



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

Station Information

Station Number: S-998	River Basin:	Saco
Waterbody: Mile Brook - Station 998	HUC8 Name:	Presumpscot
Town: Casco	Latitude:	44 0 37.79 N
Directions: ROUTE 121 TO EDES FALLS RD. BEFORE HANCOCK LUMBER OFFICE, JUGTOWN FOREST	Longitude:	70 32 4.0 W
	Stream Order:	2

Sample Information

Log Number: 2821	Type of Sample: ROCK BAG	Date Deployed: 7/8/2020
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/30/2020

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 5/14/2021
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 5/13/2021	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.92	Class A, B, or C	1.00
Class B	0.08	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	1.00
Class A or B	1.00	Class B or C or Non-Attainment	0.00
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	125.33	18 Relative Abundance Ephemeroptera	0.21
02 Generic Richness	47.00	19 EPT Generic Richness	20.00
03 Plecoptera Mean Abundance	8.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.33
04 Ephemeroptera Mean Abundance	26.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	4.25	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.00
06 Hilsenhoff Biotic Index	3.60	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	21.33
07 Relative Abundance - Chironomidae	0.18	28 EP Generic Richness/14	0.71
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	31.67		
11 <i>Cheumatopsyche</i> Abundance	1.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.67		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	5.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.67		
17 Chironomini Abundance (Family Functional Group)	8.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	25.27
2	<i>Maccaffertium</i>	13.03
3	<i>Rheotanytarsus</i>	6.65
4	Aeshnidae	6.38
5	<i>Microtendipes</i>	4.52



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Date Retrieved: 8/30/2020

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 19 deg C
 Dissolved Oxygen: 9.13 mg/l
 Dissolved Oxygen Saturation: 99.2 %
 Specific Conductance: 74.8 uS/cm
 Velocity: 15.2 cm/s
 pH: 6.88
 Wetted Width: 3.5 m
 Bankfull Width: 4 m
 Depth: 31.3 cm

Waterbody Information - Retrieval

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>	
Nutrients	Below Fish Hatchery	Boulder	10 %
		Gravel	35 %
		Rubble/Cobble	40 %
		Sand	15 %

Landcover Summary - 2004 Data

Sample Comments



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Aquatic Life Taxonomic Inventory Report**

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Town: Casco

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Subsample Factor: X1

Replicates: 3

Calculated: 5/13/2021

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Prostoma</i>	04010101001	0.33	0.33		--	0.3	0.3
Lumbriculidae	08020101	0.33	0.33		--	0.3	0.3
<i>Leuctra</i>	09020204020	3.33	3.33	0	SH	2.7	2.7
<i>Acroneuria</i>	09020209042	3.00	5.00	0	PR	2.4	4.0
<i>Acroneuria abnormis</i>	09020209042121	2.00		0	PR	1.6	
<i>Perlesta</i>	09020209046	0.33	0.33	5	PR	0.3	0.3
Aeshnidae	09020301	8.00	8.00		--	6.4	6.4
<i>Boyeria</i>	09020301004		0.67	2	PR		0.5
<i>Boyeria vinosa</i>	09020301004012	0.67			--	0.5	
Cordulegastridae	09020303	0.33	0.33		--	0.3	0.3
Calopterygidae	09020307	1.00	1.00		--	0.8	0.8
<i>Baetis</i>	09020401001	0.33	3.67	4	CG	0.3	2.9
<i>Baetis pluto</i>	09020401001009	3.33			--	2.7	
<i>Labiobaetis</i>	09020401009	0.33	0.33		--	0.3	0.3
<i>Dipheter</i>	09020401013		0.33		--		0.3
<i>Dipheter hageni</i>	09020401013001	0.33			--	0.3	
<i>Epeorus</i>	09020402009		2.33	0	SC		1.9
<i>Epeorus vitreus</i>	09020402009033	2.33			--	1.9	
<i>Maccaffertium</i>	09020402015	15.33	16.33	4	SC	12.2	13.0
<i>Maccaffertium modestum</i>	09020402015051	1.00			--	0.8	
<i>Isonychia</i>	09020404018	0.67	0.67	2	CF	0.5	0.5
<i>Serratella</i>	09020410037		2.67	2	CG		2.1
<i>Serratella deficiens (Teloganopsis deficiens)</i>	09020410037121	2.67			--	2.1	
<i>Dolophilodes</i>	09020601001		0.33	0	CF		0.3
<i>Dolophilodes distincta</i>	09020601001001	0.33			--	0.3	
<i>Chimarra</i>	09020601003		1.00	2	CF		0.8
<i>Chimarra aterrima</i>	09020601003002	1.00			--	0.8	
<i>Lype</i>	09020602004		0.33	2	SC		0.3
<i>Lype diversa</i>	09020602004005	0.33			--	0.3	
<i>Polycentropus</i>	09020603010	0.67	0.67	6	PR	0.5	0.5
<i>Cheumatopsyche</i>	09020604015	1.00	1.00	5	CF	0.8	0.8
<i>Hydropsyche</i>	09020604016		31.67	4	CF		25.3
<i>Hydropsyche sparna</i>	09020604016032	29.67			--	23.7	
<i>Hydropsyche betteni</i>	09020604016037	2.00			--	1.6	
<i>Glossosoma</i>	09020606020	1.00	1.00	0	SC	0.8	0.8
<i>Pycnopsyche</i>	09020610049	1.00	1.00	4	SH	0.8	0.8
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.3	0.3



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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>Goera</i>	09020620063			0.33	0.33
<i>Nigronia</i>	09020701003		4.33	0	PR		3.5
<i>Nigronia serricornis</i>	09020701003003	4.33			--	3.5	
Chironomidae	09021011				--		
<i>Nilotanytus</i>	09021011012		1.00	6	PR		0.8
<i>Nilotanytus fimbriatus</i>	09021011012027	1.00			--	0.8	
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		0.5
<i>Thienemannimyia group</i>	09021011020041	0.67			--	0.5	
<i>Potthastia</i>	09021011026		2.00	2	CG		1.6
<i>Potthastia longimana</i>	09021011026046	2.00			--	1.6	
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.3	0.3
<i>Nanocladius</i>	09021011049	0.33	0.33	3	CG	0.3	0.3
<i>Tvetenia</i>	09021011065		1.00	5	CG		0.8
<i>Tvetenia paucunca</i>	09021011065114	1.00			--	0.8	
<i>Micropsectra</i>	09021011070	0.33	0.33	7	CG	0.3	0.3
<i>Rheotanytarsus</i>	09021011072		8.33	6	CF		6.6
<i>Rheotanytarsus exiguus group</i>	09021011072127	2.67			CF	2.1	
<i>Rheotanytarsus pellucidus</i>	09021011072128	5.67			CF	4.5	
<i>Microtendipes</i>	09021011094		5.67	6	CF		4.5
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.3	
<i>Microtendipes rydalensis group</i>	09021011094168	5.33			--	4.3	
<i>Nilothauma</i>	09021011095	0.33	0.33	2	--	0.3	0.3
<i>Polypedilum</i>	09021011102		2.67	6	SH		2.1
<i>Polypedilum aviceps</i>	09021011102181	2.67			--	2.1	
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.3	0.3
<i>Dubiraphia</i>	09021113064	0.67	0.67	6	--	0.5	0.5
<i>Macronychus</i>	09021113065		1.67	4	--		1.3
<i>Macronychus glabratus</i>	09021113065040	1.67			--	1.3	
<i>Microcyloopus</i>	09021113066		0.33	3	--		0.3
<i>Microcyloopus pusillus</i>	09021113066041	0.33			--	0.3	
<i>Optioservus</i>	09021113067	1.00	3.00	3	SC	0.8	2.4
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.3	
<i>Optioservus tardella</i>	09021113067052	1.67			--	1.3	
<i>Stenelmis</i>	09021113070		0.67	5	SC		0.5
<i>Stenelmis crenata</i>	09021113070055	0.67			--	0.5	
<i>Ferrissia</i>	10010204035	3.67	3.67		SC	2.9	2.9
Sphaeriidae	10020201	1.67	1.67		CF	1.3	1.3
<i>Pisidium</i>	10020201002	3.00	3.00		CF	2.4	2.4