



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

Station Information

Station Number: S-1164	River Basin:	St. John
Waterbody: Mill Brook - Station 1164	HUC8 Name:	Meduxnekeag
Town: Ludlow	Latitude:	46 9 5.25 N
Directions: ALBERT LANE OFF OF LUDLOW ROAD. 25 M UPSTREAM OF THE LAST HOUSE.	Longitude:	67 59 29.44 W
	Stream Order:	2

Sample Information

Log Number: 2750	Type of Sample: ROCK BAG	Date Deployed: 7/11/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/7/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 4/1/2020
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/30/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.85	Class A, B, or C	1.00
Class B	0.15	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	1.00
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	134.33	18 Relative Abundance Ephemeroptera	0.44
02 Generic Richness	46.00	19 EPT Generic Richness	28.00
03 Plecoptera Mean Abundance	8.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	59.00	23 Relative Generic Richness- Plecoptera	0.13
05 Shannon-Wiener Generic Diversity	4.21	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	2.01
06 Hilsenhoff Biotic Index	4.01	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	10.67
07 Relative Abundance - Chironomidae	0.32	28 EP Generic Richness/14	1.36
08 Relative Generic Richness Diptera	0.24	30 Presence of Class A Indicator Taxa/7	0.71
09 <i>Hydropsyche</i> Abundance	9.66		
11 <i>Cheumatopsyche</i> Abundance	0.34		
12 EPT Generic Richness/ Diptera Generic Richness	2.55		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	3.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.00		
17 Chironomini Abundance (Family Functional Group)	5.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	23.33
2	<i>Leucrocota</i>	15.14
3	<i>Hydropsyche</i>	7.19
4	<i>Acerpenna</i>	6.67
5	<i>Maccaffertium</i>	5.71



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Town: Ludlow

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Log Number: 2750

Waterbody: Mill Brook - Station 1164

Date Retrieved: 8/7/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 17.8 deg C
 Dissolved Oxygen: 9.68 mg/l
 Dissolved Oxygen Saturation: 101.7 %
 Specific Conductance: 63 uS/cm
 Velocity: 24.4 cm/s
 pH: 7.76
 Wetted Width: 9 m
 Bankfull Width: 13.5 m
 Depth: 31 cm

Waterbody Information - Retrieval

Temperature: 17.5 deg C
 Dissolved Oxygen: 9.79 mg/l
 Dissolved Oxygen Saturation: 102 %
 Specific Conductance: 92.4 uS/cm
 Velocity: 6.1 cm/s
 pH: 8.02
 Wetted Width:
 Bankfull Width:
 Depth: 28 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 Agriculture NPS	Boulder	40 %
		Gravel	20 %
		Rubble/Cobble	30 %
		Sand	10 %

Landcover Summary - 2004 Data

Sample Comments

BLACKNOSE DACE PRESENT.



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

Station Number: S-1164 Waterbody: Mill Brook - Station 1164 Town: Ludlow
Log Number: 2750 Subsample Factor: X1 Replicates: 3 Calculated: 3/30/2020

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Paracapnia</i>	09020203018	0.67	0.67	1	SH	0.5	0.5
<i>Leuctra</i>	09020204020	1.33	1.33	0	SH	1.0	1.0
<i>Pteronarcys</i>	09020205023	2.33	2.33	0	SH	1.7	1.7
Perlodidae	09020207	0.33	0.33		--	0.2	0.2
Perlidae	09020209	0.67	0.67		--	0.5	0.5
<i>Acroneuria</i>	09020209042	1.33	3.00	0	PR	1.0	2.2
<i>Acroneuria abnormis</i>	09020209042121	1.00		0	PR	0.7	
<i>Acroneuria lycorias</i>	09020209042125	0.67			--	0.5	
<i>Calopteryx</i>	09020307043	1.00	1.00	5	PR	0.7	0.7
Baetidae	09020401	0.67			--	0.5	
<i>Baetis</i>	09020401001	0.67	4.83	4	CG	0.5	3.6
<i>Baetis flavistriga</i>	09020401001004	4.00			--	3.0	
<i>Acerpenna</i>	09020401007	1.33	8.97	5	CG	1.0	6.7
<i>Acerpenna macdunnoughi</i>	09020401007001	7.00			--	5.2	
<i>Acerpenna pygmaea</i>	09020401007011	0.33			--	0.2	
<i>Procloeon</i>	09020401010	0.67	0.69		CG	0.5	0.5
<i>Plauditus</i>	09020401012	0.33	0.34		CG	0.2	0.3
<i>Dipheter</i>	09020401013		5.17		--		3.9
<i>Dipheter hageni</i>	09020401013001	5.00			--	3.7	
<i>Leucrocuta</i>	09020402011	20.33	20.33	1	SC	15.1	15.1
<i>Stenacron</i>	09020402014	0.33	0.33	7	SC	0.2	0.2
<i>Maccaffertium</i>	09020402015	7.67	7.67	4	SC	5.7	5.7
<i>Ephemerella</i>	09020410035	3.67	3.67	1	CG	2.7	2.7
<i>Eurylophella</i>	09020410036	1.33	1.67	3	CG	1.0	1.2
<i>Eurylophella funeralis</i>	09020410036115	0.33			SH	0.2	
<i>Serratella</i>	09020410037		0.33	2	CG		0.2
<i>Serratella serrata</i>	09020410037123	0.33			--	0.2	
<i>Tricorythodes</i>	09020411038	1.67	1.67	4	CG	1.2	1.2
<i>Caenis</i>	09020412040	3.33	3.33	7	CG	2.5	2.5
Polycentropodidae	09020603	0.33	0.33		--	0.2	0.2
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.2	0.2
Hydropsychidae	09020604	0.33			--	0.2	
<i>Cheumatopsyche</i>	09020604015	0.33	0.34	5	CF	0.2	0.3
<i>Hydropsyche</i>	09020604016	9.00	9.66	4	CF	6.7	7.2
<i>Hydropsyche scalaris species group</i>	09020604016048	0.33			--	0.2	
<i>Glossosoma</i>	09020606020	0.67	0.67	0	SC	0.5	0.5
<i>Brachycentrus</i>	09020609043		1.67	0	CF		1.2



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<i>Brachycentrus appalachia</i>	09020609043096	1.67			--	1.2	
<i>Helicopsyche</i>	09020616070		0.67	3	SC		0.5
<i>Helicopsyche borealis</i>	09020616070137	0.67			--	0.5	
<i>Oecetis</i>	09020618078	0.67	0.67	8	PR	0.5	0.5
<i>Apatania</i>	09020619061	0.33	0.33		SC	0.2	0.2
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		0.5
<i>Thienemannimyia group</i>	09021011020041	0.67			--	0.5	
<i>Trissopelopia</i>	09021011021	0.33	0.33		PR	0.2	0.2
<i>Zavrelimyia</i>	09021011022			8	PR		
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.2	0.2
<i>Cricotopus</i>	09021011037	0.33	1.00	7	SH	0.2	0.7
<i>Cricotopus bicinctus</i>	09021011037057	0.67			--	0.5	
<i>Rheocricotopus</i>	09021011057	0.33	0.33	6	CG	0.2	0.2
<i>Micropsectra</i>	09021011070			7	CG		
<i>Paratanytarsus</i>	09021011071		3.67	6	--		2.7
<i>Paratanytarsus longistylus</i>	09021011071126	3.67		6	--	2.7	
<i>Rheotanytarsus</i>	09021011072		31.33	6	CF		23.3
<i>Rheotanytarsus pellucidus</i>	09021011072128	31.33			CF	23.3	
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	0.5	0.5
<i>Microtendipes</i>	09021011094	0.33	2.67	6	CF	0.2	2.0
<i>Microtendipes rydalensis group</i>	09021011094168	2.33			--	1.7	
<i>Phaenopsectra</i>	09021011101		0.33	7	SC		0.2
<i>Phaenopsectra obediens group</i>	09021011101180	0.33			--	0.2	
<i>Polypedilum</i>	09021011102		2.00	6	SH		1.5
<i>Polypedilum aviceps</i>	09021011102181	1.33			--	1.0	
<i>Polypedilum tritum</i>	09021011102191	0.67			--	0.5	
<i>Dubiraphia</i>	09021113064	1.67	1.67	6	--	1.2	1.2
<i>Optioservus</i>	09021113067	0.33	0.33	3	SC	0.2	0.2
<i>Promoresia</i>	09021113069		3.67		--		2.7
<i>Promoresia tardella</i>	09021113069052	3.67			--	2.7	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	1.0	1.0
<i>Atractides</i>	09030102002	0.33	0.33		--	0.2	0.2
<i>Ferrissia</i>	10010204035	0.67	0.67		SC	0.5	0.5