



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

**Station Information**

|                               |                             |               |                   |
|-------------------------------|-----------------------------|---------------|-------------------|
| <b>Station Number:</b> S-1019 | River Basin:                | St. John      |                   |
| Waterbody:                    | Birch Brook - Station 1019  | HUC8 Name:    | Aroostook         |
| Town:                         | Presque Isle                | Latitude:     | 46° 44' 49.337" N |
| Directions:                   | 16M UPSTREAM OF REACH ROAD. | Longitude:    | 67° 58' 17.142" W |
|                               |                             | Stream Order: | 1                 |

**Sample Information**

|                         |                 |             |                |                 |          |
|-------------------------|-----------------|-------------|----------------|-----------------|----------|
| <b>Log Number:</b> 2729 | Type of Sample: | ROCK BAG    | Date Deployed: | 7/10/2019       |          |
| Subsample Factor:       | X1              | Replicates: | 3              | Date Retrieved: | 8/6/2019 |

**Classification Attainment**

|                                  |                               |                                  |          |
|----------------------------------|-------------------------------|----------------------------------|----------|
| <b>Statutory Class:</b> B        | <b>Final Determination:</b> A | Date:                            | 4/1/2020 |
| Model Result with $P \geq 0.6$ : | A                             | <b>Reason for Determination:</b> | Model    |
| Date Last Calculated:            | 3/30/2020                     | Comments:                        |          |

**Model Probabilities**

| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
|---------------------------|------|--------------------------------|------|
| Class A                   | 0.67 | Class C                        | 0.00 |
| Class B                   | 0.33 | NA                             | 0.00 |
| <u>B or Better Model</u>  |      | <u>A Model</u>                 |      |
| Class A or B              | 1.00 | Class A                        | 0.89 |
| Class C or Non-Attainment | 0.00 | Class B or C or Non-Attainment | 0.11 |

**Model Variables**

|                                                            |        |                                                                                                                 |       |
|------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------|-------|
| 01 Total Mean Abundance                                    | 349.00 | 18 Relative Abundance Ephemeroptera                                                                             | 0.59  |
| 02 Generic Richness                                        | 41.00  | 19 EPT Generic Richness                                                                                         | 19.00 |
| 03 Plecoptera Mean Abundance                               | 6.67   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 6.67  |
| 04 Ephemeroptera Mean Abundance                            | 204.67 | 23 Relative Generic Richness- Plecoptera                                                                        | 0.05  |
| 05 Shannon-Wiener Generic Diversity                        | 2.62   | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,<br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     | 1.01  |
| 06 Hilsenhoff Biotic Index                                 | 3.79   | 26 Sum of Abundances: <i>Acroneuria</i> ,<br><i>Maccaffertium</i> , <i>Stenonema</i>                            | 0.00  |
| 07 Relative Abundance - Chironomidae                       | 0.05   | 28 EP Generic Richness/14                                                                                       | 0.50  |
| 08 Relative Generic Richness Diptera                       | 0.29   | 30 Presence of Class A Indicator Taxa/7                                                                         | 0.14  |
| 09 <i>Hydropsyche</i> Abundance                            | 68.90  |                                                                                                                 |       |
| 11 <i>Cheumatopsyche</i> Abundance                         | 0.68   |                                                                                                                 |       |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness       | 1.58   |                                                                                                                 |       |
| 13 Relative Abundance - Oligochaeta                        | 0.00   |                                                                                                                 |       |
| 15 Perlidae Mean Abundance (Family<br>Functional Group)    | 0.00   |                                                                                                                 |       |
| 16 Tanypodinae Mean Abundance<br>(Family Functional Group) | 0.00   |                                                                                                                 |       |
| 17 Chironomini Abundance (Family<br>Functional Group)      | 0.67   |                                                                                                                 |       |

**Five Most Dominant Taxa**

| Rank | Taxon Name          | Percent |
|------|---------------------|---------|
| 1    | <i>Baetis</i>       | 51.73   |
| 2    | <i>Hydropsyche</i>  | 19.74   |
| 3    | <i>Dipheter</i>     | 6.14    |
| 4    | <i>Simulium</i>     | 5.73    |
| 5    | <i>Micropsectra</i> | 1.91    |



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

**Station Number: S-1019**

Town: Presque Isle

Date Deployed: 7/10/2019

**Log Number: 2729**

Waterbody: Birch Brook - Station 1019

Date Retrieved: 8/6/2019

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

**Waterbody Information - Deployment**

|                              |             |
|------------------------------|-------------|
| Temperature:                 | 16.4 deg C  |
| Dissolved Oxygen:            | 9.95 mg/l   |
| Dissolved Oxygen Saturation: | 101.5 %     |
| Specific Conductance:        | 407.9 uS/cm |
| Velocity:                    | 27.4 cm/s   |
| pH:                          | 8.29        |
| Wetted Width:                | 3.1 m       |
| Bankfull Width:              | 4.8 m       |
| Depth:                       | 20 cm       |

**Waterbody Information - Retrieval**

|                              |             |
|------------------------------|-------------|
| Temperature:                 | 14 deg C    |
| Dissolved Oxygen:            | 10.4 mg/l   |
| Dissolved Oxygen Saturation: | 101.1 %     |
| Specific Conductance:        | 410.5 uS/cm |
| Velocity:                    | 9.1 cm/s    |
| pH:                          | 8.35        |
| Wetted Width:                | 2.9 m       |
| Bankfull Width:              | 4.8 m       |
| Depth:                       | 9.4 cm      |

**Water Chemistry**

**Summary of Habitat Characteristics**

|                           |                     |                    |
|---------------------------|---------------------|--------------------|
| <u>Landuse Name</u>       | <u>Canopy Cover</u> | <u>Terrain</u>     |
| Upland Conifer            | Partly Open         | Rolling            |
| Upland Hardwood           |                     |                    |
| <u>Potential Stressor</u> | <u>Location</u>     | <u>Substrate</u>   |
|                           | Above Road Crossing | Boulder 30 %       |
|                           |                     | Gravel 25 %        |
|                           |                     | Rubble/Cobble 35 % |
|                           |                     | Sand 5 %           |
|                           |                     | Silt 5 %           |

**Landcover Summary - 2004 Data**

**Sample Comments**

SCULPIN PRESENT IN 2 SIEVE BUCKETS.



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

|                               |                                       |                       |
|-------------------------------|---------------------------------------|-----------------------|
| <b>Station Number: S-1019</b> | Waterbody: Birch Brook - Station 1019 | Town: Presque Isle    |
| <b>Log Number: 2729</b>       | Subsample Factor: X1                  | Replicates: 3         |
|                               |                                       | Calculated: 3/30/2020 |

| Taxon                              | Maine<br>Taxonomic<br>Code | Count<br>(Mean of Samplers) |          | Hilsenhoff<br>Biotic<br>Index | Functional<br>Feeding<br>Group | Relative<br>Abundance % |          |
|------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-------------------------|----------|
|                                    |                            | Actual                      | Adjusted |                               |                                | Actual                  | Adjusted |
| <i>Hydra</i>                       | 02010101001                | 0.33                        | 0.33     |                               | PR                             | 0.1                     | 0.1      |
| Nematoda                           | 05                         | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Nais</i>                        | 08020202009                | 0.33                        | 0.33     |                               | CG                             | 0.1                     | 0.1      |
| <i>Paracapnia</i>                  | 09020203018                | 1.67                        | 1.67     | 1                             | SH                             | 0.5                     | 0.5      |
| <i>Leuctra</i>                     | 09020204020                | 5.00                        | 5.00     | 0                             | SH                             | 1.4                     | 1.4      |
| Baetidae                           | 09020401                   | 1.00                        |          |                               | --                             | 0.3                     |          |
| <i>Baetis</i>                      | 09020401001                | 4.33                        | 180.55   | 4                             | CG                             | 1.2                     | 51.7     |
| <i>Baetis flavistriga</i>          | 09020401001004             | 59.33                       |          |                               | --                             | 17.0                    |          |
| <i>Baetis intercalaris</i>         | 09020401001008             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Baetis tricaudatus</i>          | 09020401001012             | 115.67                      |          |                               | --                             | 33.1                    |          |
| <i>Acerpenna</i>                   | 09020401007                |                             | 1.00     | 5                             | CG                             |                         | 0.3      |
| <i>Acerpenna macdunnoughi</i>      | 09020401007001             | 1.00                        |          |                               | --                             | 0.3                     |          |
| <i>Diphetor</i>                    | 09020401013                |                             | 21.44    |                               | --                             |                         | 6.1      |
| <i>Diphetor hageni</i>             | 09020401013001             | 21.33                       |          |                               | --                             | 6.1                     |          |
| <i>Anafroptilum (Centroptilum)</i> | 09020401016                | 0.67                        | 0.67     | 2                             | CG                             | 0.2                     | 0.2      |
| <i>Paraleptophlebia</i>            | 09020406026                |                             | 1.00     | 1                             | CG                             |                         | 0.3      |
| <i>Paraleptophlebia debilis</i>    | 09020406026079             | 1.00                        |          | 1                             | CG                             | 0.3                     |          |
| <i>Gerris</i>                      | 09020506017                | 0.67                        | 0.67     |                               | PR                             | 0.2                     | 0.2      |
| <i>Dolophilodes</i>                | 09020601001                |                             | 0.33     | 0                             | CF                             |                         | 0.1      |
| <i>Dolophilodes distincta</i>      | 09020601001001             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Lype</i>                        | 09020602004                |                             | 0.33     | 2                             | SC                             |                         | 0.1      |
| <i>Lype diversa</i>                | 09020602004005             | 0.33                        |          |                               | --                             | 0.1                     |          |
| Hydropsychidae                     | 09020604                   | 1.33                        |          |                               | --                             | 0.4                     |          |
| <i>Diplectrona</i>                 | 09020604014                |                             | 4.75     | 0                             | CF                             |                         | 1.4      |
| <i>Diplectrona modesta</i>         | 09020604014025             | 4.67                        |          |                               | --                             | 1.3                     |          |
| <i>Cheumatopsyche</i>              | 09020604015                | 0.67                        | 0.68     | 5                             | CF                             | 0.2                     | 0.2      |
| <i>Hydropsyche</i>                 | 09020604016                | 15.33                       | 68.90    | 4                             | CF                             | 4.4                     | 19.7     |
| <i>Hydropsyche morosa</i>          | 09020604016030             | 0.67                        |          |                               | --                             | 0.2                     |          |
| <i>Hydropsyche slossonae</i>       | 09020604016031             | 7.33                        |          |                               | --                             | 2.1                     |          |
| <i>Hydropsyche sparna</i>          | 09020604016032             | 44.33                       |          |                               | --                             | 12.7                    |          |
| <i>Rhyacophila</i>                 | 09020605019                | 1.00                        | 4.33     | 2                             | PR                             | 0.3                     | 1.2      |
| <i>Rhyacophila fuscula</i>         | 09020605019060             | 2.00                        |          |                               | PR                             | 0.6                     |          |
| <i>Rhyacophila minora</i>          | 09020605019063             | 1.33                        |          |                               | PR                             | 0.4                     |          |
| Glossosomatidae                    | 09020606                   |                             |          |                               | --                             |                         |          |
| <i>Glossosoma</i>                  | 09020606020                | 6.33                        | 6.33     | 0                             | SC                             | 1.8                     | 1.8      |
| <i>Onocosmoecus</i>                | 09020610046                |                             | 1.00     | 2                             | SH                             |                         | 0.3      |
| <i>Onocosmoecus unicolor</i>       | 09020610046103             | 1.00                        |          |                               | --                             | 0.3                     |          |



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

|                               |                                       |                       |
|-------------------------------|---------------------------------------|-----------------------|
| <b>Station Number: S-1019</b> | Waterbody: Birch Brook - Station 1019 | Town: Presque Isle    |
| <b>Log Number: 2729</b>       | Subsample Factor: X1                  | Replicates: 3         |
|                               |                                       | Calculated: 3/30/2020 |

| Taxon                                       | Maine<br>Taxonomic<br>Code | Count<br>(Mean of Samplers) |          | Hilsenhoff<br>Biotic<br>Index | Functional<br>Feeding<br>Group | Relative<br>Abundance % |          |
|---------------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-------------------------|----------|
|                                             |                            | Actual                      | Adjusted |                               |                                | Actual                  | Adjusted |
| <i>Pycnopsyche</i>                          | 09020610049                | 0.33                        | 0.33     | 4                             | SH                             | 0.1                     | 0.1      |
| <i>Hesperophylax</i>                        | 09020610054                |                             | 2.67     | 3                             | SH                             |                         | 0.8      |
| <i>Hesperophylax designatus</i>             | 09020610054110             | 2.67                        |          |                               | --                             | 0.8                     |          |
| <i>Psychoglypha</i>                         | 09020610060                |                             | 3.33     | 0                             | SH                             |                         | 1.0      |
| <i>Psychoglypha subborealis</i>             | 09020610060120             | 3.33                        |          |                               | --                             | 1.0                     |          |
| <i>Lepidostoma</i>                          | 09020611064                | 0.67                        | 0.67     | 1                             | SH                             | 0.2                     | 0.2      |
| <i>Sialis</i>                               | 09020702004                | 0.33                        | 0.33     | 4                             | PR                             | 0.1                     | 0.1      |
| <i>Antocha</i>                              | 09021001004                | 0.67                        | 0.67     | 3                             | CG                             | 0.2                     | 0.2      |
| <i>Chaetocladius</i>                        | 09021011035                | 0.33                        | 0.33     | 6                             | CG                             | 0.1                     | 0.1      |
| <i>Eukiefferiella</i>                       | 09021011041                |                             | 1.67     | 8                             | CG                             |                         | 0.5      |
| <i>Eukiefferiella claripennis group</i>     | 09021011041075             | 1.67                        |          |                               | --                             | 0.5                     |          |
| <i>Parametriocnemus</i>                     | 09021011053                | 1.33                        | 1.33     | 5                             | CG                             | 0.4                     | 0.4      |
| <i>Rheocricotopus</i>                       | 09021011057                |                             |          | 6                             | CG                             |                         |          |
| <i>Thienemanniella</i>                      | 09021011062                | 1.67                        | 1.67     | 6                             | CG                             | 0.5                     | 0.5      |
| <i>Tvetenia</i>                             | 09021011065                |                             | 2.67     | 5                             | CG                             |                         | 0.8      |
| <i>Tvetenia paucunca</i>                    | 09021011065114             | 2.67                        |          |                               | --                             | 0.8                     |          |
| <i>Micropsectra</i>                         | 09021011070                | 6.67                        | 6.67     | 7                             | CG                             | 1.9                     | 1.9      |
| <i>Rheotanytarsus</i>                       | 09021011072                |                             | 1.33     | 6                             | CF                             |                         | 0.4      |
| <i>Rheotanytarsus exiguus group</i>         | 09021011072127             | 1.00                        |          |                               | CF                             | 0.3                     |          |
| <i>Rheotanytarsus pellucidus</i>            | 09021011072128             | 0.33                        |          |                               | CF                             | 0.1                     |          |
| <i>Stempellinella</i>                       | 09021011074                |                             |          | 2                             | --                             |                         |          |
| <i>Tanytarsus</i>                           | 09021011076                | 0.33                        | 0.33     | 6                             | CF                             | 0.1                     | 0.1      |
| <i>Polypedilum</i>                          | 09021011102                |                             | 0.67     | 6                             | SH                             |                         | 0.2      |
| <i>Polypedilum aviceps</i>                  | 09021011102181             | 0.67                        |          |                               | --                             | 0.2                     |          |
| <i>Simulium</i>                             | 09021012047                | 20.00                       | 20.00    | 4                             | CF                             | 5.7                     | 5.7      |
| <i>Simulium venustum/verecundum complex</i> | 09021012047072             |                             |          |                               | CF                             |                         |          |
| <i>Atherix</i>                              | 09021015055                | 0.33                        | 0.33     | 2                             | PR                             | 0.1                     | 0.1      |
| <i>Optioservus</i>                          | 09021113067                | 1.33                        | 1.67     | 3                             | SC                             | 0.4                     | 0.5      |
| <i>Optioservus fastiditus</i>               | 09021113067044             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Promoresia</i>                           | 09021113069                |                             | 0.33     |                               | --                             |                         | 0.1      |
| <i>Promoresia tardella</i>                  | 09021113069052             | 0.33                        |          |                               | --                             | 0.1                     |          |
| <i>Atractides</i>                           | 09030102002                | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Sperchon</i>                             | 09030107001                | 0.33                        | 0.33     |                               | --                             | 0.1                     | 0.1      |
| <i>Physa</i>                                | 10010202027                | 1.67                        | 1.67     |                               | SC                             | 0.5                     | 0.5      |