



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

**Station Information**

|  |                           |
|--|---------------------------|
| <b>Station Number:</b> S-299               | DEP Drainage: Kennebec    |
| Waterbody: Sebasticook River - Station 299 | HUC8: 01030003            |
| Town: Benton                               | HUC8 Name: Lower Kennebec |
| Directions: 0.18 KM BELOW DAM              | Latitude: 44 34 40.76 N   |
|  | Longitude: 69 33 24.59 W  |
|  | Stream Order: 4           |

**Sample Information**

|                         |                             |                           |
|-------------------------|-----------------------------|---------------------------|
| <b>Log Number:</b> 1654 | Type of Sample: ROCK BASKET | Date Deployed: 7/17/2007  |
| Subsample Factor: X8    | Replicates: 3               | Date Retrieved: 8/14/2007 |

**Classification Attainment**

|                                 |   |                 |
|---------------------------------|---|-----------------|
| <b>Statutory Class:</b> C       | <b>Final Determination:</b> B               | Date: 6/12/2008 |
| Model Result with P>.6: B       | <b>Reason for Determination:</b> Model      |                 |
| Date Last Calculated: 3/18/2009 | Comments: Indeterminant for Class A (0.43). |                 |

**Model Probabilities**

|                           |      |                                |      |
|---------------------------|------|--------------------------------|------|
| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
| Class A                   | 0.47 | Class A, B, or C               | 1.00 |
| Class B                   | 0.52 | Non-Attainment                 | 0.00 |
| <u>B or Better Model</u>  |      | <u>A Model</u>                 |      |
| Class A or B              | 1.00 | Class A                        | 0.43 |
| Class C or Non-Attainment | 0.00 | Class B or C or Non-Attainment | 0.57 |

**Model Variables**

|  |         |   |        |
|--|---------|---|--------|
| 01 Total Mean Abundance                                    | 1888.00 | 18 Relative Abundance Ephemeroptera   | 0.06   |
| 02 Generic Richness  | 51.00   | 19 EPT Generic Richness   | 21.00  |
| 03 Plecoptera Mean Abundance                               | 32.00   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 16.73  |
| 04 Ephemeroptera Mean Abundance                            | 117.33  | 23 Relative Generic Richness- Plecoptera  | 0.02   |
| 05 Shannon-Wiener Generic Diversity                        | 4.24    | 25 Sum of Abundances: <i>Cheumatopsyche</i><br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>       | 500.62 |
| 06 Hilsenhoff Biotic Index                                 | 4.37    | 26 Sum of Abundances: <i>Acroneuria</i> ,<br><i>Maccaffertium</i> , <i>Stenonema</i>                            | 37.33  |
| 07 Relative Abundance - Chironomidae                       | 0.16    | 28 EP Generic Richness/14   | 0.57   |
| 08 Relative Generic Richness Diptera                       | 0.27    | 30 Presence of Class A Indicator Taxa/7   | 0.29   |
| 09 <i>Hydropsyche</i> Abundance                            | 160.07  |   |        |
| 11 <i>Cheumatopsyche</i> Abundance                         | 450.42  |   |        |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness       | 1.50    |   |        |
| 13 Relative Abundance - Oligochaeta                        | 0.00    |   |        |
| 15 Perlidae Mean Abundance<br>(Family Functional Group)    | 32.00   |   |        |
| 16 Tanypodinae Mean Abundance<br>(Family Functional Group) | 39.05   |   |        |
| 17 Chironomini Abundance (Family<br>Functional Group)      | 125.50  |   |        |

**Five Most Dominant Taxa**

| Rank | Taxon Name            | Percent |
|------|-----------------------|---------|
| 1    | <i>Cheumatopsyche</i> | 23.86   |
| 2    | <i>Chimarra</i>       | 11.58   |
| 3    | <i>Hydropsyche</i>    | 8.48    |
| 4    | <i>Macrostemum</i>    | 6.51    |
| 5    | <i>Amnicola</i>       | 6.21    |



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**Station Number: S-299**  
**Log Number: 1654**

Town: Benton  
Waterbody: Sebasticook River - Station 299

Date Deployed: 7/17/2007  
Date Retrieved: 8/14/2007

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT  
Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 24.6 deg C  
Dissolved Oxygen: 10.5 mg/l  
Specific Conductance: 94 uS/cm  
Velocity: 61 cm/s  
pH: 8.05  
Wetted Width: 50 m  
Bankfull Width: 87 m  
Depth: 65 cm

**Waterbody Information - Retrieval**

Temperature: 24.5 deg C  
Dissolved Oxygen: 8.2 mg/l  
Specific Conductance: 80 uS/cm  
Velocity: 25 cm/s  
pH: 8.37  
Wetted Width: 50 m  
Bankfull Width: 87 m  
Depth: 70 cm

**Water Chemistry - Retrieval**

|                          |            |                             |            |
|--------------------------|------------|-----------------------------|------------|
| Ammonia As Nitrogen      | <0.01 mg/l | Soluble Reactive Phosphorus | 1 ug/l     |
| Nitrate+nitrite As N     | 0.02 mg/l  | Total Phosphorus            | 0.027 mg/l |
| Total Kjeldahl Nitrogen  | 0.9 mg/l   | Total Suspended Solids      | 4.2 mg/l   |
| Dissolved Organic Carbon | 5.6 mg/l   | Total Dissolved Solids      | 54 mg/l    |

**Summary of Habitat Characteristics**

|                          |                     |                      |
|--------------------------|---------------------|----------------------|
| <u>Landuse Name</u>      | <u>Canopy Cover</u> | <u>Terrain</u>       |
| Upland Hardwood          | Canopy Open         | Rolling Terrain      |
| <br><u>Stressor</u>      | <br><u>Location</u> | <br><u>Substrate</u> |
| Regulated Flows Stressor | Below Dam           | Boulder 30 %         |
|                          |                     | Gravel 20 %          |
|                          |                     | Rubble/Cobble 50 %   |

**Landcover Summary - 2004 Data**

|                 |        |                  |     |                |      |                      |      |
|-----------------|--------|------------------|-----|----------------|------|----------------------|------|
| Total Area (ac) | 552246 | High Int. Dev. % | 0.3 | Water %        | 3.9  | Non-vegetated %      | 0.2  |
| Total Land (ac) | 531533 | Med Int. Dev. %  | 0.4 | Wetland %      | 9.8  | Tilled Agriculture % | 5.3  |
|                 |        | Low Int. Dev. %  | 3.9 | Upland Woody % | 73.9 | Human Altered %      | 16.3 |
|                 |        | Development %    | 4.6 | Natural %      | 83.7 | Impervious %         | 2.8  |

**Sample Comments**

8/14/07: WATER VERY GREEN - POSSIBLE BLOOM OF SOME KIND



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Waterbody: Sebasticook River - Station 299

Town: Benton

**Log Number: 1654**

Subsample Factor: X8

Replicates: 3

Calculated: 3/18/2009

| Taxon                                      | Maine Taxonomic Code | Count<br>(Mean of Samplers) |          | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance |          |
|--|----------------------|-----------------------------|----------|-------------------------|--------------------------|--------------------|----------|
|  |                      | Actual                      | Adjusted |                         |                          | Actual             | Adjusted |
| <i>Hydra</i>                               | 02010101001          | 5.33                        | 5.33     |                         | PR                       | 0.3                | 0.3      |
| <i>Girardia</i>                            | 03010102002          | 8.00                        | 8.00     |                         | --                       | 0.4                | 0.4      |
| <i>Desserobdella</i>                       | 08030101003          |                             | 2.67     |                         | --                       |                    | 0.1      |
| <i>Desserobdella phalera</i>               | 08030101003001       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Hyalella</i>                            | 09010203006          |                             | 2.67     | 8                       | CG                       |                    | 0.1      |
| <i>Hyalella azteca</i>                     | 09010203006011       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Acroneuria</i>                          | 09020209042          |                             | 32.00    | 0                       | PR                       |                    | 1.7      |
| <i>Acroneuria abnormis</i>                 | 09020209042121       | 8.00                        |          | 0                       | PR                       | 0.4                |          |
| <i>Acroneuria lycorias</i>                 | 09020209042125       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Acroneuria mela</i>                     | 09020209042126       | 21.33                       |          |                         | --                       | 1.1                |          |
| <i>Boyeria</i>                             | 09020301004          |                             | 2.67     | 2                       | PR                       |                    | 0.1      |
| <i>Boyeria vinosa</i>                      | 09020301004012       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Neurocordulia</i>                       | 09020305026          |                             | 2.67     | 2                       | PR                       |                    | 0.1      |
| <i>Neurocordulia michaeli</i>              | 09020305026054       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Acerpenna</i>                           | 09020401007          |                             | 2.67     | 5                       | CG                       |                    | 0.1      |
| <i>Acerpenna pygmaea</i>                   | 09020401007011       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Leucrocuta</i>                          | 09020402011          | 10.67                       | 10.67    | 1                       | SC                       | 0.6                | 0.6      |
| <i>Maccaffertium</i>                       | 09020402015          | 2.67                        | 5.33     | 4                       | SC                       | 0.1                | 0.3      |
| <i>Maccaffertium modestum</i>              | 09020402015051       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Isonychia</i>                           | 09020404018          | 16.00                       | 16.00    | 2                       | CF                       | 0.8                | 0.8      |
| Ephemerellidae                             | 09020410             | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Ephemerella</i>                         | 09020410035          | 2.67                        | 2.86     | 1                       | CG                       | 0.1                | 0.2      |
| <i>Serratella</i>                          | 09020410037          |                             | 37.14    | 2                       | CG                       |                    | 2.0      |
| <i>Serratella (Teloganopsis) deficiens</i> | 09020410037121       | 34.67                       |          |                         | --                       | 1.8                |          |
| <i>Tricorythodes</i>                       | 09020411038          | 42.67                       | 42.67    | 4                       | CG                       | 2.3                | 2.3      |
| <i>Chimarra</i>                            | 09020601003          | 218.67                      | 218.67   | 2                       | CF                       | 11.6               | 11.6     |
| Polycentropodidae                          | 09020603             | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Cernotina</i>                           | 09020603006          | 2.67                        | 2.77     |                         | PR                       | 0.1                | 0.1      |
| <i>Neureclipsis</i>                        | 09020603008          | 56.00                       | 58.24    | 7                       | CF                       | 3.0                | 3.1      |
| <i>Polycentropus</i>                       | 09020603010          | 8.00                        | 8.32     | 6                       | PR                       | 0.4                | 0.4      |
| Hydropsychidae                             | 09020604             | 208.00                      |          |                         | --                       | 11.0               |          |
| <i>Cheumatopsyche</i>                      | 09020604015          | 322.67                      | 450.42   | 5                       | CF                       | 17.1               | 23.9     |
| <i>Hydropsyche</i>                         | 09020604016          | 16.00                       | 160.07   | 4                       | CF                       | 0.8                | 8.5      |
| <i>Hydropsyche morosa</i>                  | 09020604016030       | 29.33                       |          |                         | --                       | 1.6                |          |
| <i>Hydropsyche leonardi</i>                | 09020604016044       | 5.33                        |          |                         | --                       | 0.3                |          |
| <i>Hydropsyche phalerata</i>               | 09020604016047       | 26.67                       |          |                         | --                       | 1.4                |          |
| <i>Hydropsyche scalaris group</i>          | 09020604016048       | 5.33                        |          |                         | --                       | 0.3                |          |
| <i>Hydropsyche simulans</i>                | 09020604016049       | 32.00                       |          |                         | --                       | 1.7                |          |



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|---|----------------------|--|----------|-------------------------|--------------------------|-----------------------|----------|
| <b>Log Number: 1654</b>                   |                      | Subsample Factor: X8                       |          | Replicates: 3           |                          | Calculated: 3/18/2009 |          |
| Taxon                                     | Maine Taxonomic Code | Count (Mean of Samplers)                   |          | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance    |          |
|   |                      | Actual                                     | Adjusted |                         |                          | Actual                | Adjusted |
| <i>Macrostemum</i>                        | 09020604018          |  | 122.84   | 3                       | CF                       |                       | 6.5      |
| <i>Macrostemum zebratum</i>               | 09020604018054       | 88.00                                      |          |                         | --                       | 4.7                   |          |
| <i>Hydroptila</i>                         | 09020607026          | 74.67                                      | 74.67    | 6                       | P                        | 4.0                   | 4.0      |
| <i>Micrasema</i>                          | 09020609044          |  | 10.67    | 2                       | SH                       |                       | 0.6      |
| <i>Micrasema rusticum group</i>           | 09020609044100       | 2.67                                       |          |                         | --                       | 0.1                   |          |
| <i>Micrasema wataga</i>                   | 09020609044101       | 8.00                                       |          |                         | --                       | 0.4                   |          |
| <i>Lepidostoma</i>                        | 09020611064          | 32.00                                      | 32.00    | 1                       | SH                       | 1.7                   | 1.7      |
| Leptoceridae                              | 09020618             |  |          |                         | --                       |                       |          |
| <i>Nectopsyche</i>                        | 09020618074          |  | 10.67    | 3                       | SH                       |                       | 0.6      |
| <i>Nectopsyche exquisita</i>              | 09020618074147       | 10.67                                      |          |                         | --                       | 0.6                   |          |
| <i>Triaenodes</i>                         | 09020618077          | 5.33                                       | 5.33     | 6                       | SH                       | 0.3                   | 0.3      |
| <i>Oecetis</i>                            | 09020618078          | 8.00                                       | 26.67    | 8                       | PR                       | 0.4                   | 1.4      |
| <i>Oecetis persimilis</i>                 | 09020618078157       | 18.67                                      |          |                         | --                       | 1.0                   |          |
| Chironomidae                              | 09021011             | 13.33                                      |          |                         | --                       | 0.7                   |          |
| <i>Ablabesmyia</i>                        | 09021011001          |  | 5.58     | 8                       | PR                       |                       | 0.3      |
| <i>Ablabesmyia mallochii</i>              | 09021011001004       | 5.33                                       |          |                         | --                       | 0.3                   |          |
| <i>Nilotanytus</i>                        | 09021011012          |  | 2.79     | 6                       | PR                       |                       | 0.1      |
| <i>Nilotanytus fimbriatus</i>             | 09021011012027       | 2.67                                       |          |                         | --                       | 0.1                   |          |
| <i>Pentaneura</i>                         | 09021011014          |  | 30.68    | 6                       | PR                       |                       | 1.6      |
| <i>Pentaneura inconspicua</i>             | 09021011014028       | 29.33                                      |          |                         | --                       | 1.6                   |          |
| <i>Corynoneura</i>                        | 09021011036          | 2.67                                       | 2.79     | 7                       | CG                       | 0.1                   | 0.1      |
| <i>Cricotopus</i>                         | 09021011037          |  | 25.10    | 7                       | SH                       |                       | 1.3      |
| <i>Cricotopus bicinctus</i>               | 09021011037057       | 2.67                                       |          |                         | --                       | 0.1                   |          |
| <i>Cricotopus vierriensis</i>             | 09021011037071       | 21.33                                      |          |                         | --                       | 1.1                   |          |
| <i>Orthocladius</i>                       | 09021011050          |  | 11.16    | 6                       | CG                       |                       | 0.6      |
| <i>Orthocladius carlatus</i>              | 09021011050093       | 10.67                                      |          |                         | --                       | 0.6                   |          |
| <i>Tvetenia</i>                           | 09021011065          |  | 2.79     | 5                       | CG                       |                       | 0.1      |
| <i>Tvetenia vitracies</i>                 | 09021011065113       | 2.67                                       |          |                         | --                       | 0.1                   |          |
| <i>Rheotanytarsus</i>                     | 09021011072          | 74.67                                      | 78.09    | 6                       | CF                       | 4.0                   | 4.1      |
| <i>Tanytarsus</i>                         | 09021011076          | 2.67                                       | 19.52    | 6                       | CF                       | 0.1                   | 1.0      |
| <i>Tanytarsus glabrescens group sp. 1</i> | 09021011076137       | 16.00                                      |          |                         | CF                       | 0.8                   |          |
| <i>Dicrotendipes</i>                      | 09021011085          |  | 2.79     | 8                       | CG                       |                       | 0.1      |
| <i>Dicrotendipes neomodestus</i>          | 09021011085152       | 2.67                                       |          |                         | --                       | 0.1                   |          |
| <i>Microtendipes</i>                      | 09021011094          |  | 66.94    | 6                       | CF                       |                       | 3.5      |
| <i>Microtendipes rydalensis group</i>     | 09021011094168       | 64.00                                      |          |                         | --                       | 3.4                   |          |
| <i>Parachironomus</i>                     | 09021011097          |  | 13.94    | 10                      | PR                       |                       | 0.7      |
| <i>Parachironomus frequens</i>            | 09021011097172       | 8.00                                       |          |                         | --                       | 0.4                   |          |



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**Log Number: 1654**      Subsample Factor: X8      Replicates: 3      Calculated: 3/18/2009

| Taxon                                       | Maine Taxonomic Code | Count<br>(Mean of Samplers) |          | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance |          |
|---|----------------------|-----------------------------|----------|-------------------------|--------------------------|--------------------|----------|
|   |                      | Actual                      | Adjusted |                         |                          | Actual             | Adjusted |
| <i>Parachironomus tenuicaudatus complex</i> | 09021011097179       | 5.33                        |          |                         | --                       | 0.3                |          |
| <i>Polypedilum</i>                          | 09021011102          |                             | 41.83    | 6                       | SH                       |                    | 2.2      |
| <i>Polypedilum flavum</i>                   | 09021011102182       | 40.00                       |          |                         | --                       | 2.1                |          |
| <i>Hemerodromia</i>                         | 09021016057          | 10.67                       | 10.67    | 3                       | PR                       | 0.6                | 0.6      |
| <i>Dineutus</i>                             | 09021104032          | 2.67                        | 2.67     | 2                       | --                       | 0.1                | 0.1      |
| <i>Microcyloepus</i>                        | 09021113066          | 18.67                       | 18.67    | 3                       | --                       | 1.0                | 1.0      |
| <i>Optioservus</i>                          | 09021113067          | 2.67                        | 2.67     | 3                       | SC                       | 0.1                | 0.1      |
| <i>Promoresia</i>                           | 09021113069          |                             | 5.33     |                         | --                       |                    | 0.3      |
| <i>Promoresia elegans</i>                   | 09021113069051       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Promoresia tardella</i>                  | 09021113069052       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Stenelmis</i>                            | 09021113070          |                             | 5.33     | 5                       | SC                       |                    | 0.3      |
| <i>Stenelmis concinna</i>                   | 09021113070054       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Stenelmis crenata</i>                    | 09021113070055       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Hydrodroma</i>                           | 09030113001          | 2.67                        | 2.67     |                         | --                       | 0.1                | 0.1      |
| <i>Amnicola</i>                             | 10010104013          |                             | 117.33   |                         | SC                       |                    | 6.2      |
| <i>Amnicola limosa</i>                      | 10010104013018       | 117.33                      |          |                         | --                       | 6.2                |          |
| Basommatophora                              | 100102               | 5.33                        | 5.33     |                         | --                       | 0.3                | 0.3      |
| <i>Physa</i>                                | 10010202026          | 53.33                       | 53.33    |                         | SC                       | 2.8                | 2.8      |
| <i>Helisoma</i>                             | 10010203030          |                             | 2.67     |                         | SC                       |                    | 0.1      |
| <i>Helisoma campanulata</i>                 | 10010203030060       | 2.67                        |          |                         | --                       | 0.1                |          |
| <i>Musculium</i>                            | 10020201001          |                             | 2.67     |                         | CF                       |                    | 0.1      |
| <i>Musculium securis</i>                    | 10020201001003       | 2.67                        |          |                         | CF                       | 0.1                |          |