

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

Station Information

Station Number: S-271	River Basin: Saco
Waterbody: Goosefare Brook - Station 271	HUC8 Name: Presumpscot
Town: Saco	Latitude: 43 31 24.63 N
Directions: 80 M ABOVE INDUSTRIAL PARK RD. CROSSING	Longitude: 70 26 52.18 W
	Stream Order: 1

Sample Information

Log Number: 2384	Type of Sample: ROCK BAG	Date Deployed: 7/23/2015
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/20/2015

Classification Attainment

Statutory Class: B	Final Determination: NA	Date: 6/7/2016
Model Result with $P \geq 0.6$: NA	Reason for Determination: Model	
Date Last Calculated: 5/31/2016	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	159.33	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	30.00	19 EPT Generic Richness	6.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.40
04 Ephemeroptera Mean Abundance	0.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	2.71	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.21
06 Hilsenhoff Biotic Index	5.00	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.06	28 EP Generic Richness/14	0.00
08 Relative Generic Richness Diptera	0.50	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.67		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.40		
13 Relative Abundance - Oligochaeta	0.17		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.42		
17 Chironomini Abundance (Family Functional Group)	4.83		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Gammarus</i>	48.54
2	<i>Caecidotea</i>	15.48
3	<i>Lumbriculus</i>	14.02
4	<i>Phylocentropus</i>	3.97
5	<i>Aulodrilus</i>	3.35

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Waterbody: Goosefare Brook - Station 271

Date Retrieved: 8/20/2015

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 16.2 deg C
 Dissolved Oxygen: 7.99 mg/l
 Dissolved Oxygen Saturation:
 Specific Conductance: 691 uS/cm
 Velocity: 3 cm/s
 pH: 6.89
 Wetted Width: 2.4 m
 Bankfull Width: 3 m
 Depth: 30 cm

Waterbody Information - Retrieval

Temperature: 19 deg C
 Dissolved Oxygen: 7.44 mg/l
 Dissolved Oxygen Saturation:
 Specific Conductance: 883 uS/cm
 Velocity: 3 cm/s
 pH: 7.05
 Wetted Width: 2.35 m
 Bankfull Width: 3 m
 Depth: 25 cm

Water Chemistry - 8/20/2015

Nitrate+nitrite As N	0.35 mg/l	Total Phosphorus	34 ug/l
Total Kjeldahl Nitrogen	0.5 mg/l	Total Suspended Solids	27 mg/l
Dissolved Organic Carbon	2.3 mg/l	Total Dissolved Solids	510 mg/l
Orthophosphate As Phosphorus	3 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Dense	Flat	
Upland Hardwood			
Urban			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Below In-place Contamination	Detritus	25 %
Urban Runoff	Below Urban NPS	Gravel	5 %
		Sand	70 %

Landcover Summary - 2004 Data

Total Area (ac)	585	High Int. Dev. %	2.8	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	2.4	Wetland %	24.2	Tilled Agriculture %	0.2
		Low Int. Dev. %	6.3	Upland Woody %	47.9	Grassland %	0.0
		Development %	11.4	Natural %	72.1	Human Altered %	27.9
						Impervious %	7.5

Sample Comments

7/23/2015: 81.8% DO. ERODED BANKS. ORANGE COLOR.
 8/20/2015: 79.7% DO.



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Subsample Factor: X1

Replicates: 3

Calculated: 5/31/2016

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Prostoma</i>	04010101001	0.67	0.67		--	0.4	0.4
<i>Lumbriculus</i>	08020101002		22.33		CG		14.0
<i>Lumbriculus variegatus</i>	08020101002001	22.33			--	14.0	
<i>Aulodrilus</i>	08020202018		5.33		--		3.3
<i>Aulodrilus plurisetia</i>	08020202018004	5.33			--	3.3	
<i>Caecidotea</i>	09010101001	16.33	24.67	8	SH	10.3	15.5
<i>Caecidotea communis</i>	09010101001001	8.33			--	5.2	
<i>Gammarus</i>	09010201003		77.33	4	--		48.5
<i>Gammarus fasciatus</i>	09010201003003	77.33			--	48.5	
<i>Cordulegaster</i>	09020303019	0.33	0.33	3	PR	0.2	0.2
Polycentropodidae	09020603				--		
<i>Phylocentropus</i>	09020603011		6.33	5	CF		4.0
<i>Phylocentropus placidus</i>	09020603011021	6.33			--	4.0	
<i>Plectrocnemia</i>	09020603012	2.33	2.67	6	PR	1.5	1.7
<i>Plectrocnemia remota</i>	09020603012001	0.33			--	0.2	
<i>Hydropsyche</i>	09020604016	0.67	0.67	4	CF	0.4	0.4
<i>Oligostomis</i>	09020608039	1.33	1.33	2	PR	0.8	0.8
Limnephilidae	09020610				--		
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.2	0.2
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.8	0.8
Chironomidae	09021011	1.67			--	1.0	
<i>Meropelopia</i>	09021011010	0.67	0.81		--	0.4	0.5
<i>Natarsia</i>	09021011011		0.40	8	PR		0.3
<i>Natarsia baltimoreus</i>	09021011011026	0.33			--	0.2	
<i>Procladius</i>	09021011015	0.67	0.81	9	PR	0.4	0.5
<i>Zavrelimyia</i>	09021011022		0.40	8	PR		0.3
<i>Zavrelimyia thryptica group</i>	09021011022045	0.33			PR	0.2	
<i>Micropsectra</i>	09021011070	0.33	0.40	7	CG	0.2	0.3
<i>Tanytarsus</i>	09021011076	1.00	1.21	6	CF	0.6	0.8
<i>Chironomus</i>	09021011080	0.33	0.40	10	CG	0.2	0.3
<i>Microtendipes</i>	09021011094		0.40	6	CF		0.3
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.2	
<i>Paratendipes</i>	09021011100		1.21	8	CG		0.8
<i>Paratendipes albimanus group</i>	09021011100176	1.00			--	0.6	
<i>Phaenopsectra</i>	09021011101		0.40	7	SC		0.3
<i>Phaenopsectra punctipes</i>	09021011101183	0.33			SC	0.2	
<i>Polypedilum</i>	09021011102		1.61	6	SH		1.0



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<i>Polypedilum aviceps</i>	09021011102181	0.33			--	0.2	
<i>Polypedilum illinoense group</i>	09021011102185	0.33			--	0.2	
<i>Polypedilum scalaenum group</i>	09021011102189	0.67			--	0.4	
<i>Tribelos</i>	090210111107		0.81	5	CG		0.5
<i>Tribelos jucundus</i>	09021011107198	0.67			--	0.4	
<i>Macropelopia</i>	090210111111		0.40		P		0.3
<i>Macropelopia decedens</i>	09021011111002	0.33			--	0.2	
<i>Pseudorthocladius</i>	09021011125	0.33	0.40	0	CG	0.2	0.3
<i>Roederiodes</i>	09021016058	1.00	1.00	3	PR	0.6	0.6
<i>Physa</i>	10010202027	1.67	1.67		SC	1.0	1.0
Sphaeriidae	10020201	2.00	2.00		CF	1.3	1.3
<i>Pisidium</i>	10020201002	1.67	1.67		CF	1.0	1.0