



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

Station Information

| | |
|---|--------------------------|
| Station Number: S-953 | River Basin: Saco |
| Waterbody: Phillips Brook - Station 953 | HUC8 Name: Presumpscot |
| Town: Scarborough | Latitude: 43 34 27.62 N |
| Directions: PAYNE ROAD, NEAR ROUTE 1, BEHIND TOWN OF SCARBOROUGH ASPHALT/GRAVEL PILE-WALK BEHIND PILE (TRAIL) | Longitude: 70 23 10.86 W |
| | Stream Order: 1 |

Sample Information

| | | |
|-------------------------|--------------------------|---------------------------|
| Log Number: 2369 | Type of Sample: ROCK BAG | Date Deployed: 7/20/2015 |
| Subsample Factor: X1 | Replicates: 3 | Date Retrieved: 8/19/2015 |

Classification Attainment

| | | |
|------------------------------------|--|-----------------|
| Statutory Class: C | Final Determination: C | Date: 3/22/2016 |
| Model Result with $P \geq 0.6$: C | Reason for Determination: Model | |
| Date Last Calculated: 3/22/2016 | Comments: Low C (.61). | |

Model Probabilities

| | | | |
|---------------------------|------|--------------------------------|------|
| <u>First Stage Model</u> | | <u>C or Better Model</u> | |
| Class A | 0.00 | Class A, B, or C | 0.61 |
| Class B | 0.02 | Non-Attainment | 0.39 |
| <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 | 198.00 | 18 Relative Abundance Ephemeroptera | 0.08 |
| 02 Generic Richness | 38.00 | 19 EPT Generic Richness | 9.00 |
| 03 Plecoptera Mean Abundance | 0.00 | 21 Sum of Abundances: <i>Dicrotendipes, Micropsectra, Parachironomus, Helobdella</i> | 7.67 |
| 04 Ephemeroptera Mean Abundance | 16.33 | 23 Relative Generic Richness- Plecoptera | 0.00 |
| 05 Shannon-Wiener Generic Diversity | 3.05 | 25 Sum of Abundances: <i>Cheumatopsyche, Cricotopus, Tanytarsus, Ablabesmyia</i> | 102.67 |
| 06 Hilsenhoff Biotic Index | 5.27 | 26 Sum of Abundances: <i>Acroneuria, Maccaffertium, Stenonema</i> | 0.33 |
| 07 Relative Abundance - Chironomidae | 0.74 | 28 EP Generic Richness/14 | 0.21 |
| 08 Relative Generic Richness Diptera | 0.45 | 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 | 0.53 | | |
| 13 Relative Abundance - Oligochaeta | 0.03 | | |
| 15 Perlidae Mean Abundance (Family Functional Group) | 0.00 | | |
| 16 Tanypodinae Mean Abundance (Family Functional Group) | 13.00 | | |
| 17 Chironomini Abundance (Family Functional Group) | 21.67 | | |

Five Most Dominant Taxa

| Rank | Taxon Name | Percent |
|------|-------------------------|---------|
| 1 | <i>Tanytarsus</i> | 51.18 |
| 2 | <i>Paraleptophlebia</i> | 7.91 |
| 3 | <i>Dubiraphia</i> | 5.22 |
| 4 | <i>Microtendipes</i> | 4.88 |
| 5 | <i>Stempellinella</i> | 4.71 |



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Station Number: S-953 Town: Scarborough Date Deployed: 7/20/2015
Log Number: 2369 Waterbody: Phillips Brook - Station 953 Date Retrieved: 8/19/2015

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: ECOANALYSTS IDAHO

Waterbody Information - Deployment

Temperature: 20.2 deg C
Dissolved Oxygen: 7.04 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 490.2 uS/cm
Velocity: 10 cm/s
pH:
Wetted Width: 1.6 m
Bankfull Width: 5.1 m
Depth: 23 cm

Waterbody Information - Retrieval

Temperature: 21.6 deg C
Dissolved Oxygen: 7.54 mg/l
Dissolved Oxygen Saturation:
Specific Conductance: 419 uS/cm
Velocity: 3 cm/s
pH:
Wetted Width: 2 m
Bankfull Width: 5 m
Depth: 17 cm

Water Chemistry

Summary of Habitat Characteristics

| | | | |
|---------------------------|---------------------|------------------|------|
| <u>Landuse Name</u> | <u>Canopy Cover</u> | <u>Terrain</u> | |
| Urban | Partly Open | Flat | |
| <u>Potential Stressor</u> | <u>Location</u> | <u>Substrate</u> | |
| Nps Pollution | Below Road Crossing | Gravel | 45 % |
| | | Rubble/Cobble | 45 % |
| | | Sand | 5 % |
| | | Silt | 5 % |

Landcover Summary - 2004 Data

Sample Comments

7/20/2015: 81.8% DO.
8/19/2015: LOTS OF IRON BACTERIA. EEL AND SALAMANDERS PRESENT. 87% DO.



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

Station Number: S-953

Waterbody: Phillips Brook - Station 953

Town: Scarborough

Log Number: 2369

Subsample Factor: X1

Replicates: 3

Calculated: 3/22/2016

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance % | |
|---------------------------------------|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| Rhabditophora | 0301 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Nais</i> | 08020202009 | 0.67 | 0.67 | | CG | 0.3 | 0.3 |
| <i>Aulodrilus</i> | 08020202018 | | 5.00 | | -- | | 2.5 |
| <i>Aulodrilus pluriseta</i> | 08020202018004 | 5.00 | | | -- | 2.5 | |
| <i>Helobdella</i> | 08030101005 | | 2.33 | | -- | | 1.2 |
| <i>Helobdella modesta</i> | 08030101005004 | 2.33 | | | -- | 1.2 | |
| <i>Boyeria</i> | 09020301004 | 1.33 | 1.33 | 2 | PR | 0.7 | 0.7 |
| Heptageniidae | 09020402 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Maccaffertium</i> | 09020402015 | 0.33 | 0.33 | 4 | SC | 0.2 | 0.2 |
| <i>Paraleptophlebia</i> | 09020406026 | 15.67 | 15.67 | 1 | CG | 7.9 | 7.9 |
| <i>Polycentropus</i> | 09020603010 | 0.67 | 0.67 | 6 | PR | 0.3 | 0.3 |
| Phryganeidae | 09020608 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Oligostomis</i> | 09020608039 | 1.00 | 1.00 | 2 | PR | 0.5 | 0.5 |
| <i>Limnephilus</i> | 09020610055 | 5.00 | 5.00 | 3 | SH | 2.5 | 2.5 |
| <i>Psilotreta</i> | 09020614068 | 0.67 | 0.67 | 0 | SC | 0.3 | 0.3 |
| <i>Mystacides</i> | 09020618075 | | 0.33 | 4 | CG | | 0.2 |
| <i>Mystacides sepulchralis</i> | 09020618075147 | 0.33 | | | -- | 0.2 | |
| <i>Antocha</i> | 09021001004 | 0.33 | 0.33 | 3 | CG | 0.2 | 0.2 |
| <i>Ablabesmyia</i> | 09021011001 | | 1.00 | 8 | PR | | 0.5 |
| <i>Ablabesmyia mallochii</i> | 09021011001004 | 1.00 | | | -- | 0.5 | |
| <i>Labrundinia</i> | 09021011008 | 0.33 | 0.33 | 7 | PR | 0.2 | 0.2 |
| <i>Paramerina</i> | 09021011013 | 1.67 | 1.67 | | -- | 0.8 | 0.8 |
| <i>Procladius</i> | 09021011015 | 4.00 | 4.00 | 9 | PR | 2.0 | 2.0 |
| <i>Thienemannimyia</i> | 09021011020 | | 5.33 | 3 | PR | | 2.7 |
| <i>Thienemannimyia group</i> | 09021011020041 | 5.33 | | | -- | 2.7 | |
| <i>Zavrelimyia</i> | 09021011022 | 0.67 | 0.67 | 8 | PR | 0.3 | 0.3 |
| <i>Brillia</i> | 09021011033 | 0.67 | 0.67 | 5 | SH | 0.3 | 0.3 |
| <i>Cricotopus</i> | 09021011037 | 0.33 | 0.33 | 7 | SH | 0.2 | 0.2 |
| <i>Limnophyes</i> | 09021011047 | 0.33 | 0.33 | 8 | CG | 0.2 | 0.2 |
| <i>Paratanytarsus</i> | 09021011071 | 0.33 | 0.33 | 6 | -- | 0.2 | 0.2 |
| <i>Stempellinella</i> | 09021011074 | 9.33 | 9.33 | 2 | -- | 4.7 | 4.7 |
| <i>Tanytarsus</i> | 09021011076 | 101.33 | 101.33 | 6 | CF | 51.2 | 51.2 |
| <i>Dicrotendipes</i> | 09021011085 | 0.67 | 5.33 | 8 | CG | 0.3 | 2.7 |
| <i>Dicrotendipes fumidus</i> | 09021011085150 | 4.67 | | | -- | 2.4 | |
| <i>Microtendipes</i> | 09021011094 | | 9.67 | 6 | CF | | 4.9 |
| <i>Microtendipes pedellus group</i> | 09021011094166 | 6.33 | | | -- | 3.2 | |
| <i>Microtendipes rydalensis group</i> | 09021011094168 | 3.33 | | | -- | 1.7 | |



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|-------------------------------------|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Phaenopsectra</i> | 09021011101 | 2.67 | 2.67 | 7 | SC | 1.3 | 1.3 |
| <i>Polypedilum</i> | 09021011102 | | 4.00 | 6 | SH | | 2.0 |
| <i>Polypedilum aviceps</i> | 09021011102181 | 0.33 | | | -- | 0.2 | |
| <i>Polypedilum illinoense group</i> | 09021011102185 | 1.00 | | | -- | 0.5 | |
| <i>Polypedilum laetum</i> | 09021011102186 | 0.33 | | | -- | 0.2 | |
| <i>Polypedilum scalaenum group</i> | 09021011102189 | 2.33 | | | -- | 1.2 | |
| <i>Anacaena</i> | 09021105041 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Dubiraphia</i> | 09021113064 | 10.33 | 10.33 | 6 | -- | 5.2 | 5.2 |
| Acariformes | 090301 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Hydrozetes</i> | 09030115001 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| Lymnaeidae | 10010201 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Physa</i> | 10010202027 | 4.33 | 4.33 | | SC | 2.2 | 2.2 |
| Planorbidae | 10010203 | 0.33 | 0.33 | | -- | 0.2 | 0.2 |
| <i>Pisidium</i> | 10020201002 | 0.33 | 0.33 | | CF | 0.2 | 0.2 |