



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

Station Information

Station Number: S-107	River Basin: Saco
Waterbody: Back Brook - Station 107	HUC8 Name: Saco
Town: Limington	Latitude: 43 47 15.55 N
Directions: 0.1 KM BELOW TUCKER RD. BRIDGE CROSSING	Longitude: 70 44 6.6 W
	Stream Order: 2

Sample Information

Log Number: 2368	Type of Sample: ROCK BAG	Date Deployed: 7/16/2015
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/13/2015

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 3/9/2016
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/9/2016	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.78	Class A, B, or C	1.00
Class B	0.21	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.97
Class A or B	1.00	Class B or C or Non-Attainment	0.03
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	79.00	18 Relative Abundance Ephemeroptera	0.14
02 Generic Richness	36.00	19 EPT Generic Richness	15.00
03 Plecoptera Mean Abundance	7.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.15
04 Ephemeroptera Mean Abundance	11.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	4.19	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	2.10
06 Hilsenhoff Biotic Index	4.27	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	2.00
07 Relative Abundance - Chironomidae	0.49	28 EP Generic Richness/14	0.43
08 Relative Generic Richness Diptera	0.33	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	1.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.25		
13 Relative Abundance - Oligochaeta	0.04		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.21		
17 Chironomini Abundance (Family Functional Group)	27.53		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Microtendipes</i>	23.72
2	<i>Polypedilum</i>	11.13
3	<i>Leuctra</i>	8.44
4	<i>Paraleptophlebia</i>	6.08
5	<i>Eurylophella</i>	5.06
6	<i>Macrostemum</i>	5.06



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Station Number: S-107
Log Number: 2368

Town: Limington
Waterbody: Back Brook - Station 107

Date Deployed: 7/16/2015
Date Retrieved: 8/13/2015

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 15.2 deg C
Dissolved Oxygen: 9.84 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 68.1 uS/cm
Velocity: 12.2 cm/s
pH: 6.98
Wetted Width: 2.5 m
Bankfull Width: 5.5 m
Depth: 40 cm

Waterbody Information - Retrieval

Temperature: 16.5 deg C
Dissolved Oxygen: 9.38 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 65.8 uS/cm
Velocity: 9.1 cm/s
pH: 6.73
Wetted Width: 2.87 m
Bankfull Width: 4.83 m
Depth: 40 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Conifer	Dense	Rolling
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Above Confluence	Gravel 25 %
	Below Road Crossing	Rubble/Cobble 30 %
		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

7/16/2015: 98.5% DO.

8/13/2015: 96.8% DO. FISH PRESENT: SCULPIN, BROOK TROUT, WHITE SUCKER, FALL FISH, BLACKNOSE DACE, SALMON PARR.



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

Station Number: S-107

Waterbody: Back Brook - Station 107

Town: Limington

Log Number: 2368

Subsample Factor: X1

Replicates: 3

Calculated: 3/9/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		3.33		CG		4.2
<i>Nais behningi</i>	08020202009003	3.33			--	4.2	
<i>Leuctra</i>	09020204020	0.33	6.67	0	SH	0.4	8.4
<i>Leuctra ferruginea</i>	09020204020050	5.67			--	7.2	
<i>Leuctra truncata</i>	09020204020058	0.67			--	0.8	
<i>Isoperla</i>	09020207026	0.33	0.33	2	PR	0.4	0.4
Aeshnidae	09020301	1.33	1.33		--	1.7	1.7
<i>Boyeria</i>	09020301004		1.00	2	PR		1.3
<i>Boyeria vinosa</i>	09020301004012	1.00			--	1.3	
Calopterygidae	09020307	0.33	0.33		--	0.4	0.4
<i>Calopteryx</i>	09020307043		1.33	5	PR		1.7
<i>Calopteryx maculata</i>	09020307043088	1.33			--	1.7	
<i>Maccaffertium</i>	09020402015	1.00	2.00	4	SC	1.3	2.5
<i>Maccaffertium modestum</i>	09020402015051	1.00			--	1.3	
Leptophlebiidae	09020406	2.00			--	2.5	
<i>Habrophlebia</i>	09020406023		0.53		--		0.7
<i>Habrophlebia vibrans</i>	09020406023072	0.33			--	0.4	
<i>Paraleptophlebia</i>	09020406026	3.00	4.80	1	CG	3.8	6.1
<i>Eurylophella</i>	09020410036	4.00	4.00	3	CG	5.1	5.1
Polycentropodidae	09020603	0.33	0.33		--	0.4	0.4
<i>Nyctiophylax</i>	09020603009		0.67	5	PR		0.8
<i>Nyctiophylax moestus</i>	09020603009013	0.67			--	0.8	
Hydropsychidae	09020604	1.33			--	1.7	
<i>Cheumatopsyche</i>	09020604015	1.00	1.33	5	CF	1.3	1.7
<i>Macrostemum</i>	09020604018		4.00	3	CF		5.1
<i>Macrostemum zebratum</i>	09020604018054	3.00			--	3.8	
<i>Rhyacophila</i>	09020605019	1.00	1.00	2	PR	1.3	1.3
<i>Hydroptila</i>	09020607026	2.67	2.67	6	P	3.4	3.4
Limnephilidae	09020610				--		
<i>Pycnopsyche</i>	09020610049	0.67	0.67	4	SH	0.8	0.8
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.4	0.4
<i>Psilotreta</i>	09020614068		0.67	0	SC		0.8
<i>Psilotreta frontalis</i>	09020614068134	0.67			--	0.8	
<i>Nigronia</i>	09020701003	0.33	0.33	0	PR	0.4	0.4
Chironomidae	09021011	5.00			--	6.3	
<i>Ablabesmyia</i>	09021011001		0.38	8	PR		0.5
<i>Ablabesmyia mallochii</i>	09021011001004	0.33			--	0.4	



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Conchapelopia</i>	09021011004	1.00	1.15	6	PR	1.3	1.5
<i>Labrundinia</i>	09021011008		0.76	7	PR		1.0
<i>Labrundinia pilosella</i>	09021011008022	0.67			--	0.8	
<i>Trissopelopia</i>	09021011021		1.91		PR		2.4
<i>Trissopelopia ogemawi</i>	09021011021042	1.67			--	2.1	
<i>Zavrelinyia</i>	09021011022			8	PR		
<i>Pagastia</i>	09021011025		0.76	1	--		1.0
<i>Pagastia orthogonia</i>	09021011025001	0.67			--	0.8	
<i>Parametrioconemus</i>	09021011053	2.67	3.06	5	CG	3.4	3.9
<i>Thienemanniella</i>	09021011062			6	CG		
<i>Micropsectra</i>	09021011070	1.00	1.15	7	CG	1.3	1.5
<i>Rheotanytarsus</i>	09021011072		1.53	6	CF		1.9
<i>Rheotanytarsus pellucidus</i>	09021011072128	1.33			CF	1.7	
<i>Stempellinella</i>	09021011074		0.38	2	--		0.5
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.4	
<i>Tanytarsus</i>	09021011076	0.33	0.38	6	CF	0.4	0.5
<i>Microtendipes</i>	09021011094		18.74	6	CF		23.7
<i>Microtendipes rydalensis group</i>	09021011094168	16.33			--	20.7	
<i>Polypedilum</i>	09021011102		8.79	6	SH		11.1
<i>Polypedilum aviceps</i>	09021011102181	7.67			--	9.7	
<i>Promoresia</i>	09021113069		0.33		--		0.4
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.4	
<i>Physa</i>	10010202027	0.33	0.33		SC	0.4	0.4
<i>Ferrissia</i>	10010204035		1.67		SC		2.1
<i>Ferrissia rivularis</i>	10010204035066	1.67			--	2.1	