:** 50M DWNSTRM OF MADAWASKA RD CROSSING  
**DEP Drainage:** Kennebec  
**HUC8:** 01030003  
**HUC8 Name:** Lower Kennebec  
**Latitude:** 44 49 47.98 N  
**Longitude:** 69 22 48.6 W  
**Stream Order:** 2

Sample Information

**Log Number:** 2108  
**Subsample Factor:** X1  
**Type of Sample:** ROCK BAG  
**Replicates:** 3  
**Date Deployed:** 7/16/2012  
**Date Retrieved:** 8/14/2012

Classification Attainment

**Statutory Class:** B  
**Model Result with P>.6:** C  
**Date Last Calculated:** 1/15/2013  
**Final Determination:** C  
**Reason for Determination:** Model  
**Date:** 1/17/2013  
**Comments:** Community response to upstream bog

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.04	Class A, B, or C	1.00
Class B	0.09	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.03	Class A	0.09
Class C or Non-Attainment	0.97	Class B or C or Non-Attainment	0.91

Model Variables

01 Total Mean Abundance	172.00	18 Relative Abundance Ephemeroptera	0.38
02 Generic Richness	46.00	19 EPT Generic Richness	12.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	65.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.06	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	5.14
06 Hilsenhoff Biotic Index	4.63	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	33.67
07 Relative Abundance - Chironomidae	0.08	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.35	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	2.33		
12 EPT Generic Richness/ Diptera	0.75		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family	0.00		
Functional Group)			
16 Tanypodinae Mean Abundance	3.51		
(Family Functional Group)			
17 Chironomini Abundance (Family	4.91		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	19.57
2	<i>Stenelmis</i>	14.06
3	<i>Oecetis</i>	10.27
4	<i>Tricorythodes</i>	9.50
5	<i>Microcylloepus</i>	6.64



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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature:	27.1 deg C
Dissolved Oxygen:	6.4 mg/l
Specific Conductance:	143 uS/cm
Velocity:	17 cm/s
pH:	7.18
Wetted Width:	2.4 m
Bankfull Width:	6.5 m
Depth:	20 cm

**Waterbody Information - Retrieval**

Temperature:	22.5 deg C
Dissolved Oxygen:	6.3 mg/l
Specific Conductance:	188 uS/cm
Velocity:	
pH:	7.56
Wetted Width:	2 m
Bankfull Width:	6.5 m
Depth:	20 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Conifer	Dense	Rolling
Swamp Hardwood		
Upland Hardwood		

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Altered Hydrology	Below Dam	Boulder	10 %
Below Wetland	Below Road Crossing	Gravel	25 %
	Below Wetland	Rubble/Cobble	65 %

**Landcover Summary - 2004 Data**

**Sample Comments**

7/16/12: FISH OBSERVED.

8/14/12: VISIBLE FLOW.



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Subsample Factor: X1

Replicates: 3

Calculated: 1/15/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002		7.67		--		4.5
<i>Girardia tigrina</i>	03010102002001	7.67			--	4.5	
<i>Slavina</i>	08020202012		0.33		--		0.2
<i>Slavina appendiculata</i>	08020202012001	0.33			--	0.2	
<i>Boyeria</i>	09020301004		2.00	2	PR		1.2
<i>Boyeria vinosa</i>	09020301004012	2.00			--	1.2	
Gomphidae	09020302	0.33	0.33		--	0.2	0.2
Calopterygidae	09020307	0.67	0.67		--	0.4	0.4
<i>Calopteryx</i>	09020307043		0.67	5	PR		0.4
<i>Calopteryx maculata</i>	09020307043088	0.67			--	0.4	
Coenagrionidae	09020309	0.33	0.33		--	0.2	0.2
<i>Argia</i>	09020309048	0.33	0.33	7	PR	0.2	0.2
<i>Leucrocuta</i>	09020402011	0.33	0.33	1	SC	0.2	0.2
<i>Maccaffertium</i>	09020402015	24.67	33.67	4	SC	14.3	19.6
<i>Maccaffertium modestum</i>	09020402015051	9.00			--	5.2	
Leptophlebiidae	09020406	4.00	4.00		--	2.3	2.3
Ephemerellidae	09020410	0.33	0.33		--	0.2	0.2
<i>Eurylophella</i>	09020410036	9.33	9.33	3	CG	5.4	5.4
<i>Tricorythodes</i>	09020411038	16.33	16.33	4	CG	9.5	9.5
<i>Caenis</i>	09020412040	1.00	1.00	7	CG	0.6	0.6
<i>Chimarra</i>	09020601003		0.67	2	CF		0.4
<i>Chimarra obscura</i>	09020601003003	0.33			--	0.2	
<i>Chimarra socia</i>	09020601003004	0.33			--	0.2	
<i>Cheumatopsyche</i>	09020604015	2.33	2.33	5	CF	1.4	1.4
<i>Pycnopsyche</i>	09020610049	2.67	2.67	4	SH	1.6	1.6
<i>Ceraclea</i>	09020618072	0.33	0.33	3	CG	0.2	0.2
<i>Oecetis</i>	09020618078	6.67	17.67	8	PR	3.9	10.3
<i>Oecetis persimilis</i>	09020618078157	11.00			--	6.4	
<i>Nigronia</i>	09020701003		2.00	0	PR		1.2
<i>Nigronia serricornis</i>	09020701003003	2.00			--	1.2	
Chironomidae	09021011	0.67			--	0.4	
<i>Ablabesmyia</i>	09021011001		1.75	8	PR		1.0
<i>Ablabesmyia mallochii</i>	09021011001004	1.33			--	0.8	
<i>Ablabesmyia monilis</i>	09021011001009	0.33			--	0.2	
<i>Labrundinia</i>	09021011008		1.05	7	PR		0.6
<i>Labrundinia pilosella</i>	09021011008022	1.00			--	0.6	
<i>Paramerina</i>	09021011013	0.33	0.35		--	0.2	0.2
<i>Pentaneura</i>	09021011014		0.35	6	PR		0.2



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		Actual	Adjusted			Actual	Adjusted
<i>Pentaneura inconspicua</i>	09021011014028	0.33			--	0.2	
<i>Corynoneura</i>	09021011036	0.33	0.35	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037	0.33	0.35	7	SH	0.2	0.2
<i>Nanocladius</i>	09021011049	0.33	0.70	3	CG	0.2	0.4
<i>Nanocladius spinipennis</i>	09021011049090	0.33			--	0.2	
<i>Tvetenia</i>	09021011065		0.35	5	CG		0.2
<i>Tvetenia vitracies</i>	09021011065113	0.33			--	0.2	
<i>Rheotanytarsus</i>	09021011072	0.33	0.35	6	CF	0.2	0.2
<i>Tanytarsus</i>	09021011076	0.67	0.70	6	CF	0.4	0.4
<i>Microtendipes</i>	09021011094		0.35	6	CF		0.2
<i>Microtendipes rydalensis group</i>	09021011094168	0.33			--	0.2	
<i>Paratendipes</i>	09021011100		2.46	8	CG		1.4
<i>Paratendipes albimanus group</i>	09021011100176	2.33			--	1.4	
<i>Polypedilum</i>	09021011102		2.11	6	SH		1.2
<i>Polypedilum flavum</i>	09021011102182	2.00			--	1.2	
<i>Helopelopia</i>	09021011114	1.67	1.75	6	PR	1.0	1.0
<i>Zavrelliella</i>	09021011133		0.35		--		0.2
<i>Zavrelliella marmorata</i>	09021011133010	0.33			--	0.2	
<i>Hemerodromia</i>	09021016057	1.67	1.67	3	PR	1.0	1.0
<i>Psephenus</i>	09021108058		10.67	4	SC		6.2
<i>Psephenus herricki</i>	09021108058028	10.67			--	6.2	
Elmidae	09021113	0.33			--	0.2	
<i>Dubiraphia</i>	09021113064		1.01	6	--		0.6
<i>Dubiraphia minima</i>	09021113064036	1.00			--	0.6	
<i>Macronychus</i>	09021113065		5.04	4	--		2.9
<i>Macronychus glabratus</i>	09021113065040	5.00			--	2.9	
<i>Microcylloepus</i>	09021113066	11.33	11.42	3	--	6.6	6.6
<i>Optioservus</i>	09021113067	0.67	0.67	3	SC	0.4	0.4
<i>Stenelmis</i>	09021113070	15.00	24.19	5	SC	8.7	14.1
<i>Stenelmis crenata</i>	09021113070055	9.00			--	5.2	
<i>Torrenticola</i>	09030104001	0.33	0.33		--	0.2	0.2
Ancylidae	10010204	0.33	0.33		SC	0.2	0.2
Sphaeriidae	10020201	0.33	0.33		CF	0.2	0.2