



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

Station Information

Station Number: S-440	River Basin: Saco
Waterbody: Little River - Station 440	HUC8 Name: Piscataqua-Salmon Falls
Town: Lebanon	Latitude: 43 24 20.85 N
Directions: UPSTREAM FALL RD (USGS SITE)	Longitude: 70 51 2.44 W
	Stream Order: 3

Sample Information

Log Number: 2364	Type of Sample: ROCK BAG	Date Deployed: 7/15/2015
Subsample Factor: X4	Replicates: 3	Date Retrieved: 8/12/2015

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	0.22	Class C	0.06
Class B	0.72	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.79
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.21

Model Variables

01 Total Mean Abundance	677.33	18 Relative Abundance Ephemeroptera	0.12
02 Generic Richness	52.00	19 EPT Generic Richness	18.00
03 Plecoptera Mean Abundance	6.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	84.00	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.23	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	14.70
06 Hilsenhoff Biotic Index	5.40	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	19.67
07 Relative Abundance - Chironomidae	0.76	28 EP Generic Richness/14	0.71
08 Relative Generic Richness Diptera	0.38	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	3.33		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.90		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	6.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	14.70		
17 Chironomini Abundance (Family Functional Group)	124.32		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	50.33
2	<i>Polypedilum</i>	12.04
3	<i>Microtendipes</i>	5.13
4	<i>Acerpenna</i>	4.13
5	<i>Ephemerella</i>	3.15



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 21.9 deg C
Dissolved Oxygen: 8.9 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 74.2 uS/cm
Velocity: 12.2 cm/s
pH: 7.3
Wetted Width: 7.2 m
Bankfull Width: 10.8 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 21.5 deg C
Dissolved Oxygen: 8.82 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 104.5 uS/cm
Velocity: 18.3 cm/s
pH: 7.34
Wetted Width: 7.7 m
Bankfull Width: 10.8 m
Depth: 24.5 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Partly Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
	Above Road Crossing	Boulder	5 %
		Gravel	15 %
		Rubble/Cobble	75 %
		Sand	5 %

Landcover Summary - 2004 Data

Total Area (ac)	11318	High Int. Dev. %	0.3	Water %	0.3	Non-vegetated %	0.0
		Med Int. Dev. %	0.4	Wetland %	5.6	Tilled Agriculture %	0.7
		Low Int. Dev. %	2.4	Upland Woody %	80.2	Grassland %	10.0
		Development %	3.1	Natural %	85.9	Human Altered %	13.8
						Impervious %	2.8

Sample Comments

7/15/2015: MAN MADE DAM 36M ABOVE.

8/12/2015: LOW WATER. 101.4% DO.



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Aquatic Life Taxonomic Inventory Report**

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Waterbody: Little River - Station 440

Town: Lebanon

Log Number: 2364

Subsample Factor: X4

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>Hydra</i>	02010101001	2.67	2.67		PR	0.4	0.4
<i>Girardia</i>	03010102002		1.33		--		0.2
<i>Girardia tigrina</i>	03010102002001	1.33			--	0.2	
<i>Nais</i>	08020202009		1.33		CG		0.2
<i>Nais behningi</i>	08020202009003	1.33			--	0.2	
<i>Acroneuria</i>	09020209042	1.33	6.67	0	PR	0.2	1.0
<i>Acroneuria lycorias</i>	09020209042125	5.33			--	0.8	
<i>Boyeria</i>	09020301004		4.00	2	PR		0.6
<i>Boyeria vinosa</i>	09020301004012	4.00			--	0.6	
Gomphidae	09020302	1.33	1.33		--	0.2	0.2
Calopterygidae	09020307	4.00	4.00		--	0.6	0.6
<i>Calopteryx</i>	09020307043		1.33	5	PR		0.2
<i>Calopteryx maculata</i>	09020307043088	1.33			--	0.2	
<i>Baetis</i>	09020401001		5.33	4	CG		0.8
<i>Baetis flavistriga</i>	09020401001004	5.33			--	0.8	
<i>Acerpenna</i>	09020401007	8.00	28.00	5	CG	1.2	4.1
<i>Acerpenna pygmaea</i>	09020401007011	20.00			--	3.0	
<i>Procloeon</i>	09020401010	1.33	1.33		CG	0.2	0.2
Heptageniidae	09020402	1.33			--	0.2	
<i>Leucrocuta</i>	09020402011	4.00	4.33	1	SC	0.6	0.6
<i>Maccaffertium</i>	09020402015	6.67	13.00	4	SC	1.0	1.9
<i>Maccaffertium luteum</i>	09020402015049	4.00			--	0.6	
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.2	
Leptophlebiidae	09020406	5.33	5.33		--	0.8	0.8
<i>Ephemerella</i>	09020410035	21.33	21.33	1	CG	3.1	3.1
<i>Serratella</i>	09020410037		4.00	2	CG		0.6
<i>Serratella deficiens (Teloganopsis deficiens)</i>	09020410037121	2.67			--	0.4	
<i>Serratella serratoides</i>	09020410037124	1.33			--	0.2	
<i>Tricorythodes</i>	09020411038	1.33	1.33	4	CG	0.2	0.2
Hydropsychidae	09020604	1.33			--	0.2	
<i>Hydropsyche</i>	09020604016	2.67	3.33	4	CF	0.4	0.5
<i>Macrostemum</i>	09020604018		3.33	3	CF		0.5
<i>Macrostemum zebratum</i>	09020604018054	2.67			--	0.4	
Hydroptilidae	09020607				--		
<i>Brachycentrus</i>	09020609043		9.33	0	CF		1.4
<i>Brachycentrus numerosus</i>	09020609043098	9.33			--	1.4	
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.2	0.2



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		Actual	Adjusted			Actual	Adjusted
<i>Psilotreta</i>	09020614068		2.67	0	SC		0.4
<i>Psilotreta labida</i>	09020614068133	2.67			--	0.4	
Leptoceridae	09020618				--		
<i>Mystacides</i>	09020618075		1.33	4	CG		0.2
<i>Mystacides sepulchralis</i>	09020618075147	1.33			--	0.2	
<i>Triaenodes</i>	09020618077	1.33	1.33	6	SH	0.2	0.2
<i>Oecetis</i>	09020618078	4.00	4.00	8	PR	0.6	0.6
Chironomidae	09021011	1.33			--	0.2	
<i>Ablabesmyia</i>	09021011001		2.67	8	PR		0.4
<i>Ablabesmyia mallochii</i>	09021011001004	2.67			--	0.4	
<i>Conchapelopia</i>	09021011004	1.33	1.34	6	PR	0.2	0.2
<i>Labrundinia</i>	09021011008		1.34	7	PR		0.2
<i>Labrundinia pilosella</i>	09021011008022	1.33			--	0.2	
<i>Nilotanytus</i>	09021011012		4.01	6	PR		0.6
<i>Nilotanytus fimbriatus</i>	09021011012027	4.00			--	0.6	
<i>Paramerina</i>	09021011013				--		
<i>Rheopelopia</i>	09021011017		5.35		PR		0.8
<i>Rheopelopia acra group</i>	09021011017036	5.33			--	0.8	
<i>Brillia</i>	09021011033		1.34	5	SH		0.2
<i>Brillia flavifrons</i>	09021011033049	1.33			--	0.2	
<i>Cricotopus</i>	09021011037	1.33	4.01	7	SH	0.2	0.6
<i>Cricotopus bicinctus</i>	09021011037057	1.33			--	0.2	
<i>Cricotopus vierriensis</i>	09021011037071	1.33			--	0.2	
<i>Eukiefferiella</i>	09021011041	1.33	1.34	8	CG	0.2	0.2
<i>Nanocladius</i>	09021011049		2.67	3	CG		0.4
<i>Nanocladius downesi</i>	09021011049092	2.67			--	0.4	
<i>Orthocladius</i>	09021011050		13.37	6	CG		2.0
<i>Orthocladius annectens</i>	09021011050092	13.33			--	2.0	
<i>Paratanytarsus</i>	09021011071		2.67	6	--		0.4
<i>Paratanytarsus longistylus</i>	09021011071126	2.67		6	--	0.4	
<i>Rheotanytarsus</i>	09021011072		340.88	6	CF		50.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	329.33			CF	48.6	
<i>Rheotanytarsus pellucidus</i>	09021011072128	10.67			CF	1.6	
<i>Tanytarsus</i>	09021011076	8.00	8.02	6	CF	1.2	1.2
<i>Lauterborniella</i>	09021011092		2.67		CG		0.4
<i>Lauterborniella agrayloides</i>	09021011092001	2.67			--	0.4	
<i>Microtendipes</i>	09021011094		34.76	6	CF		5.1
<i>Microtendipes rydalensis group</i>	09021011094168	34.67			--	5.1	



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<i>Phaenopsectra</i>	09021011101		5.35	7	SC		0.8
<i>Phaenopsectra obediens</i>	09021011101182	5.33			SC	0.8	
<i>Polypedilum</i>	09021011102		81.54	6	SH		12.0
<i>Polypedilum aviceps</i>	09021011102181	81.33			--	12.0	
<i>Rheosmittia</i>	09021011122		1.34		--		0.2
<i>Rheosmittia arcuata</i>	09021011122001	1.33			--	0.2	
<i>Simulium</i>	09021012047	1.33	1.33	4	CF	0.2	0.2
<i>Atherix</i>	09021015055	4.00	4.00	2	PR	0.6	0.6
<i>Psephenus</i>	09021108058		1.33	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	1.33			--	0.2	
<i>Macronychus</i>	09021113065		1.33	4	--		0.2
<i>Macronychus glabratus</i>	09021113065040	1.33			--	0.2	
<i>Optioservus</i>	09021113067	1.33	1.33	3	SC	0.2	0.2
<i>Oulimnius</i>	09021113068		1.33		--		0.2
<i>Oulimnius latiusculus</i>	09021113068049	1.33			--	0.2	
<i>Promoresia</i>	09021113069		8.00		--		1.2
<i>Promoresia tardella</i>	09021113069052	8.00			--	1.2	
<i>Stenelmis</i>	09021113070		9.33	5	SC		1.4
<i>Stenelmis crenata</i>	09021113070055	9.33			--	1.4	
<i>Rhyncholimnochares</i>	09030110001	1.33	1.33		--	0.2	0.2