



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

Station Information

Station Number:	S-497	River Basin:	Saco
Waterbody:	Concord Gully - Station 497	HUC8 Name:	Presumpscot
Town:	Freeport	Latitude:	43 50 46.59 N
Directions:	MIDDLE - BELOW DETENTION POND OUTLET	Longitude:	70 6 22.57 W
		Stream Order:	2

Sample Information

Log Number:	2767	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:	2/23/2021
Model Result with $P \geq 0.6$:	NA	Reason for Determination:	Model		
Date Last Calculated:	2/23/2021	Comments:			

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.05	Class A, B, or C	0.00
Class B	0.02	Non-Attainment	1.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.02
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.98

Model Variables

01 Total Mean Abundance	110.67	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	49.00	19 EPT Generic Richness	8.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	8.67
04 Ephemeroptera Mean Abundance	0.00	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.62	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	4.33
06 Hilsenhoff Biotic Index	5.13	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.46	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.57	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	0.29		
13 Relative Abundance - Oligochaeta	0.19		
15 Perlidae Mean Abundance (Family Functional Group)	0.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	15.33		
17 Chironomini Abundance (Family Functional Group)	16.00		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	Lumbriculidae	16.57
2	<i>Dicranota</i>	8.73
3	<i>Thienemannimyia</i>	7.83
4	<i>Parachironomus</i>	7.83
5	<i>Rhyacophila</i>	5.12



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Town: Freeport

Date Deployed: 8/7/2019

Log Number: 2767

Waterbody: Concord Gully - Station 497

Date Retrieved: 9/4/2019

Sample Collection and Processing Information

Sampling Organization: DEP

Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 16.9 deg C
Dissolved Oxygen: 8.64 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 1625 uS/cm
Velocity: 10 cm/s
pH:
Wetted Width: 2.5 m
Bankfull Width: 4.3 m
Depth: 25 cm

Waterbody Information - Retrieval

Temperature: 16 deg C
Dissolved Oxygen: 9.04 mg/l
Dissolved Oxygen Saturation: 91.7 %
Specific Conductance: 1317 uS/cm
Velocity:
pH:
Wetted Width:
Bankfull Width:
Depth: 25 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		Boulder 10 %
Chlorine		Gravel 10 %
		Rubble/Cobble 30 %
		Sand 50 %

Landcover Summary - 2004 Data

Total Area (ac)	321	High Int. Dev. %	2.9	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	18.9	Wetland %	0.0	Tilled Agriculture %	0.0
		Low Int. Dev. %	20.5	Upland Woody %	52.7	Grassland %	0.1
		Development %	42.4	Natural %	52.7	Human Altered %	47.3
						Impervious %	23.1

Sample Comments



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

Station Number: S-497	Waterbody: Concord Gully - Station 497	Town: Freeport
Log Number: 2767	Subsample Factor: X1	Replicates: 3
		Calculated: 2/23/2021

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Lumbriculidae	08020101	18.33	18.33		--	16.6	16.6
<i>Tubifex</i>	08020202025	2.33	2.33		CG	2.1	2.1
<i>Gammarus</i>	09010201003	0.67	0.67	4	--	0.6	0.6
<i>Hyalella</i>	09010203006	0.33	0.33	8	CG	0.3	0.3
Plecoptera	090202	0.33	0.33		--	0.3	0.3
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.3	0.3
Perlidae	09020209	0.67	0.67		--	0.6	0.6
<i>Boyeria</i>	09020301004	1.00	2.67	2	PR	0.9	2.4
<i>Boyeria grafiana</i>	09020301004011	1.00			--	0.9	
<i>Boyeria vinosa</i>	09020301004012	0.67			--	0.6	
<i>Cordulegaster</i>	09020303019	0.33	0.33	3	PR	0.3	0.3
Coenagrionidae	09020309	0.67	0.67		--	0.6	0.6
<i>Dolophilodes</i>	09020601001	0.67	0.67	0	CF	0.6	0.6
<i>Polycentropus</i>	09020603010	1.00	1.00	6	PR	0.9	0.9
<i>Diplectrona</i>	09020604014	0.67	0.67	0	CF	0.6	0.6
<i>Rhyacophila</i>	09020605019	5.67	5.67	2	PR	5.1	5.1
<i>Oligostomis</i>	09020608039	3.00	3.00	2	PR	2.7	2.7
<i>Psilotreta</i>	09020614068	0.67	0.67	0	SC	0.6	0.6
<i>Nigronia</i>	09020701003	0.33	0.33	0	PR	0.3	0.3
<i>Tipula</i>	09021001002	1.67	1.67	4	SH	1.5	1.5
<i>Antocha</i>	09021001004	0.33	0.33	3	CG	0.3	0.3
<i>Dicranota</i>	09021001005	9.67	9.67	3	PR	8.7	8.7
<i>Hexatoma</i>	09021001008	0.33	0.33	2	PR	0.3	0.3
<i>Bezzia/palpomyia</i>	09021010043	0.67	0.67	6	PR	0.6	0.6
Chironomidae	09021011				--		
<i>Natarsia</i>	09021011011	5.33	5.33	8	PR	4.8	4.8
<i>Paramerina</i>	09021011013	0.67	0.67		--	0.6	0.6
<i>Thienemannimyia</i>	09021011020		8.67	3	PR		7.8
<i>Thienemannimyia group</i>	09021011020041	8.67			--	7.8	
<i>Zavrelimyia</i>	09021011022	0.67	0.67	8	PR	0.6	0.6
<i>Corynoneura</i>	09021011036	3.67	3.67	7	CG	3.3	3.3
<i>Limnophyes</i>	09021011047	0.33	0.33	8	CG	0.3	0.3
<i>Parametriocnemus</i>	09021011053	1.67	1.67	5	CG	1.5	1.5
<i>Thienemanniella</i>	09021011062	4.67	4.67	6	CG	4.2	4.2
<i>Tvetenia</i>	09021011065		4.33	5	CG		3.9
<i>Tvetenia paucunca</i>	09021011065114	4.33			--	3.9	
<i>Rheotanytarsus</i>	09021011072	1.00	1.00	6	CF	0.9	0.9



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<i>Tanytarsus</i>	09021011076	4.33	4.33	6	CF	3.9	3.9
<i>Cryptochironomus</i>	09021011082	1.00	1.00	8	PR	0.9	0.9
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.3
<i>Microtendipes rydalensis group</i>	09021011094168	0.33			--	0.3	
<i>Parachironomus</i>	09021011097	8.67	8.67	10	PR	7.8	7.8
<i>Paralauterborniella</i>	09021011099		0.33	8	CG		0.3
<i>Paralauterborniella nigrohalteralis</i>	09021011099175	0.33			--	0.3	
<i>Paratendipes</i>	09021011100		1.00	8	CG		0.9
<i>Paratendipes albimanus group</i>	09021011100176	1.00			--	0.9	
<i>Phaenopsectra</i>	09021011101	1.00	1.00	7	SC	0.9	0.9
<i>Polypedilum</i>	09021011102		2.33	6	SH		2.1
<i>Polypedilum scalaenum group</i>	09021011102189	1.00			--	0.9	
<i>Polypedilum halterale group</i>	09021011102193	1.33			--	1.2	
<i>Stictochironomus</i>	09021011106	1.33	1.33	9	CG	1.2	1.2
<i>Chrysops</i>	09021014052	1.00	1.00	6	CG	0.9	0.9
<i>Clinocera</i>	09021016056	0.33	0.33	3	PR	0.3	0.3
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.3	0.3
Ephydriidae	09021021	0.33	0.33		--	0.3	0.3
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.3	0.3
<i>Stenelmis</i>	09021113070	0.33	0.33	5	SC	0.3	0.3
Lymnaeidae	10010201	0.33	0.33		--	0.3	0.3
Physidae	10010202	4.67	4.67		SC	4.2	4.2
<i>Sphaerium</i>	10020201003	0.33	0.33		CF	0.3	0.3