

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

**Station Information**

<b>Station Number: W-028</b>	Trip ID: 2015-028	River Basin: Saco
Waterbody: LONG CREEK (BELOW GANNETT DR)	HUC8 Name: Presumpscot	
Town: South Portland	Latitude: 43 38 29.95 N	
Mitigation Monitoring Site: No	Longitude: 70 21 18.81 W	

**Sample Information**

<b>Sample ID: WA-028-2015E (1459)</b>	Type of Sample: PLANT RUBBINGS	Date Sampled: 6/15/2015
Bottle #: 1459	Sampling Organization: BIOMONITORING UNIT	Taxonomist: ACADEMY OF NATURAL SCIENCES

**Classification Attainment**

<b>Statutory Class: C</b>	<b>Final Determination: C</b>	Date: 5/10/2019
Model Result with $P \geq 0.6$ : C	<b>Reason for Determination: Model L&amp;w</b>	
Date Last Calculated: 1/11/2019	Comments:	

**Model Probabilities**

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

**Model Variables**

		<u>Reference Range (10th or 90th percentile value)</u>
Relative Richness of Diatoms in the Eunotiaceae Family	0.120	>0.09
Relative Density of Eutrophic Diatoms	0.460	<0.15
Relative Richness of Oligosaprobic Diatoms	0.100	>0.37
Relative Richness of Intermediate Taxa	0.561	>0.61
Relative Richness of Sensitive Taxa	0.049	>0.13
Maine Tolerance Index Score for Wetland Epiphytic Algae	42.45	<38

**Other Variables**

	Density (cells/cm <sup>2</sup> )	Relative Density	Richness	Relative Richness	Biovolume (um <sup>3</sup> /cm <sup>2</sup> )	Relative Biovolume
Total for Sample	116,655	-	50	-	32,579,415,373	-
Diatom Only	36,070	-	45	-	13,542,458	-
MTI Sensitive	178	0.002	2	0.049	214,495	0.000
MTI Intermediate	92,907	0.925	23	0.561	2,085,650,501	0.998
MTI Eurytopic	7,309	0.073	16	0.390	3,824,910	0.002
Ratio of MTI:						
Sensitive to Eurytopic	0.024	0.024	0.125	0.125	0.056	0.056

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

**Water Chemistry**

**Sample Date:** 6/15/2015 9:15:00 AM

Collection Method	Parameter	Value	Units	Qualifier
Grab Sample	Chloride	350	mg/l	
Grab Sample	Chlorophyll A	0.011	mg/l	
Grab Sample	Chlorophyll A - Phaeophytin	0.011	mg/l	
Grab Sample	Dissolved Organic Carbon	5.4	mg/l	
Grab Sample	Nitrate + Nitrite As Nitrogen		mg/l	U
Grab Sample	Orthophosphate As Phosphorus	2	ug/l	
Grab Sample	Total Alkalinity	112	mg/l	
Grab Sample	Total Kjeldahl Nitrogen (organic And Nh3) As Nitrogen	0.5	mg/l	
Grab Sample	Total Phosphorus Mixed Forms (po4 And Organic) As Phosphorus	25	ug/l	
Grab Sample	True Color	55	ptco	
In-situ	Dissolved Oxygen	3.28	mg/l	
In-situ	pH	7.24		
In-situ	Specific Conductance	1355	us/cm	
In-situ	Temperature	17.9	deg c	

**Landcover Summary - 2004 Data**

Total Area (ac)	480	High Int. Dev. %	13.6	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	1.8	Wetland %	12.3	Tilled Agriculture %	0.0
		Low Int. Dev. %	6.8	Upland Woody %	25.4	Grassland %	3.9
		Development %	22.3	Natural %	37.7	Human Altered %	62.3
						Impervious %	20.0
Total Land (ac)	480	High Int. Dev. %	13.6	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	1.8	Wetland %	12.3	Tilled Agriculture %	0.0
		Low Int. Dev. %	6.8	Upland Woody %	25.4	Grassland %	3.9
		Development %	22.3	Natural %	37.7	Human Altered %	62.3
						Impervious %	20.0

**Summary of Habitat Characteristics**

Human Disturbance

Total Score:	20
Hydrologic Modifications to Wetland:	2
Vegetative Modifications to Wetland:	5
Evidence of Chemical Pollutants:	1
Watershed Characterization and Potential NPS Pollution Impacts:	12

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

**Summary of Habitat Characteristics**

Dominant Plant Species:

Additional Plant Community Observations: SEDGES, RUSHES, UNKNOWN SUBMERGED PLANTS

Habitat Classification: EMERGENT NON-PERSISTENT VEGETATION  
Substrate Classification: SILT/MUCK SUBSTRATE

Visible Flow: No      Rain In Previous 24 Hours: Yes

Sample Comments: CATTAILS APPEAR MORE ABUNDANT/DOMINANT THAN LAST SITE VISIT, PATCHES OF DUCKWEED.

**Common Plants Observed**

Scientific Name	Common Name	Maine Taxonomic Code	Plant CoC Score	Wetland Indicator Status	Growth Form
<i>Iris versicolor</i>	Harelquin blueflag iris	LW-34010903001006	3	OBL	FORB/HERB
<i>Lemna</i>		LW-34010201002			PLANT
<i>Nuphar lutea ssp. variegata</i>	Variegated yellow pond-lily	LW-34023103002002	4	OBL	FORB/HERB
<i>Spiraea</i>		LW-34024202026			PLANT
<i>Typha</i>		LW-34011301002			PLANT

**Additional Summary Variables**

	Density (cells/cm <sup>2</sup> )	Relative Density	Richness	Relative Richness	Biovolume (um <sup>3</sup> /cm <sup>2</sup> )	Relative Biovolume
<b>Diatom Growth Forms and Motility:</b>						
Unattached	357	0.010	2	0.044	209,857	0.015
Variable	654	0.018	2	0.044	319,852	0.024
Erect	5,170	0.143	8	0.178	2,618,604	0.193
Stalked	1,902	0.053	6	0.133	5,051,649	0.373
Prostrate	27,988	0.776	27	0.600	5,342,495	0.394
Motile	12,301	0.341	23	0.511	4,711,730	0.348



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

**Bottle # :** 1459

**Waterbody:** Long Creek (below Gannett Dr) - W-028

**Town:** South Portland

**Sample ID:** WA-028-2015E (1459)

**Station Number:** W-028

Taxa Name	Group	Density (cells/ cm <sup>2</sup> )	Relative Density			Biovolume (um <sup>3</sup> / cm <sup>2</sup> )	Relative Biovolume	Form	Mot- ility	van Dam Index Values							Maine Epi Tolerance
			All	Rank	Diatoms					pH	NO2	S	T	M	Sal		
<i>Cyclotella meneghiniana</i>	Centric Diatom	238	0.204%	26	0.7%	188,954	0.001%	U	N	4	3	5	4	5	2	3	85.6-E
<i>Diatoma moniliformis</i>	Pennate Diatom	119	0.102%	42	0.3%	20,903	0.000%	U	N							3	75.4-E
<i>Fragilaria capucina</i>	Pennate Diatom	594	0.509%	17	1.6%	307,996	0.001%	V	N	3			2	3		2	58.2-E
<i>Fragilaria vaucheriae</i>	Pennate Diatom	59	0.051%	50	0.2%	11,856	0.000%	V	N	4	2	3	3	5	3	2	51.3-I
<i>Meridion circulare</i>	Pennate Diatom	119	0.102%	42	0.3%	55,810	0.000%	E	N	4	2	2	2	7	1	2	40.8-I
<i>Ulnaria ulna</i>	Pennate Diatom	416	0.357%	21	1.2%	128,644	0.000%	E	N	4	2	3	4			2	44.5-I
<i>Achnanthydium minutissimum</i>	Pennate Diatom	15,391	13.193%	2	42.7%	547,663	0.002%	P	N	6	2	1	2	7	3	2	49.5-I
<i>Achnanthydium rivulare</i>	Pennate Diatom	119	0.102%	42	0.3%	6,132	0.000%	P	N								48-I
<i>Planothidium rostratum</i>	Pennate Diatom	59	0.051%	50	0.2%	6,773	0.000%	P	V	4	2	3	3	5	3	2	43.1-I
<i>Cocconeis placentula</i>	Pennate Diatom	119	0.102%	42	0.3%	70,196	0.000%	P	N	4	2	3	2	5	2	2	67.9-E
<i>Eunotia bilunaris</i>	Pennate Diatom	594	0.509%	17	1.6%	175,482	0.001%	E	V	6	2	2	2	7	3	2	36.1-I
<i>Eunotia implicata</i>	Pennate Diatom	119	0.102%	42	0.3%	238,484	0.001%	E	V	2						3	35.7-I
<i>Eunotia intermedia</i>	Pennate Diatom	59	0.051%	50	0.2%	32,256	0.000%	E	V	2				1	3	1	16.3-S
<i>Eunotia minor</i>	Pennate Diatom	3,625	3.107%	6	10.0%	1,654,547	0.005%	E	V	2			1		4	1	38-I
<i>Eunotia naegelii</i>	Pennate Diatom	119	0.102%	42	0.3%	74,919	0.000%	E	V	2	1	1	1	1	3	1	28.5-I
<i>Eunotia pectinalis</i>	Pennate Diatom	119	0.102%	42	0.3%	258,463	0.001%	E	V	2	2	1	2	3	3	1	28.4-I
<i>Cymbella lanceolata</i>	Pennate Diatom	59	0.051%	50	0.2%	3,076,125	0.009%	S	V	4	1	1	2	7	1	2	
<i>Encyonema silesiacum</i>	Pennate Diatom	654	0.560%	14	1.8%	482,788	0.001%	S	V	3	2	3	3	7	1	2	45.6-I
<i>Gomphonema acuminatum</i>	Pennate Diatom	178	0.153%	28	0.5%	333,136	0.001%	S	N	4	1	2	2	5	2	2	41.4-I
<i>Gomphonema affine</i>	Pennate Diatom	119	0.102%	42	0.3%	182,239	0.001%	S	N	4	1	1	2	3	3	2	25.8-S
<i>Gomphonema parvulum</i>	Pennate Diatom	357	0.306%	23	1.0%	79,536	0.000%	S	N	3	3	4	4	5	3	2	55.7-E
<i>Gomphonema truncatum</i>	Pennate Diatom	535	0.458%	18	1.5%	897,826	0.003%	S	N	4	1	2	2	4	2	2	54.3-E
<i>Adlafia minuscula</i>	Pennate Diatom	178	0.153%	28	0.5%	9,079	0.000%	P	M	4	4	4	2	1	4	1	
<i>Amphipleura pellucida</i>	Pennate Diatom	119	0.102%	42	0.3%	90,122	0.000%	P	M	4	2	2	4	2	2	2	31-I
<i>Diploneis oblongella</i>	Pennate Diatom	119	0.102%	42	0.3%	75,457	0.000%	P	M	4	1	1	1		4	2	
<i>Navicula cari</i>	Pennate Diatom	297	0.255%	25	0.8%	53,279	0.000%	P	M	5	1	1	2	7	2	2	
<i>Navicula cryptocephala</i>	Pennate Diatom	1,426	1.223%	9	4.0%	548,794	0.002%	P	M	4	2	3	3	7	2	2	66.2-E
<i>Navicula gregaria</i>	Pennate Diatom	59	0.051%	50	0.2%	18,153	0.000%	P	M	4	2	4	3	5	3	3	100-E
<i>Navicula radiosa</i>	Pennate Diatom	59	0.051%	50	0.2%	290,881	0.001%	P	M	3	2	2	2	4	3	2	49-I
<i>Navicula recens</i>	Pennate Diatom	59	0.051%	50	0.2%	32,175	0.000%	P	M	4			3	5	3	3	
<i>Navicula rhynchocephala</i>	Pennate Diatom	119	0.102%	42	0.3%	422,086	0.001%	P	M	4	2	4	2	7	2	2	54.4-E
<i>Navicula veneta</i>	Pennate Diatom	951	0.815%	12	2.6%	173,964	0.001%	P	M	4	2	4	4	5	3	3	84.2-E
<i>Sellaphora seminulum</i>	Pennate Diatom	416	0.357%	21	1.2%	696,311	0.002%	P	M	3	3	4	4	5	3	2	48.7-I
<i>Eolimna minima</i>	Pennate Diatom	713	0.611%	13	2.0%	48,859	0.000%	P	M	4	3	4	4	5	3	2	53.2-E
<i>Surirella angusta</i>	Pennate Diatom	59	0.051%	50	0.2%	54,893	0.000%	P	H	4	2	2	2	5	3	2	56.3-E
<i>Nitzschia acicularis</i>	Pennate Diatom	475	0.408%	19	1.3%	106,470	0.000%	P	H	4	4	4	3	5	1	2	77.4-E
<i>Nitzschia archibaldii</i>	Pennate Diatom	594	0.509%	17	1.6%	49,048	0.000%	P	H	3	2	2	2	5		2	38.3-I
<i>Nitzschia dissipata</i>	Pennate Diatom	357	0.306%	23	1.0%	97,531	0.000%	P	H	4	2	2	2	4	3	2	57.9-E
<i>Nitzschia gracilis</i>	Pennate Diatom	2,912	2.496%	7	8.1%	919,943	0.003%	P	H	3		2	2	3	1	1	37.6-I
<i>Nitzschia graciliformis</i>	Pennate Diatom	297	0.255%	25	0.8%	44,465	0.000%	P	H	4			2	5		2	
<i>Nitzschia microcephala</i>	Pennate Diatom	119	0.102%	42	0.3%	28,179	0.000%	P	H	4	4	3	3	5	1	2	
<i>Nitzschia palea</i>	Pennate Diatom	1,070	0.917%	11	3.0%	261,415	0.001%	P	H	3	4	4	5	6	3	2	52.5-E
<i>Nitzschia perminuta</i>	Pennate Diatom	1,664	1.426%	8	4.6%	141,033	0.000%	P	H	4	1	1	1	2	3	2	37.8-I
<i>Nitzschia pumila</i>	Pennate Diatom	119	0.102%	42	0.3%	22,259	0.000%	P	H								45.9-I

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

**Bottle # :** 1459      **Waterbody:** Long Creek (below Gannett Dr) - W-028      **Town:** South Portland

**Sample ID:** WA-028-2015E (1459)      **Station Number:** W-028

Taxa Name	Group	Density (cells/ cm <sup>2</sup> )	Relative Density		Biovolume (um <sup>3</sup> / cm <sup>2</sup> )	Relative Biovolume	Form	Mot- ility	van Dam Index Values							Maine Epi Tolerance	
			All	Rank Diatoms					pH	NO2	S	T	M	Sal			
<i>Nitzschia recta</i>	Pennate Diatom	119	0.102%	42	0.3%	527,334	0.002%	P	H	4	2	2	2	7	1	2	54-E
<i>Gloeocystis</i>	Colonial Green	11,613	9.955%	5		1,760,184	0.005%										41.6-I
<i>Cladophora glomerata</i>	Filamentous Green	13,900	11.916%	3		30,480,699,231	93.558%										
<i>Bulbochaete</i>	Filamentous Green	1,232	1.056%	10		5,707,478	0.018%										
<i>Oedogonium</i>	Filamentous Green	40,996	35.143%	1		1,072,996,659	3.293%										38.2-I
<i>Spirogyra</i>	Filamentous Green	12,844	11.011%	4		1,004,709,362	3.084%										39.6-I