



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

**Station Information**

|   |                          |
|---|--------------------------|
| <b>Station Number:</b> S-1153                 | River Basin: Kennebec    |
| Waterbody: Little Alder Stream - Station 1153 | HUC8 Name: Dead          |
| Town: Alder Stream Twp                        | Latitude: 45 15 57.57 N  |
| Directions: OFF ROUTE 27, NORTH ROAD          | Longitude: 70 37 35.25 W |
|   | Stream Order: 2          |

**Sample Information**

|                         |                          |                          |
|-------------------------|--------------------------|--------------------------|
| <b>Log Number:</b> 2719 | Type of Sample: ROCK BAG | Date Deployed: 7/10/2017 |
| Subsample Factor: X1    | Replicates: 3            | Date Retrieved: 8/8/2017 |

**Classification Attainment**

|                                    |  |                |
|------------------------------------|--|----------------|
| <b>Statutory Class:</b> A          | <b>Final Determination:</b> A          | Date: 4/2/2019 |
| Model Result with $P \geq 0.6$ : A | <b>Reason for Determination:</b> Model |                |
| Date Last Calculated: 4/1/2019     | Comments:                              |                |

**Model Probabilities**

| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
|---------------------------|------|--------------------------------|------|
| Class A                   | 0.93 | Class A, B, or C               | 1.00 |
| Class B                   | 0.06 | Non-Attainment                 | 0.00 |
|                           |      |                                |      |
| <u>B or Better Model</u>  |      | <u>A Model</u>                 |      |
| Class A or B              | 1.00 | Class A                        | 1.00 |
| Class C or Non-Attainment | 0.00 | Class B or C or Non-Attainment | 0.00 |

**Model Variables**

|  |       |   |       |
|--|-------|---|-------|
| 01 Total Mean Abundance                                    | 77.00 | 18 Relative Abundance Ephemeroptera   | 0.47  |
| 02 Generic Richness  | 41.00 | 19 EPT Generic Richness   | 24.00 |
| 03 Plecoptera Mean Abundance                               | 8.33  | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 8.00  |
| 04 Ephemeroptera Mean Abundance                            | 36.33 | 23 Relative Generic Richness- Plecoptera  | 0.15  |
| 05 Shannon-Wiener Generic Diversity                        | 4.14  | 25 Sum of Abundances: <i>Cheumatopsyche</i> ,<br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>     | 1.33  |
| 06 Hilsenhoff Biotic Index                                 | 3.35  | 26 Sum of Abundances: <i>Acroneuria</i> ,<br><i>Maccaffertium</i> , <i>Stenonema</i>                            | 0.33  |
| 07 Relative Abundance - Chironomidae                       | 0.23  | 28 EP Generic Richness/14   | 1.14  |
| 08 Relative Generic Richness Diptera                       | 0.34  | 30 Presence of Class A Indicator Taxa/7   | 0.43  |
| 09 <i>Hydropsyche</i> Abundance                            | 3.68  |   |       |
| 11 <i>Cheumatopsyche</i> Abundance                         | 0.00  |   |       |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness       | 1.71  |   |       |
| 13 Relative Abundance - Oligochaeta                        | 0.00  |   |       |
| 15 Perlidae Mean Abundance (Family<br>Functional Group)    | 2.00  |   |       |
| 16 Tanypodinae Mean Abundance<br>(Family Functional Group) | 0.67  |   |       |
| 17 Chironomini Abundance (Family<br>Functional Group)      | 1.00  |   |       |

**Five Most Dominant Taxa**

| Rank | Taxon Name          | Percent |
|------|---------------------|---------|
| 1    | <i>Ephemerella</i>  | 19.91   |
| 2    | <i>Baetis</i>       | 17.71   |
| 3    | <i>Micropsectra</i> | 10.39   |
| 4    | <i>Leucrocuta</i>   | 5.63    |
| 5    | <i>Hydropsyche</i>  | 4.78    |



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**Log Number: 2719**      Waterbody: Little Alder Stream - Station 1153      Date Retrieved: 8/8/2017

**Sample Collection and Processing Information**

Sampling Organization: PENOBSCOT INDIAN NATION      Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 16.1 deg C  
Dissolved Oxygen: 9.25 mg/l  
Dissolved Oxygen Saturation: 93.8 %  
Specific Conductance: 31.3 uS/cm  
Velocity: 67.1 cm/s  
pH: 7.36  
Wetted Width: 12.6 m  
Bankfull Width: 12.6 m  
Depth: 30 cm

**Waterbody Information - Retrieval**

Temperature: 14.9 deg C  
Dissolved Oxygen: 9.59 mg/l  
Dissolved Oxygen Saturation: 94.9 %  
Specific Conductance: 45.8 uS/cm  
Velocity: 36.6 cm/s  
pH: 7.55  
Wetted Width: 12.1 m  
Bankfull Width: 12.6 m  
Depth: 21 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

| <u>Landuse Name</u>       | <u>Canopy Cover</u> | <u>Terrain</u>          |
|---------------------------|---------------------|-------------------------|
| Swamp Conifer             | Partly Open         | Mountainous             |
| Swamp Hardwood            |                     |                         |
| Upland Conifer            |                     |                         |
| Upland Hardwood           |                     |                         |
| <u>Potential Stressor</u> | <u>Location</u>     | <u>Substrate</u>        |
| Logging                   | Above Road Crossing | Bedrock      5 %        |
| Nps Pollution             |                     | Boulder      30 %       |
|                           |                     | Gravel      10 %        |
|                           |                     | Rubble/Cobble      50 % |
|                           |                     | Sand      5 %           |

**Landcover Summary - 2004 Data**

**Sample Comments**



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Town: Alder Stream Twp

**Log Number: 2719**

Subsample Factor: X1

Replicates: 3

Calculated: 4/1/2019

| Taxon                            | Maine Taxonomic Code | Count<br>(Mean of Samplers) |          | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance % |          |
|----------------------------------|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
|                                  |                      | Actual                      | Adjusted |                         |                          | Actual               | Adjusted |
| Glossiphoniidae                  | 08030101             | 0.33                        | 0.33     |                         | --                       | 0.4                  | 0.4      |
| <i>Leuctra</i>                   | 09020204020          |                             | 1.00     | 0                       | SH                       |                      | 1.3      |
| <i>Leuctra truncata</i>          | 09020204020058       | 1.00                        |          |                         | --                       | 1.3                  |          |
| <i>Pteronarcys</i>               | 09020205023          | 0.33                        | 3.00     | 0                       | SH                       | 0.4                  | 3.9      |
| <i>Pteronarcys biloba</i>        | 09020205023061       | 2.67                        |          |                         | --                       | 3.5                  |          |
| <i>Tallaperla</i>                | 09020206025          | 1.00                        | 1.00     |                         | SH                       | 1.3                  | 1.3      |
| Perlodidae                       | 09020207             | 0.67                        | 0.67     |                         | --                       | 0.9                  | 0.9      |
| <i>Sweltsa</i>                   | 09020208040          | 0.67                        | 0.67     |                         | PR                       | 0.9                  | 0.9      |
| <i>Agnetina</i>                  | 09020209050          | 0.67                        | 2.00     | 2                       | PR                       | 0.9                  | 2.6      |
| <i>Agnetina capitata</i>         | 09020209050152       | 1.33                        |          | 2                       | PR                       | 1.7                  |          |
| <i>Boyeria</i>                   | 09020301004          | 0.67                        | 0.67     | 2                       | PR                       | 0.9                  | 0.9      |
| Baetidae                         | 09020401             | 0.67                        |          |                         | --                       | 0.9                  |          |
| <i>Baetis</i>                    | 09020401001          | 1.33                        | 13.63    | 4                       | CG                       | 1.7                  | 17.7     |
| <i>Baetis flavistriga</i>        | 09020401001004       | 2.33                        |          |                         | --                       | 3.0                  |          |
| <i>Baetis pluto</i>              | 09020401001009       | 5.00                        |          |                         | --                       | 6.5                  |          |
| <i>Baetis tricaudatus</i>        | 09020401001012       | 4.33                        |          |                         | --                       | 5.6                  |          |
| <i>Acerpenna</i>                 | 09020401007          |                             | 0.70     | 5                       | CG                       |                      | 0.9      |
| <i>Acerpenna macdunnoughi</i>    | 09020401007001       | 0.67                        |          |                         | --                       | 0.9                  |          |
| <i>Heptagenia</i>                | 09020402010          | 0.33                        | 0.33     | 2                       | SC                       | 0.4                  | 0.4      |
| <i>Leucrocuta</i>                | 09020402011          | 4.33                        | 4.33     | 1                       | SC                       | 5.6                  | 5.6      |
| <i>Maccaffertium</i>             | 09020402015          |                             | 0.33     | 4                       | SC                       |                      | 0.4      |
| <i>Maccaffertium luteum</i>      | 09020402015049       | 0.33                        |          |                         | --                       | 0.4                  |          |
| Leptophlebiidae                  | 09020406             | 0.67                        | 0.67     |                         | --                       | 0.9                  | 0.9      |
| <i>Paraleptophlebia</i>          | 09020406026          |                             | 0.33     | 1                       | CG                       |                      | 0.4      |
| <i>Paraleptophlebia volitans</i> | 09020406026084       | 0.33                        |          |                         | --                       | 0.4                  |          |
| <i>Ephemerella</i>               | 09020410035          | 10.33                       | 15.33    | 1                       | CG                       | 13.4                 | 19.9     |
| <i>Ephemerella invaria</i>       | 09020410035107       | 5.00                        |          |                         | --                       | 6.5                  |          |
| <i>Eurylophella</i>              | 09020410036          | 0.33                        | 0.33     | 3                       | CG                       | 0.4                  | 0.4      |
| <i>Tricorythodes</i>             | 09020411038          | 0.33                        | 0.33     | 4                       | CG                       | 0.4                  | 0.4      |
| Trichoptera                      | 090206               |                             |          |                         | --                       |                      |          |
| <i>Neureclipsis</i>              | 09020603008          | 0.33                        | 0.33     | 7                       | CF                       | 0.4                  | 0.4      |
| <i>Plectrocnemia</i>             | 09020603012          | 0.33                        | 0.33     | 6                       | PR                       | 0.4                  | 0.4      |
| Hydropsychidae                   | 09020604             | 0.67                        |          |                         | --                       | 0.9                  |          |
| <i>Arctopsyche</i>               | 09020604012          |                             | 2.95     |                         | CF                       |                      | 3.8      |
| <i>Arctopsyche ladogensis</i>    | 09020604012022       | 2.67                        |          |                         | --                       | 3.5                  |          |
| <i>Hydropsyche</i>               | 09020604016          |                             | 3.68     | 4                       | CF                       |                      | 4.8      |
| <i>Hydropsyche alhedra</i>       | 09020604016028       | 0.67                        |          |                         | --                       | 0.9                  |          |



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|--------------------------------------|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
|                                      |                      | Actual                      | Adjusted |                         |                          | Actual               | Adjusted |
| <i>Hydropsyche sparna</i>            | 09020604016032       | 2.67                        |          |                         | --                       | 3.5                  |          |
| <i>Macrostemum</i>                   | 09020604018          |                             | 0.37     | 3                       | CF                       |                      | 0.5      |
| <i>Macrostemum zebratum</i>          | 09020604018054       | 0.33                        |          |                         | --                       | 0.4                  |          |
| Glossosomatidae                      | 09020606             |                             |          |                         | --                       |                      |          |
| <i>Agapetus</i>                      | 09020606021          | 0.33                        | 0.33     | 0                       | SC                       | 0.4                  | 0.4      |
| <i>Lepidostoma</i>                   | 09020611064          |                             |          | 1                       | SH                       |                      |          |
| <i>Psilotreta</i>                    | 09020614068          | 0.33                        | 1.00     | 0                       | SC                       | 0.4                  | 1.3      |
| <i>Psilotreta indecisa</i>           | 09020614068132       | 0.67                        |          |                         | --                       | 0.9                  |          |
| <i>Apatania</i>                      | 09020619061          |                             | 0.33     |                         | SC                       |                      | 0.4      |
| <i>Apatania incerta</i>              | 09020619061001       | 0.33                        |          |                         | --                       | 0.4                  |          |
| <i>Conchapelopia</i>                 | 09021011004          | 0.33                        | 0.33     | 6                       | PR                       | 0.4                  | 0.4      |
| <i>Rheopelopia</i>                   | 09021011017          |                             | 0.33     |                         | PR                       |                      | 0.4      |
| <i>Rheopelopia acra group</i>        | 09021011017036       | 0.33                        |          |                         | --                       | 0.4                  |          |
| <i>Pagastia</i>                      | 09021011025          |                             | 0.33     | 1                       | --                       |                      | 0.4      |
| <i>Pagastia orthogonia</i>           | 09021011025001       | 0.33                        |          |                         | --                       | 0.4                  |          |
| <i>Sympotthastia</i>                 | 09021011029          | 0.33                        | 0.33     | 2                       | CG                       | 0.4                  | 0.4      |
| <i>Corynoneura</i>                   | 09021011036          | 0.33                        | 0.33     | 7                       | CG                       | 0.4                  | 0.4      |
| <i>Cricotopus</i>                    | 09021011037          |                             | 1.33     | 7                       | SH                       |                      | 1.7      |
| <i>Cricotopus bicinctus</i>          | 09021011037057       | 1.33                        |          |                         | --                       | 1.7                  |          |
| <i>Cricotopus luciae</i>             | 09021011037073       |                             |          |                         | --                       |                      |          |
| <i>Eukiefferiella</i>                | 09021011041          |                             | 0.33     | 8                       | CG                       |                      | 0.4      |
| <i>Eukiefferiella devonica group</i> | 09021011041083       | 0.33                        |          |                         | CG                       | 0.4                  |          |
| <i>Orthocladius</i>                  | 09021011050          |                             | 1.33     | 6                       | CG                       |                      | 1.7      |
| <i>Orthocladius carlatus</i>         | 09021011050093       | 1.33                        |          |                         | --                       | 1.7                  |          |
| <i>Rheocricotopus</i>                | 09021011057          | 0.33                        | 0.33     | 6                       | CG                       | 0.4                  | 0.4      |
| <i>Thienemanniella</i>               | 09021011062          | 0.33                        | 0.33     | 6                       | CG                       | 0.4                  | 0.4      |
| <i>Micropsectra</i>                  | 09021011070          | 8.00                        | 8.00     | 7                       | CG                       | 10.4                 | 10.4     |
| <i>Rheotanytarsus</i>                | 09021011072          |                             | 3.33     | 6                       | CF                       |                      | 4.3      |
| <i>Rheotanytarsus pellucidus</i>     | 09021011072128       | 3.33                        |          |                         | CF                       | 4.3                  |          |
| <i>Polypedilum</i>                   | 09021011102          |                             | 1.00     | 6                       | SH                       |                      | 1.3      |
| <i>Polypedilum aviceps</i>           | 09021011102181       | 1.00                        |          |                         | --                       | 1.3                  |          |
| <i>Simulium</i>                      | 09021012047          |                             | 1.00     | 4                       | CF                       |                      | 1.3      |
| <i>Simulium tuberosum</i>            | 09021012047067       | 1.00                        |          |                         | --                       | 1.3                  |          |
| <i>Promoresia</i>                    | 09021113069          |                             | 3.33     |                         | --                       |                      | 4.3      |
| <i>Promoresia tardella</i>           | 09021113069052       | 3.33                        |          |                         | --                       | 4.3                  |          |