



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

Station Information

**Station Number: S-107**  
Waterbody: Back Brook - Station 107  
Town: Limington  
Directions: 0.1 KM BELOW TUCKER RD. BRIDGE CROSSING

DEP Drainage: Piscataqua - Presumpscot - Saco  
HUC8: 01060002  
HUC8 Name: Saco  
Latitude: 43 47 15.55 N  
Longitude: 70 44 6.6 W  
Stream Order: 2

Sample Information

**Log Number: 1961**  
Subsample Factor: X1  
Type of Sample: ROCK BAG  
Replicates: 3  
Date Deployed: 7/26/2010  
Date Retrieved: 8/25/2010

Classification Attainment

**Statutory Class: B**  
Model Result with P>.6: A  
Date Last Calculated: 3/3/2011

**Final Determination: A**  
**Reason for Determination: Model**  
Comments:

Date: 3/4/2011

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.62	Class A, B, or C	1.00
Class B	0.32	Non-Attainment	0.00
Class C			
NA			
0.00			
B or Better Model		A Model	
Class A or B	0.99	Class A	0.91
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.09

Model Variables

01 Total Mean Abundance	52.33	18 Relative Abundance Ephemeroptera	0.21
02 Generic Richness	37.00	19 EPT Generic Richness	15.00
03 Plecoptera Mean Abundance	2.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	3.13
04 Ephemeroptera Mean Abundance	11.00	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	4.36	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	6.96
06 Hilsenhoff Biotic Index	4.91	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.60	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.41	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera	1.00		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	0.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	1.39		
(Family Functional Group)			
17 Chironomini Abundance (Family	13.23		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Microtendipes</i>	13.97
2	<i>Tanytarsus</i>	13.31
3	<i>Polypedilum</i>	10.64
4	Leptophlebiidae	7.01
5	<i>Paraleptophlebia</i>	7.01



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Waterbody: Back Brook - Station 107

Date Retrieved: 8/25/2010

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 16.8 deg C  
Dissolved Oxygen: 8.3 mg/l  
Specific Conductance: 58 uS/cm  
Velocity: 19 cm/s  
pH:  
Wetted Width: 3.5 m  
Bankfull Width: 5.8 m  
Depth: 54 cm

**Waterbody Information - Retrieval**

Temperature: 14.4 deg C  
Dissolved Oxygen: 8.5 mg/l  
Specific Conductance: 53 uS/cm  
Velocity: 8 cm/s  
pH: 6.33  
Wetted Width: 4 m  
Bankfull Width: 5.8 m  
Depth: 49 cm

**Water Chemistry - 8/25/2010**

Ammonia As Nitrogen	<0.01 mg/l	Soluble Reactive Phosphorus	3 ug/l
Nitrate+nitrite As N	0.14 mg/l	Total Phosphorus	0.017 mg/l
Total Kjeldahl Nitrogen	0.14 mg/l	Total Suspended Solids	9.6 mg/l
Dissolved Organic Carbon	1.2 mg/l	Total Dissolved Solids	45 mg/l

**Summary of Habitat Characteristics**

Landuse Name

Canopy Cover

Terrain

Upland Conifer

Dense

Rolling

Upland Hardwood

Potential Stressor

Location

Substrate

Above Confluence

Gravel 25 %

Below Road Crossing

Rubble/Cobble 30 %

Minimally Disturbed

Sand 45 %

**Landcover Summary - 2004 Data**

Total Area (ac)	3163	High Int. Dev. %	0.3	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	0.4	Wetland %	0.9	Tilled Agriculture %	0.1
		Low Int. Dev. %	1.4	Upland Woody %	94.8	Grassland %	2.0
		Development %	2.1	Natural %	95.7	Human Altered %	4.3
						Impervious %	1.8

**Sample Comments**

8/25/2010 SCULPIN.

7/26/2010 FISH PRESENT.



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Aquatic Life Taxonomic Inventory Report**

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Waterbody: Back Brook - Station 107

Town: Limington

**Log Number: 1961**

Subsample Factor: X1

Replicates: 3

Calculated: 3/3/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	0.33	0.33		PR	0.6	0.6
Isotomidae	09020102	1.00	1.00		--	1.9	1.9
<i>Pteronarcys</i>	09020205023		0.33	0	SH		0.6
<i>Pteronarcys biloba</i>	09020205023061	0.33			--	0.6	
<i>Isoperla</i>	09020207026	1.67	1.67	2	PR	3.2	3.2
<i>Boyeria</i>	09020301004	1.00	1.67	2	PR	1.9	3.2
<i>Boyeria vinosa</i>	09020301004012	0.67			--	1.3	
Gomphidae	09020302	0.33	0.33		--	0.6	0.6
<i>Calopteryx</i>	09020307043		0.67	5	PR		1.3
<i>Calopteryx aequabilis</i>	09020307043085	0.67			--	1.3	
Heptageniidae	09020402	0.33	0.33		--	0.6	0.6
Leptophlebiidae	09020406	3.67	3.67		--	7.0	7.0
<i>Paraleptophlebia</i>	09020406026	3.67	3.67	1	CG	7.0	7.0
<i>Ephemerella</i>	09020410035	0.67	0.67	1	CG	1.3	1.3
<i>Eurylophella</i>	09020410036	1.67	2.67	3	CG	3.2	5.1
<i>Eurylophella funeralis</i>	09020410036115	1.00			SH	1.9	
<i>Neureclipsis</i>	09020603008	0.33	0.33	7	CF	0.6	0.6
<i>Nyctiophylax</i>	09020603009		0.33	5	PR		0.6
<i>Nyctiophylax moestus</i>	09020603009013	0.33			--	0.6	
<i>Polycentropus</i>	09020603010	0.67	0.67	6	PR	1.3	1.3
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.6	0.6
Limnephilidae	09020610				--		
<i>Psychoglypha</i>	09020610060		0.33	0	SH		0.6
<i>Psychoglypha subborealis</i>	09020610060120	0.33			--	0.6	
<i>Psilotreta</i>	09020614068		0.33	0	SC		0.6
<i>Psilotreta labida</i>	09020614068133	0.33			--	0.6	
<i>Molanna</i>	09020615069		0.33	6	SC		0.6
<i>Molanna blenda</i>	09020615069133	0.33			--	0.6	
<i>Oecetis</i>	09020618078		0.33	8	PR		0.6
<i>Oecetis persimilis</i>	09020618078157	0.33			--	0.6	
Chironomidae	09021011	1.33			--	2.5	
<i>Conchapelopia</i>	09021011004			6	PR		
<i>Labrundinia</i>	09021011008		0.70	7	PR		1.3
<i>Labrundinia pilosella</i>	09021011008022	0.67			--	1.3	
<i>Paramerina</i>	09021011013				--		
<i>Trissopelopia</i>	09021011021		0.70		PR		1.3
<i>Trissopelopia ogemawi</i>	09021011021042	0.67			--	1.3	
<i>Brillia</i>	09021011033		0.35	5	SH		0.7



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		Actual	Adjusted			Actual	Adjusted
<i>Brillia flavifrons</i>	09021011033049	0.33			--	0.6	
<i>Eukiefferiella</i>	09021011041		0.35	8	CG		0.7
<i>Eukiefferiella claripennis group</i>	09021011041075	0.33			--	0.6	
<i>Orthocladius</i>	09021011050		1.04	6	CG		2.0
<i>Orthocladius annectens</i>	09021011050092	0.67			--	1.3	
<i>Orthocladius lignicola</i>	09021011050100	0.33			--	0.6	
<i>Symposiocladius lignicola</i>	09021011050100	0.33			--	0.6	
<i>Parametriocnemus</i>	09021011053	1.33	1.39	5	CG	2.5	2.7
<i>Rheocricotopus</i>	09021011057	0.33	0.70	6	CG	0.6	1.3
<i>Rheocricotopus pauciseta</i>	09021011057111	0.33			--	0.6	
<i>Micropsectra</i>	09021011070	3.00	3.13	7	CG	5.7	6.0
<i>Rheotanytarsus</i>	09021011072	2.00	2.09	6	CF	3.8	4.0
<i>Stempellinella</i>	09021011074		0.70	2	--		1.3
<i>Stempellinella leptocelloides</i>	09021011074001	0.33			--	0.6	
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.6	
<i>Tanytarsus</i>	09021011076	6.67	6.96	6	CF	12.7	13.3
<i>Microtendipes</i>	09021011094		7.31	6	CF		14.0
<i>Microtendipes pedellus group</i>	09021011094166	1.33			--	2.5	
<i>Microtendipes rydalensis group</i>	09021011094168	5.67			--	10.8	
<i>Phaenopsectra</i>	09021011101		0.35	7	SC		0.7
<i>Phaenopsectra flavipes</i>	09021011101179	0.33			SC	0.6	
<i>Polypedilum</i>	09021011102		5.57	6	SH		10.6
<i>Polypedilum aviceps</i>	09021011102181	4.67			--	8.9	
<i>Polypedilum illinoense group</i>	09021011102185	0.33			--	0.6	
<i>Polypedilum angulum</i>	09021011102198	0.33			--	0.6	
Empididae	09021016	0.33	0.33	6	--	0.6	0.6
<i>Oulimnius</i>	09021113068		0.33		--		0.6
<i>Oulimnius latiusculus</i>	09021113068049	0.33			--	0.6	
<i>Promoresia</i>	09021113069		0.33		--		0.6
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.6	