



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

Station Information

**Station Number:** S-868  
**Waterbody:** Kennebago River - Station 868  
**Town:** Rangeley  
**Directions:** RTE 16 TO BOY SCOUT ROAD; FOLLOW ROAD UNTIL JUST BEFORE GATE (~1 MILE); FOLLOW STEPS (LEFT) DOWN TO RIVER  
**DEP Drainage:** Androscoggin  
**HUC8:** 01040001  
**HUC8 Name:** Upper Androscoggin  
**Latitude:** 45 0 34.75 N  
**Longitude:** 70 47 29.46 W  
**Stream Order:** 4

Sample Information

**Log Number:** 1718  
**Subsample Factor:** X1  
**Type of Sample:** ROCK BASKET  
**Replicates:** 3  
**Date Deployed:** 7/15/2008  
**Date Retrieved:** 8/12/2008

Classification Attainment

**Statutory Class:** AA  
**Model Result with P>.6:** A  
**Date Last Calculated:** 5/19/2009  
**Final Determination:** A  
**Reason for Determination:** Model  
**Comments:**

Model Probabilities

| <u>First Stage Model</u>  |      | <u>C or Better Model</u>       |      |
|---------------------------|------|--------------------------------|------|
| Class A                   | 0.86 | Class A, B, or C               | 1.00 |
| Class B                   | 0.14 | 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                                    | 262.67 | 18 Relative Abundance Ephemeroptera                                                                             | 0.14  |
| 02 Generic Richness                                        | 41.00  | 19 EPT Generic Richness                                                                                         | 23.00 |
| 03 Plecoptera Mean Abundance                               | 5.00   | 21 Sum of Abundances: <i>Dicrotendipes</i> ,<br><i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.34  |
| 04 Ephemeroptera Mean Abundance                            | 36.33  | 23 Relative Generic Richness- Plecoptera                                                                        | 0.10  |
| 05 Shannon-Wiener Generic Diversity                        | 3.27   | 25 Sum of Abundances: <i>Cheumatopsyche</i><br><i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>       | 38.60 |
| 06 Hilsenhoff Biotic Index                                 | 3.12   | 26 Sum of Abundances: <i>Acroneuria</i> ,<br><i>Maccaffertium</i> , <i>Stenonema</i>                            | 15.78 |
| 07 Relative Abundance - Chironomidae                       | 0.06   | 28 EP Generic Richness/14                                                                                       | 1.00  |
| 08 Relative Generic Richness Diptera                       | 0.34   | 30 Presence of Class A Indicator Taxa/7                                                                         | 0.71  |
| 09 <i>Hydropsyche</i> Abundance                            | 68.74  |                                                                                                                 |       |
| 11 <i>Cheumatopsyche</i> Abundance                         | 38.26  |                                                                                                                 |       |
| 12 EPT Generic Richness/ Diptera<br>Generic Richness       | 1.64   |                                                                                                                 |       |
| 13 Relative Abundance - Oligochaeta                        | 0.00   |                                                                                                                 |       |
| 15 Perlidae Mean Abundance<br>(Family Functional Group)    | 2.67   |                                                                                                                 |       |
| 16 Tanypodinae Mean Abundance<br>(Family Functional Group) | 1.02   |                                                                                                                 |       |
| 17 Chironomini Abundance (Family<br>Functional Group)      | 3.40   |                                                                                                                 |       |

Five Most Dominant Taxa

| Rank | Taxon Name            | Percent |
|------|-----------------------|---------|
| 1    | <i>Hydropsyche</i>    | 26.17   |
| 2    | <i>Brachycentrus</i>  | 24.75   |
| 3    | <i>Cheumatopsyche</i> | 14.57   |
| 4    | <i>Simulium</i>       | 9.77    |
| 5    | <i>Maccaffertium</i>  | 5.14    |



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Waterbody: Kennebago River - Station 868

Date Retrieved: 8/12/2008

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 21.8 deg C  
Dissolved Oxygen: 8.3 mg/l  
Specific Conductance: 25 uS/cm  
Velocity: 16 cm/s  
pH: 6.45  
Wetted Width: 26 m  
Bankfull Width: 27 m  
Depth: 82 cm

**Waterbody Information - Retrieval**

Temperature: 16.1 deg C  
Dissolved Oxygen: 8.9 mg/l  
Specific Conductance: 30 uS/cm  
Velocity: 50 cm/s  
pH: 6.66  
Wetted Width: 27 m  
Bankfull Width: 27 m  
Depth: 106 cm

**Water Chemistry - Retrieval**

|                          |            |                             |            |
|--------------------------|------------|-----------------------------|------------|
| Ammonia As Nitrogen      | <0.01 mg/l | Soluble Reactive Phosphorus | 2 ug/l     |
| Nitrate+nitrite As N     | 0.03 mg/l  | Total Phosphorus            | 0.009 mg/l |
| Total Kjeldahl Nitrogen  | 0.3 mg/l   | Total Suspended Solids      | <2 mg/l    |
| Dissolved Organic Carbon | 7.1 mg/l   | Total Dissolved Solids      | 29 mg/l    |

**Summary of Habitat Characteristics**

|                     |                     |                     |
|---------------------|---------------------|---------------------|
| <u>Landuse Name</u> | <u>Canopy Cover</u> | <u>Terrain</u>      |
| Upland Conifer      | Canopy Open         | Mountainous Terrain |
| Upland Hardwood     |                     |                     |

|                 |                 |                    |
|-----------------|-----------------|--------------------|
| <u>Stressor</u> | <u>Location</u> | <u>Substrate</u>   |
|                 | Main Stem       | Bedrock 2 %        |
|                 |                 | Boulder 3 %        |
|                 |                 | Gravel 40 %        |
|                 |                 | Rubble/Cobble 50 % |
|                 |                 | Sand 5 %           |

**Landcover Summary - 2004 Data**

**Sample Comments**

HIGH WATER LEVELS (DROPPED ~4 FT IN PAST 72 HOURS)



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Subsample Factor: X1

Replicates: 3

Calculated: 5/19/2009

| 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>Leuctra</i>                       | 09020204020                |                             | 2.00     | 0                             | SH                             |                       | 0.8      |
| <i>Leuctra ferruginea</i>            | 09020204020050             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Leuctra truncata</i>              | 09020204020058             | 1.67                        |          |                               | --                             | 0.6                   |          |
| Perlodidae                           | 09020207                   | 0.33                        | 0.33     |                               | --                             | 0.1                   | 0.1      |
| Perlidae                             | 09020209                   | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Acroneuria</i>                    | 09020209042                | 0.33                        | 2.29     | 0                             | PR                             | 0.1                   | 0.9      |
| <i>Acroneuria lycorias</i>           | 09020209042125             | 1.67                        |          |                               | --                             | 0.6                   |          |
| <i>Perlesta</i>                      | 09020209046                | 0.33                        | 0.38     | 5                             | PR                             | 0.1                   | 0.1      |
| <i>Boyeria</i>                       | 09020301004                |                             | 0.33     | 2                             | PR                             |                       | 0.1      |
| <i>Boyeria grafiana</i>              | 09020301004011             | 0.33                        |          |                               | --                             | 0.1                   |          |
| Baetidae                             | 09020401                   | 1.33                        |          |                               | --                             | 0.5                   |          |
| <i>Baetis</i>                        | 09020401001                |                             | 1.00     | 4                             | CG                             |                       | 0.4      |
| <i>Baetis flavistriga</i>            | 09020401001004             | 0.67                        |          |                               | --                             | 0.3                   |          |
| <i>Acerpenna</i>                     | 09020401007                | 1.00                        | 3.00     | 5                             | CG                             | 0.4                   | 1.1      |
| <i>Acerpenna macdunnoughi</i>        | 09020401007001             | 0.67                        |          |                               | --                             | 0.3                   |          |
| <i>Acerpenna pygmaea</i>             | 09020401007011             | 0.33                        |          |                               | --                             | 0.1                   |          |
| Heptageniidae                        | 09020402                   | 0.67                        |          |                               | --                             | 0.3                   |          |
| <i>Epeorus</i>                       | 09020402009                | 0.33                        | 0.35     | 0                             | SC                             | 0.1                   | 0.1      |
| <i>Heptagenia</i>                    | 09020402010                |                             | 0.35     | 2                             | SC                             |                       | 0.1      |
| <i>Heptagenia diabasia</i>           | 09020402010035             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Leucrocuta</i>                    | 09020402011                | 4.00                        | 4.15     | 1                             | SC                             | 1.5                   | 1.6      |
| <i>Maccaffertium</i>                 | 09020402015                | 9.67                        | 13.49    | 4                             | SC                             | 3.7                   | 5.1      |
| <i>Maccaffertium luteum</i>          | 09020402015049             | 3.33                        |          |                               | --                             | 1.3                   |          |
| <i>Paraleptophlebia</i>              | 09020406026                | 3.00                        | 3.00     | 1                             | CG                             | 1.1                   | 1.1      |
| <i>Eurylophella</i>                  | 09020410036                |                             | 0.67     | 3                             | CG                             |                       | 0.3      |
| <i>Eurylophella funeralis</i>        | 09020410036115             | 0.67                        |          |                               | SH                             | 0.3                   |          |
| <i>Serratella</i>                    | 09020410037                |                             | 0.33     | 2                             | CG                             |                       | 0.1      |
| <i>Serratella serratoides</i>        | 09020410037124             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Tricorythodes</i>                 | 09020411038                | 10.00                       | 10.00    | 4                             | CG                             | 3.8                   | 3.8      |
| <i>Chimarra</i>                      | 09020601003                | 0.33                        | 0.33     | 2                             | CF                             | 0.1                   | 0.1      |
| <i>Neureclipsis</i>                  | 09020603008                | 2.33                        | 2.33     | 7                             | CF                             | 0.9                   | 0.9      |
| Hydropsychidae                       | 09020604                   | 1.67                        |          |                               | --                             | 0.6                   |          |
| <i>Cheumatopsyche</i>                | 09020604015                | 37.67                       | 38.26    | 5                             | CF                             | 14.3                  | 14.6     |
| <i>Hydropsyche</i>                   | 09020604016                | 13.67                       | 68.74    | 4                             | CF                             | 5.2                   | 26.2     |
| <i>Hydropsyche bronta</i>            | 09020604016029             | 38.67                       |          |                               | --                             | 14.7                  |          |
| <i>Hydropsyche morosa</i>            | 09020604016030             | 10.67                       |          |                               | --                             | 4.1                   |          |
| <i>Hydropsyche sparna</i>            | 09020604016032             | 4.33                        |          |                               | --                             | 1.6                   |          |
| <i>Hydropsyche depravata complex</i> | 09020604016041             | 0.33                        |          |                               | CF                             | 0.1                   |          |



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| 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>Rhyacophila</i>                    | 09020605019                |                             | 1.00     | 2                             | PR                             |                       | 0.4      |
| <i>Rhyacophila minor</i>              | 09020605019063             | 1.00                        |          |                               | PR                             | 0.4                   |          |
| <i>Oxyethira</i>                      | 09020607028                | 0.33                        | 0.33     | 3                             | P                              | 0.1                   | 0.1      |
| <i>Brachycentrus</i>                  | 09020609043                |                             | 65.00    | 0                             | CF                             |                       | 24.7     |
| <i>Brachycentrus appalachia</i>       | 09020609043096             | 65.00                       |          |                               | --                             | 24.7                  |          |
| <i>Hydatophylax</i>                   | 09020610048                |                             | 0.33     | 2                             | SH                             |                       | 0.1      |
| <i>Hydatophylax argus</i>             | 09020610048103             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Psilotreta</i>                     | 09020614068                |                             | 0.33     | 0                             | SC                             |                       | 0.1      |
| <i>Psilotreta frontalis</i>           | 09020614068134             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Nigronia</i>                       | 09020701003                |                             | 0.33     | 0                             | PR                             |                       | 0.1      |
| <i>Nigronia serricornis</i>           | 09020701003003             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Nymphomyia</i>                     | 09021004021                | 0.33                        | 0.33     |                               | SC                             | 0.1                   | 0.1      |
| Chironomidae                          | 09021011                   | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Ablabesmyia</i>                    | 09021011001                |                             | 0.34     | 8                             | PR                             |                       | 0.1      |
| <i>Ablabesmyia mallochi</i>           | 09021011001004             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Labrundinia</i>                    | 09021011008                | 0.33                        | 0.34     | 7                             | PR                             | 0.1                   | 0.1      |
| <i>Trissopelopia</i>                  | 09021011021                |                             | 0.34     |                               | PR                             |                       | 0.1      |
| <i>Trissopelopia ogemawi</i>          | 09021011021042             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Corynoneura</i>                    | 09021011036                | 1.67                        | 1.70     | 7                             | CG                             | 0.6                   | 0.6      |
| <i>Rheocricotopus</i>                 | 09021011057                |                             | 0.34     | 6                             | CG                             |                       | 0.1      |
| <i>Rheocricotopus robacki</i>         | 09021011057105             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Thienemanniella</i>                | 09021011062                |                             | 0.68     | 6                             | CG                             |                       | 0.3      |
| <i>Thienemanniella boltoni</i>        | 09021011062113             | 0.67                        |          |                               | --                             | 0.3                   |          |
| <i>Tvetenia</i>                       | 09021011065                |                             | 4.76     | 5                             | CG                             |                       | 1.8      |
| <i>Tvetenia vitracies</i>             | 09021011065113             | 3.00                        |          |                               | --                             | 1.1                   |          |
| <i>Tvetenia paucunca</i>              | 09021011065114             | 1.67                        |          |                               | --                             | 0.6                   |          |
| <i>Micropsectra</i>                   | 09021011070                | 0.33                        | 0.34     | 7                             | CG                             | 0.1                   | 0.1      |
| <i>Rheotanytarsus</i>                 | 09021011072                | 3.67                        | 3.74     | 6                             | CF                             | 1.4                   | 1.4      |
| <i>Stempellinella</i>                 | 09021011074                |                             | 0.34     | 2                             | --                             |                       | 0.1      |
| <i>Stempellinella leptocelloides</i>  | 09021011074001             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Microtendipes</i>                  | 09021011094                |                             | 1.36     | 6                             | CF                             |                       | 0.5      |
| <i>Microtendipes rydalensis group</i> | 09021011094168             | 1.33                        |          |                               | --                             | 0.5                   |          |
| <i>Polypedilum</i>                    | 09021011102                |                             | 2.04     | 6                             | SH                             |                       | 0.8      |
| <i>Polypedilum aviceps</i>            | 09021011102181             | 1.67                        |          |                               | --                             | 0.6                   |          |
| <i>Polypedilum flavum</i>             | 09021011102182             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Simulium</i>                       | 09021012047                | 0.67                        | 25.67    | 4                             | CF                             | 0.3                   | 9.8      |
| <i>Simulium aureum</i>                | 09021012047052             | 0.33                        |          |                               | --                             | 0.1                   |          |
| <i>Simulium penobscotensis</i>        | 09021012047063             | 9.67                        |          |                               | --                             | 3.7                   |          |



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| <b>Log Number: 1718</b>      | Subsample Factor: X1                     | Replicates: 3         |
|                              |                                          | Calculated: 5/19/2009 |

| 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>Simulium tuberosum</i>                   | 09021012047067             | 9.67                        |          |                               | --                             | 3.7                   |          |
| <i>Simulium jenningsi complex</i>           | 09021012047070             | 5.00                        |          |                               | CF                             | 1.9                   |          |
| <i>Simulium venustum/verecundum complex</i> | 09021012047072             | 0.33                        |          |                               | CF                             | 0.1                   |          |
| <i>Stenelmis</i>                            | 09021113070                | 0.67                        | 1.33     | 5                             | SC                             | 0.3                   | 0.5      |
| <i>Stenelmis crenata</i>                    | 09021113070055             | 0.67                        |          |                               | --                             | 0.3                   |          |
| <i>Lymnaea</i>                              | 10010201022                |                             | 0.33     |                               | SC                             |                       | 0.1      |
| <i>Lymnaea columella</i>                    | 10010201022038             | 0.33                        |          |                               | --                             | 0.1                   |          |