



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

Station Information

Station Number: S-815
Waterbody: Card Brook - Station 815
Town: Ellsworth
Directions: 32 METERS DOWNSTREAM OF RT 230

DEP Drainage: Penobscot
HUC8: 01020005
HUC8 Name: Lower Penobscot
Latitude: 44 31 51.95 N
Longitude: 68 25 5.99 W
Stream Order: 3

Sample Information

Log Number: 2029
Subsample Factor: X1
Type of Sample: ROCK BAG
Replicates: 3
Date Deployed: 7/11/2011
Date Retrieved: 8/10/2011

Classification Attainment

Statutory Class: B
Model Result with $P > .6$: NA
Date Last Calculated: 2/27/2012

Final Determination: C
Reason for Determination: Best Professional Judgement
Comments: Indeterminate Class C (.55) raised to Class C based on the structure of the community.

Date: 2/29/2012

Model Probabilities

First Stage Model			C or Better Model		
Class A	0.01	Class C	0.76	Class A, B, or C	0.55
Class B	0.05	NA	0.18	Non-Attainment	0.45
B or Better Model			A Model		
Class A or B		0.00	Class A	0.02	
Class C or Non-Attainment		1.00	Class B or C or Non-Attainment	0.98	

Model Variables

01 Total Mean Abundance	162.67	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	26.00	19 EPT Generic Richness	10.00
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	19.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	2.89	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.61
06 Hilsenhoff Biotic Index	4.03	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.16	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.19	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	66.40		
11 <i>Cheumatopsyche</i> Abundance	1.27		
12 EPT Generic Richness/ Diptera Generic Richness	2.00		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00		
17 Chironomini Abundance (Family Functional Group)	0.00		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	40.82
2	<i>Rheotanytarsus</i>	15.77
3	<i>Baetis</i>	11.89
4	<i>Simulium</i>	7.17
5	<i>Physsa</i>	6.76



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Date Retrieved: 8/10/2011

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 21.8 deg C
Dissolved Oxygen: 8.1 mg/l
Specific Conductance: 241 uS/cm
Velocity: 20 cm/s
pH: 7.22
Wetted Width: 7.5 m
Bankfull Width: 9 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 18.7 deg C
Dissolved Oxygen: 8.4 mg/l
Specific Conductance: 284 uS/cm
Velocity: 29 cm/s
pH: 7.53
Wetted Width: 7.9 m
Bankfull Width: 9 m
Depth: 26 cm

Water Chemistry - 8/10/2011

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	4 ug/l
Nitrate+nitrite As N	0.06 mg/l	Total Phosphorus	0.026 mg/l
Total Kjeldahl Nitrogen	0.7 mg/l	Total Suspended Solids	2 mg/l
Dissolved Organic Carbon	7.8 mg/l	Total Dissolved Solids	190 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Dense	Rolling
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Hydrology	Below Road Crossing	Boulder 65 %
Urban Runoff	Below Town	Gravel 5 %
	Below Urban NPS	Rubble/Cobble 25 %
		Sand 5 %

Landcover Summary - 2004 Data

Total Area (ac)	4539	High Int. Dev. %	5.9	Water %	0.0	Non-vegetated %	2.2
		Med Int. Dev. %	4.0	Wetland %	13.8	Tilled Agriculture %	4.7
		Low Int. Dev. %	7.4	Upland Woody %	54.8	Grassland %	3.9
		Development %	17.4	Natural %	68.7	Human Altered %	31.2
						Impervious %	9.6

Sample Comments

CANOPY COVER: APPROXIMATELY 75% SHADED. 7/11/11: SIGNIFICANT EROSION ON RIGHT BANK (LOOKING UPSTREAM).



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-815

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Log Number: 2029

Subsample Factor: X1

Replicates: 3

Calculated: 2/27/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Prostoma</i>	04010101001	3.00	3.00		--	1.8	1.8
<i>Stylodrilus</i>	08020101004		1.00		--		0.6
<i>Stylodrilus heringianus</i>	08020101004001	1.00			--	0.6	
<i>Nais</i>	08020202009		1.33		CG		0.8
<i>Nais communis</i>	08020202009005	1.33			--	0.8	
<i>Gammarus</i>	09010201003	0.33	0.33	4	--	0.2	0.2
<i>Orconectes</i>	09010301008	0.33	0.33		CG	0.2	0.2
<i>Boyeria</i>	09020301004		6.33	2	PR		3.9
<i>Boyeria vinosa</i>	09020301004012	6.33			--	3.9	
Calopterygidae	09020307	0.33	0.33		--	0.2	0.2
Baetidae	09020401	0.33	0.33		--	0.2	0.2
<i>Baetis</i>	09020401001	10.67	19.33	4	CG	6.6	11.9
<i>Baetis brunneicolor</i>	09020401001003	8.67			--	5.3	
<i>Chimarra</i>	09020601003		1.00	2	CF		0.6
<i>Chimarra aterrima</i>	09020601003002	1.00			--	0.6	
<i>Cernotina</i>	09020603006	0.33	0.33		PR	0.2	0.2
Hydropsychidae	09020604	14.33			--	8.8	
<i>Cheumatopsyche</i>	09020604015	1.00	1.27	5	CF	0.6	0.8
<i>Hydropsyche</i>	09020604016	23.00	66.40	4	CF	14.1	40.8
<i>Hydropsyche bronta</i>	09020604016029	0.33			--	0.2	
<i>Hydropsyche sparna</i>	09020604016032	5.67			--	3.5	
<i>Hydropsyche depravata complex</i>	09020604016041	23.33			CF	14.3	
<i>Glossosoma</i>	09020606020	8.00	8.00	0	SC	4.9	4.9
<i>Limnephilus</i>	09020610055	0.33	0.33	3	SH	0.2	0.2
<i>Apatania</i>	09020610061	0.33	0.33		SC	0.2	0.2
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.8	0.8
<i>Tipula</i>	09021001002	0.67	0.67	4	SH	0.4	0.4
Chironomidae	09021011	0.33			--	0.2	
<i>Cricotopus</i>	09021011037		0.34	7	SH		0.2
<i>Cricotopus bicinctus</i>	09021011037057	0.33			--	0.2	
<i>Eukiefferiella</i>	09021011041		0.34	8	CG		0.2
<i>Eukiefferiella claripennis group</i>	09021011041075	0.33			--	0.2	
<i>Rheotanytarsus</i>	09021011072	25.33	25.66	6	CF	15.6	15.8
<i>Simulium</i>	09021012047	5.67	11.67	4	CF	3.5	7.2
<i>Simulium (Eusimulium)</i>	09021012047052	0.33			--	0.2	
<i>Simulium tuberosum</i>	09021012047067	0.67			--	0.4	
<i>Simulium venustum/verecundum complex</i>	09021012047072	5.00			CF	3.1	



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<i>Promoresia</i>	09021113069		0.33		--		0.2
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.2	
<i>Stenelmis</i>	09021113070		0.67	5	SC		0.4
<i>Stenelmis crenata</i>	09021113070055	0.67			--	0.4	
<i>Physa</i>	10010202026	1.00	11.00		SC	0.6	6.8
<i>Physa gyrina</i>	10010202026046	10.00			--	6.1	
<i>Ferrissia</i>	10010204035		0.67		SC		0.4
<i>Ferrissia rivularis</i>	10010204035066	0.67			--	0.4	