



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

Station Information

Station Number: S-498	River Basin: Saco
Waterbody: Concord Gully - Station 498	HUC8 Name: Presumpscot
Town: Freeport	Latitude: 43 50 45.69 N
Directions: BELOW	Longitude: 70 6 15.95 W
	Stream Order: 2

Sample Information

Log Number: 2766	Type of Sample: ROCK BAG	Date Deployed: 8/7/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 9/4/2019

Classification Attainment

Statutory Class: B	Final Determination: NA	Date: 1/4/2021
Model Result with $P \geq 0.6$: NA	Reason for Determination: Model	
Date Last Calculated: 12/23/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.00
Class B	0.00	Non-Attainment	1.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.01
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	101.33	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	37.00	19 EPT Generic Richness	5.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	0.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.09	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	14.67
06 Hilsenhoff Biotic Index	5.03	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.68	28 EP Generic Richness/14	0.00
08 Relative Generic Richness Diptera	0.49	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.28		
13 Relative Abundance - Oligochaeta	0.02		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	12.33		
17 Chironomini Abundance (Family Functional Group)	6.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Parametriocnemus</i>	26.64
2	<i>Tanytarsus</i>	14.47
3	<i>Zavreliomyia</i>	5.59
4	<i>Polypedilum</i>	4.93
5	<i>Thienemannimyia</i>	4.28
6	<i>Physella</i>	4.28



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Log Number: 2766 Waterbody: Concord Gully - Station 498 Date Retrieved: 9/4/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 17 deg C
Dissolved Oxygen: 8.42 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 1644 uS/cm
Velocity: 10 cm/s
pH:
Wetted Width: 2 m
Bankfull Width: 7.5 m
Depth: 24 cm

Waterbody Information - Retrieval

Temperature: 15.7 deg C
Dissolved Oxygen: 8.98 mg/l
Dissolved Oxygen Saturation: 90.6 %
Specific Conductance: 1383 uS/cm
Velocity:
pH:
Wetted Width:
Bankfull Width:
Depth: 31 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Conifer	Dense	Hilly
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Hydrology	Below Urban NPS	Boulder 10 %
Chlorine		Gravel 10 %
		Rubble/Cobble 70 %
		Sand 10 %

Landcover Summary - 2004 Data

Total Area (ac)	597	High Int. Dev. %	9.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	14.8	Wetland %	0.0	Tilled Agriculture %	0.0
		Low Int. Dev. %	20.8	Upland Woody %	44.3	Grassland %	0.1
		Development %	44.7	Natural %	44.3	Human Altered %	55.6
						Impervious %	26.2

Sample Comments

SLIGHTLY HIGHER FLOW THAN AT DEPLOYMENT.



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

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Waterbody: Concord Gully - Station 498

Town: Freeport

Log Number: 2766

Subsample Factor: X1

Replicates: 3

Calculated: 12/23/2020

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
Tricladida	030101	2.00	2.00		--	2.0	2.0
<i>Limnodrilus</i>	08020202022	2.33	2.33		CG	2.3	2.3
<i>Glossiphonia</i>	08030101004	0.33	0.33		--	0.3	0.3
Erpobdellidae	08030203	0.33	0.33		--	0.3	0.3
<i>Gammarus</i>	09010201003	3.33	3.33	4	--	3.3	3.3
<i>Boyeria</i>	09020301004		1.00	2	PR		1.0
<i>Boyeria grafiana</i>	09020301004011	1.00			--	1.0	
<i>Polycentropus</i>	09020603010	2.33	2.33	6	PR	2.3	2.3
<i>Diplectrona</i>	09020604014	0.33	0.33	0	CF	0.3	0.3
<i>Rhyacophila</i>	09020605019	1.33	1.33	2	PR	1.3	1.3
<i>Glossosoma</i>	09020606020	0.33	0.33	0	SC	0.3	0.3
<i>Oligostomis</i>	09020608039	2.00	2.00	2	PR	2.0	2.0
Lepidoptera	090209	0.33	0.33		--	0.3	0.3
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.3	0.3
<i>Antocha</i>	09021001004	1.67	1.67	3	CG	1.6	1.6
<i>Dicranota</i>	09021001005	1.67	1.67	3	PR	1.6	1.6
<i>Hexatoma</i>	09021001008	2.67	2.67	2	PR	2.6	2.6
Chironomidae	09021011				--		
<i>Procladius</i>	09021011015	2.33	2.33	9	PR	2.3	2.3
<i>Thienemannimyia</i>	09021011020		4.33	3	PR		4.3
<i>Thienemannimyia group</i>	09021011020041	4.33			--	4.3	
<i>Zavrelimyia</i>	09021011022	5.67	5.67	8	PR	5.6	5.6
<i>Diamesa</i>	09021011024	0.33	0.33	5	CG	0.3	0.3
<i>Prodiamesa</i>	09021011031	1.67	1.67	3	CG	1.6	1.6
<i>Parametriocnemus</i>	09021011053	27.00	27.00	5	CG	26.6	26.6
<i>Thienemanniella</i>	09021011062	2.33	2.33	6	CG	2.3	2.3
<i>Tvetenia</i>	09021011065		2.00	5	CG		2.0
<i>Tvetenia paucunca</i>	09021011065114	2.00			--	2.0	
<i>Rheotanytarsus</i>	09021011072	2.00	2.00	6	CF	2.0	2.0
<i>Tanytarsus</i>	09021011076	14.67	14.67	6	CF	14.5	14.5
<i>Microtendipes</i>	09021011094		1.33	6	CF		1.3
<i>Microtendipes pedellus group</i>	09021011094166	1.33			--	1.3	
<i>Paralauterborniella</i>	09021011099	0.33	0.33	8	CG	0.3	0.3
<i>Polypedilum</i>	09021011102		5.00	6	SH		4.9
<i>Polypedilum aviceps</i>	09021011102181	5.00			--	4.9	
<i>Roederiodes</i>	09021016058	3.00	3.00	3	PR	3.0	3.0
Dytiscidae	09021103	0.67	0.67		--	0.7	0.7



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		Actual	Adjusted			Actual	Adjusted
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.3	0.3
<i>Dubiraphia</i>	09021113064	0.67	0.67	6	--	0.7	0.7
<i>Promoresia</i>	09021113069	0.33	0.33		--	0.3	0.3
Lymnaeidae	10010201	0.33	0.33		--	0.3	0.3
<i>Physella</i>	10010202027	4.33	4.33		SC	4.3	4.3
<i>Sphaerium</i>	10020201003	0.33	0.33		CF	0.3	0.3