



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

Station Information

Station Number: S-837	DEP Drainage: Kennebec
Waterbody: Vaughan Brook - Station 837	HUC8: 01030003
Town: Hallowell	HUC8 Name: Lower Kennebec
Directions: IN VAUGHAN WOODS DOWNSTREAM OF THE MILL POND DAM AND STONE BRIDGE HIKE IN VAUGHAN WOODS TRAIL TO BIG STONE	Latitude: 44 16 32.71 N Longitude: 69 47 57.31 W Stream Order: 3

Sample Information

Log Number: 1641	Type of Sample: ROCK BAG	Date Deployed: 7/12/2007
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/9/2007

Classification Attainment

Statutory Class: B	Final Determination: I	Date: 3/6/2009
Model Result with P>.6: NA	Reason for Determination: Best Professional Judgement	
Date Last Calculated: 3/18/2009	Comments: Disturbed sample, resample.	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.00
Class B	0.00	Non-Attainment	1.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.01
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	101.67	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	20.00	19 EPT Generic Richness	7.00
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	0.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	2.04	25 Sum of Abundances: <i>Cheumatopsyche</i> <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	0.33
06 Hilsenhoff Biotic Index	6.71	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.01	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.10	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.33		
12 EPT Generic Richness/ Diptera Generic Richness	3.50		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00		
17 Chironomini Abundance (Family Functional Group)	1.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Amnicola</i>	49.51
2	<i>Neureclipsis</i>	34.38
3	<i>Stenelmis</i>	3.93
4	<i>Oecetis</i>	2.62
5	<i>Microvelia</i>	1.31
6	Sphaeriidae	1.31



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Station Number: S-837
Log Number: 1641

Town: Hallowell
Waterbody: Vaughan Brook - Station 837

Date Deployed: 7/12/2007
Date Retrieved: 8/9/2007

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT
Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 22.3 deg C
Dissolved Oxygen: 9.3 mg/l
Specific Conductance: 160 uS/cm
Velocity: 17 cm/s
pH: 7.64
Wetted Width: 6.7 m
Bankfull Width: 16 m
Depth: 30 cm

Waterbody Information - Retrieval

Temperature: 21 deg C
Dissolved Oxygen: 8.8 mg/l
Specific Conductance: 181 uS/cm
Velocity: 12 cm/s
pH: 7.65
Wetted Width: 6 m
Bankfull Width: 16 m
Depth: 30 cm

Water Chemistry - Retrieval

Summary of Habitat Characteristics

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

<u>Stressor</u>	<u>Location</u>	<u>Substrate</u>	
	Below Dam	Bedrock	55 %
	Pristine Landscape	Boulder	35 %
		Gravel	5 %
		Rubble/Cobble	5 %

Landcover Summary - 2004 Data

Total Area (ac)	3714	High Int. Dev. %	0.4	Water %	0.1	Non-vegetated %	0.0
Total Land (ac)	3708	Med Int. Dev. %	0.8	Wetland %	1.2	Tilled Agriculture %	3.8
		Low Int. Dev. %	5.8	Upland Woody %	56.4	Human Altered %	41.9
		Development %	7.0	Natural %	58.1	Impervious %	5.0

Sample Comments

BAGS DISTURBED



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-837 Waterbody: Vaughan Brook - Station 837 Town: Hallowell
Log Number: 1641 Subsample Factor: X1 Replicates: 3 Calculated: 3/18/2009

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Glossiphoniidae	08030101	0.67	0.67		--	0.7	0.7
<i>Hyaella</i>	09010203006	0.33	0.33	8	CG	0.3	0.3
<i>Boyeria</i>	09020301004		0.33	2	PR		0.3
<i>Boyeria grafiana</i>	09020301004011	0.33			--	0.3	
Heptageniidae	09020402	0.33	0.33		--	0.3	0.3
<i>Microvelia</i>	09020510025	1.33	1.33		PR	1.3	1.3
<i>Rhagovelia</i>	09020510026	0.33	0.33		PR	0.3	0.3
Polycentropodidae	09020603	13.00			--	12.8	
<i>Cynellus</i>	09020603007	0.67	1.04	8	CF	0.7	1.0
<i>Neureclipsis</i>	09020603008	22.33	34.96	7	CF	22.0	34.4
<i>Cheumatopsyche</i>	09020604015	0.33	0.33	5	CF	0.3	0.3
<i>Hydatophylax</i>	09020610048	0.33	0.33	2	SH	0.3	0.3
<i>Mystacides</i>	09020618075	0.67	0.67	4	CG	0.7	0.7
<i>Oecetis</i>	09020618078	2.67	2.67	8	PR	2.6	2.6
<i>Rheotanytarsus</i>	09021011072	0.33	0.33	6	CF	0.3	0.3
<i>Microtendipes</i>	09021011094		1.00	6	CF		1.0
<i>Microtendipes rydalensis group</i>	09021011094168	1.00			--	1.0	
<i>Psephenus</i>	09021108058	0.33	0.33	4	SC	0.3	0.3
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.3	0.3
<i>Dubiraphia</i>	09021113064	0.67	0.67	6	--	0.7	0.7
<i>Stenelmis</i>	09021113070	4.00	4.00	5	SC	3.9	3.9
<i>Amnicola</i>	10010104013	50.33	50.33		SC	49.5	49.5
Sphaeriidae	10020201	1.33	1.33		CF	1.3	1.3