



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

Station Information

| | |
|---|--------------------------|
| Station Number: S-330 | River Basin: Saco |
| Waterbody: Mare Brook - Unnamed Tributary - Station 330 | HUC8 Name: Presumpscot |
| Town: Brunswick | Latitude: 43 53 6.1 N |
| Directions: BELOW PICNIC POND | Longitude: 69 55 15.62 W |
| | Stream Order: 2 |

Sample Information

| | | |
|-------------------------|--------------------------|---------------------------|
| Log Number: 2813 | Type of Sample: ROCK BAG | Date Deployed: 7/17/2020 |
| Subsample Factor: X1 | Replicates: 3 | Date Retrieved: 8/10/2020 |

Classification Attainment

| | | |
|------------------------------------|--|-----------------|
| Statutory Class: B | Final Determination: NA | Date: 5/12/2021 |
| Model Result with P \geq 0.6: NA | Reason for Determination: Model | |
| Date Last Calculated: 5/12/2021 | Comments: | |

Model Probabilities

| <u>First Stage Model</u> | | <u>C or Better Model</u> | |
|---------------------------|------|--------------------------------|------|
| Class A | 0.03 | Class A, B, or C | 0.01 |
| Class B | 0.07 | Non-Attainment | 0.99 |
| | | | |
| <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 | 802.00 | 18 Relative Abundance Ephemeroptera | 0.00 |
| 02 Generic Richness | 35.00 | 19 EPT Generic Richness | 8.00 |
| 03 Plecoptera Mean Abundance | 0.00 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 1.33 |
| 04 Ephemeroptera Mean Abundance | 1.67 | 23 Relative Generic Richness- Plecoptera | 0.00 |
| 05 Shannon-Wiener Generic Diversity | 2.91 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 7.33 |
| 06 Hilsenhoff Biotic Index | 3.06 | 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 | 0.14 |
| 08 Relative Generic Richness Diptera | 0.43 | 30 Presence of Class A Indicator Taxa/7 | 0.00 |
| 09 <i>Hydropsyche</i> Abundance | 29.33 | | |
| 11 <i>Cheumatopsyche</i> Abundance | 7.00 | | |
| 12 EPT Generic Richness/ Diptera Generic Richness | 0.53 | | |
| 13 Relative Abundance - Oligochaeta | 0.10 | | |
| 15 Perlidae Mean Abundance (Family Functional Group) | 0.00 | | |
| 16 Tanypodinae Mean Abundance (Family Functional Group) | 2.67 | | |
| 17 Chironomini Abundance (Family Functional Group) | 1.67 | | |

Five Most Dominant Taxa

| Rank | Taxon Name | Percent |
|------|------------------|---------|
| 1 | <i>Chimarra</i> | 46.92 |
| 2 | <i>Stenelmis</i> | 11.01 |
| 3 | <i>Nais</i> | 9.56 |
| 4 | <i>Girardia</i> | 7.02 |
| 5 | Philopotamidae | 4.45 |



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Station Number: S-330 Town: Brunswick Date Deployed: 7/17/2020
Log Number: 2813 Waterbody: Mare Brook - Unnamed Tributary - Station 330 Date Retrieved: 8/10/2020

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 19.2 deg C
Dissolved Oxygen: 8.42 mg/l
Dissolved Oxygen Saturation: 90.1 %
Specific Conductance: 381.6 uS/cm
Velocity: 42.7 cm/s
pH: 6.82
Wetted Width: 2.6 m
Bankfull Width: 2.7 m
Depth: 15 cm

Waterbody Information - Retrieval

Temperature: 22.3 deg C
Dissolved Oxygen: 7.93 mg/l
Dissolved Oxygen Saturation: 90.8 %
Specific Conductance: 457 uS/cm
Velocity: 36.6 cm/s
pH: 9.61
Wetted Width: 2.6 m
Bankfull Width: 2.7 m
Depth: 16 cm

Water Chemistry

Summary of Habitat Characteristics

| <u>Landuse Name</u> | <u>Canopy Cover</u> | <u>Terrain</u> |
|---------------------------|---------------------|------------------|
| Upland Conifer | Dense | Rolling |
| Upland Hardwood | | |
| Urban | | |
| <u>Potential Stressor</u> | <u>Location</u> | <u>Substrate</u> |
| Metals | Below Road Crossing | Gravel 50 % |
| Nps Pollution | | Sand 40 % |
| Toxic Organics | | Silt 10 % |
| Urban Runoff | | |

Landcover Summary - 2004 Data

| | | | | | | | |
|-----------------|-----|------------------|------|----------------|------|----------------------|------|
| Total Area (ac) | 723 | High Int. Dev. % | 40.1 | Water % | 0.8 | Non-vegetated % | 0.4 |
| | | Med Int. Dev. % | 12.2 | Wetland % | 3.3 | Tilled Agriculture % | 0.0 |
| | | Low Int. Dev. % | 11.0 | Upland Woody % | 23.9 | Grassland % | 0.0 |
| | | Development % | 63.4 | Natural % | 27.2 | Human Altered % | 72.0 |
| | | | | | | Impervious % | 52.6 |

Sample Comments



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

Station Number: S-330 Waterbody: Mare Brook - Unnamed Tributary - Station 3 Town: Brunswick
Log Number: 2813 Subsample Factor: X1 Replicates: 3 Calculated: 5/12/2021

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance % | |
|---|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Hydra</i> | 02010101001 | 0.67 | 0.67 | | PR | 0.1 | 0.1 |
| <i>Girardia</i> | 03010102002 | 56.33 | 56.33 | | -- | 7.0 | 7.0 |
| <i>Prostoma</i> | 04010101001 | 3.67 | 3.67 | | -- | 0.5 | 0.5 |
| <i>Nais</i> | 08020202009 | 76.67 | 76.67 | | CG | 9.6 | 9.6 |
| <i>Helobdella</i> | 08030101005 | 0.67 | 1.33 | | -- | 0.1 | 0.2 |
| <i>Helobdella stagnalis complex</i> | 08030101005004 | 0.67 | | | -- | 0.1 | |
| <i>Gammarus</i> | 09010201003 | 25.67 | 25.67 | 4 | -- | 3.2 | 3.2 |
| Cordulegastridae | 09020303 | 0.33 | 0.33 | | -- | 0.0 | 0.0 |
| Calopterygidae | 09020307 | 2.00 | 2.00 | | -- | 0.2 | 0.2 |
| Baetidae | 09020401 | 0.33 | 0.33 | | -- | 0.0 | 0.0 |
| <i>Labiobaetis</i> | 09020401009 | 1.33 | 1.33 | | -- | 0.2 | 0.2 |
| Philopotamidae | 09020601 | 35.67 | 35.67 | | -- | 4.4 | 4.4 |
| <i>Chimarra</i> | 09020601003 | | 376.33 | 2 | CF | | 46.9 |
| <i>Chimarra aterrima</i> | 09020601003002 | 376.33 | | | -- | 46.9 | |
| <i>Diplectrona</i> | 09020604014 | | 0.67 | 0 | CF | | 0.1 |
| <i>Diplectrona modesta</i> | 09020604014025 | 0.67 | | | -- | 0.1 | |
| <i>Cheumatopsyche</i> | 09020604015 | 7.00 | 7.00 | 5 | CF | 0.9 | 0.9 |
| <i>Hydropsyche</i> | 09020604016 | | 29.33 | 4 | CF | | 3.7 |
| <i>Hydropsyche betteni</i> | 09020604016037 | 29.33 | | | -- | 3.7 | |
| <i>Oecetis</i> | 09020618078 | 0.67 | 5.00 | 8 | PR | 0.1 | 0.6 |
| <i>Oecetis persimilis</i> | 09020618078157 | 4.33 | | | -- | 0.5 | |
| <i>Tipula</i> | 09021001002 | 1.00 | 1.00 | 4 | SH | 0.1 | 0.1 |
| <i>Thienemannimyia</i> | 09021011020 | | 2.67 | 3 | PR | | 0.3 |
| <i>Thienemannimyia group</i> | 09021011020041 | 2.67 | | | -- | 0.3 | |
| <i>Corynoneura</i> | 09021011036 | 2.33 | 2.33 | 7 | CG | 0.3 | 0.3 |
| <i>Cricotopus</i> | 09021011037 | 0.33 | 0.33 | 7 | SH | 0.0 | 0.0 |
| <i>Eukiefferiella</i> | 09021011041 | | 1.00 | 8 | CG | | 0.1 |
| <i>Eukiefferiella claripennis group</i> | 09021011041075 | 1.00 | | | -- | 0.1 | |
| <i>Parametriocnemus</i> | 09021011053 | 7.67 | 7.67 | 5 | CG | 1.0 | 1.0 |
| <i>Rheocricotopus</i> | 09021011057 | 1.33 | 1.33 | 6 | CG | 0.2 | 0.2 |
| <i>Thienemanniella</i> | 09021011062 | 7.00 | 7.00 | 6 | CG | 0.9 | 0.9 |
| <i>Tvetenia</i> | 09021011065 | | 24.67 | 5 | CG | | 3.1 |
| <i>Tvetenia paucunca</i> | 09021011065114 | 24.67 | | | -- | 3.1 | |
| <i>Rheotanytarsus</i> | 09021011072 | | 2.00 | 6 | CF | | 0.2 |
| <i>Rheotanytarsus exiguus group</i> | 09021011072127 | 1.67 | | | CF | 0.2 | |
| <i>Rheotanytarsus pellucidus</i> | 09021011072128 | 0.33 | | | CF | 0.0 | |
| <i>Microtendipes</i> | 09021011094 | | 1.00 | 6 | CF | | 0.1 |



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|---------------------------------------|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Microtendipes rydalensis group</i> | 09021011094168 | 1.00 | | | -- | 0.1 | |
| <i>Polypedilum</i> | 09021011102 | | 0.67 | 6 | SH | | 0.1 |
| <i>Polypedilum aviceps</i> | 09021011102181 | 0.33 | | | -- | 0.0 | |
| <i>Polypedilum scalaenum group</i> | 09021011102189 | 0.33 | | | -- | 0.0 | |
| <i>Simulium</i> | 09021012047 | 29.33 | 29.33 | 4 | CF | 3.7 | 3.7 |
| <i>Hemerodromia</i> | 09021016057 | 1.33 | 1.33 | 3 | PR | 0.2 | 0.2 |
| <i>Neoplata</i> | 09021016064 | 0.67 | 0.67 | | PR | 0.1 | 0.1 |
| <i>Stenelmis</i> | 09021113070 | 70.67 | 88.33 | 5 | SC | 8.8 | 11.0 |
| <i>Stenelmis crenata</i> | 09021113070055 | 17.67 | | | -- | 2.2 | |
| <i>Sperchon</i> | 09030107001 | 5.00 | 5.00 | | -- | 0.6 | 0.6 |
| Sphaeriidae | 10020201 | 2.33 | | | CF | 0.3 | |
| <i>Musculium</i> | 10020201001 | 0.33 | 1.11 | | CF | 0.0 | 0.1 |
| <i>Sphaerium</i> | 10020201003 | 0.67 | 2.22 | | CF | 0.1 | 0.3 |