



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

**Station Information**

<b>Station Number:</b> 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**

<b>Log Number:</b> 2767	Type of Sample: ROCK BAG	Date Deployed: 8/7/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 9/4/2019

**Classification Attainment**

<b>Statutory Class:</b> B	<b>Final Determination:</b> NA	Date: 2/23/2021
Model Result with $P \geq 0.6$ : NA	<b>Reason for Determination:</b> 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



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

**Station Number: S-497**  
**Log Number: 2767**

Town: Freeport  
Waterbody: Concord Gully - Station 497

Date Deployed: 8/7/2019  
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



**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		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<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