



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

Station Information

Station Number: S-489
Waterbody: Bond Brook - Unnamed Tributary - Station 489
Town: Augusta
Directions: BELOW I-95

DEP Drainage: Kennebec
HUC8: 01030003
HUC8 Name: Lower Kennebec
Latitude: 44 19 19.48 N
Longitude: 69 48 48.08 W
Stream Order: 1

Sample Information

Log Number: 2095
Subsample Factor: X1

Type of Sample: ROCK BAG
Replicates: 3

Date Deployed: 7/9/2012
Date Retrieved: 8/7/2012

Classification Attainment

Statutory Class: B
Model Result with P>.6: NA
Date Last Calculated: 4/16/2013

Final Determination: NA
Reason for Determination: Model
Comments:

Date: 4/17/2013

Model Probabilities

| First Stage Model | | C or Better Model | |
|---------------------------|------|--------------------------------|------|
| Class A | 0.00 | Class A, B, or C | 0.00 |
| Class B | 0.00 | Non-Attainment | 1.00 |
| Class C | | | |
| | 0.10 | | |
| NA | | | |
| | 0.90 | | |
| B or Better Model | | A Model | |
| Class A or B | 0.00 | Class A | 0.00 |
| Class C or Non-Attainment | 1.00 | Class B or C or Non-Attainment | 1.00 |

Model Variables

| | | | |
|--------------------------------------|--------|---|-------|
| 01 Total Mean Abundance | 110.33 | 18 Relative Abundance Ephemeroptera | 0.00 |
| 02 Generic Richness | 41.00 | 19 EPT Generic Richness | 5.00 |
| 03 Plecoptera Mean Abundance | 0.00 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 6.93 |
| 04 Ephemeroptera Mean Abundance | 0.33 | 23 Relative Generic Richness- Plecoptera | 0.00 |
| 05 Shannon-Wiener Generic Diversity | 3.73 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 13.55 |
| 06 Hilsenhoff Biotic Index | 6.72 | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i> | 0.00 |
| 07 Relative Abundance - Chironomidae | 0.77 | 28 EP Generic Richness/14 | 0.07 |
| 08 Relative Generic Richness Diptera | 0.51 | 30 Presence of Class A Indicator Taxa/7 | 0.00 |
| 09 <i>Hydropsyche</i> Abundance | 0.00 | | |
| 11 <i>Cheumatopsyche</i> Abundance | 0.00 | | |
| 12 EPT Generic Richness/ Diptera | 0.24 | | |
| Generic Richness | | | |
| 13 Relative Abundance - Oligochaeta | 0.08 | | |
| 15 Perlidae Mean Abundance (Family | 0.00 | | |
| Functional Group) | | | |
| 16 Tanypodinae Mean Abundance | 1.46 | | |
| (Family Functional Group) | | | |
| 17 Chironomini Abundance (Family | 49.81 | | |
| Functional Group) | | | |

Five Most Dominant Taxa

| Rank | Taxon Name | Percent |
|------|-------------------------|---------|
| 1 | <i>Paratendipes</i> | 35.52 |
| 2 | <i>Tanytarsus</i> | 11.95 |
| 3 | <i>Parametriocnemus</i> | 10.62 |
| 4 | <i>Micropsectra</i> | 4.32 |
| 5 | <i>Aulodrilus</i> | 3.99 |



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| | | |
|------------------------------|---|--------------------------|
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| Log Number: 2095 | Waterbody: Bond Brook - Unnamed Tributary - Station 489 | Date Retrieved: 8/7/2012 |

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

| | |
|-----------------------|------------|
| Temperature: | 15.6 deg C |
| Dissolved Oxygen: | 8.4 mg/l |
| Specific Conductance: | 1175 uS/cm |
| Velocity: | 17 cm/s |
| pH: | 7.63 |
| Wetted Width: | 2.9 m |
| Bankfull Width: | 8.6 m |
| Depth: | 30 cm |

Waterbody Information - Retrieval

| | |
|-----------------------|------------|
| Temperature: | 16.5 deg C |
| Dissolved Oxygen: | 8.3 mg/l |
| Specific Conductance: | 1361 uS/cm |
| Velocity: | 11 cm/s |
| pH: | 7.87 |
| Wetted Width: | 3.1 m |
| Bankfull Width: | 8.6 m |
| Depth: | 25 cm |

Water Chemistry - 8/7/2012

| | | | |
|--------------------------|-----------|-----------------------------|------------|
| Ammonia As Nitrogen | 0.02 mg/l | Soluble Reactive Phosphorus | 5 ug/l |
| Nitrate+nitrite As N | 0.64 mg/l | Total Phosphorus | 0.008 mg/l |
| Total Kjeldahl Nitrogen | 0.3 mg/l | Total Suspended Solids | <2 mg/l |
| Dissolved Organic Carbon | 2.8 mg/l | Total Dissolved Solids | 940 mg/l |

Summary of Habitat Characteristics

| | | |
|---------------------------|---------------------|--------------------|
| <u>Landuse Name</u> | <u>Canopy Cover</u> | <u>Terrain</u> |
| Upland Hardwood | Dense | Rolling |
| Urban | | |
| <u>Potential Stressor</u> | <u>Location</u> | <u>Substrate</u> |
| Urban Runoff | Below Urban NPS | Boulder 25 % |
| | | Clay 10 % |
| | | Gravel 35 % |
| | | Rubble/Cobble 10 % |
| | | Sand 10 % |
| | | Silt 10 % |

Landcover Summary - 2004 Data

| | | | | | | | |
|-----------------|-----|------------------|------|----------------|------|----------------------|------|
| Total Area (ac) | 501 | High Int. Dev. % | 27.2 | Water % | 0.0 | Non-vegetated % | 0.0 |
| | | Med Int. Dev. % | 8.4 | Wetland % | 0.0 | Tilled Agriculture % | 1.1 |
| | | Low Int. Dev. % | 16.0 | Upland Woody % | 19.8 | Grassland % | 0.1 |
| | | Development % | 51.6 | Natural % | 19.8 | Human Altered % | 80.2 |
| | | | | | | Impervious % | 37.6 |

Sample Comments

FISH OBSERVED DURING DEPLOYMENT AND RETRIEVAL. ERODED BANKS.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-489

Waterbody: Bond Brook - Unnamed Tributary - Station 4 Town: Augusta

Log Number: 2095

Subsample Factor: X1

Replicates: 3

Calculated: 4/16/2013

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance | |
|---------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Lumbriculus</i> | 08020101002 | | 0.33 | | CG | | 0.3 |
| <i>Lumbriculus variegatus</i> | 08020101002001 | 0.33 | | | -- | 0.3 | |
| Naididae | 08020202 | 5.67 | | | -- | 5.1 | |
| <i>Aulodrilus</i> | 08020202018 | | 4.40 | | -- | | 4.0 |
| <i>Aulodrilus pluriset</i> | 08020202018004 | 1.00 | | | -- | 0.9 | |
| <i>Limnodrilus</i> | 08020202022 | | 2.93 | | CG | | 2.7 |
| <i>Limnodrilus hoffmeisteri</i> | 08020202022003 | 0.67 | | | -- | 0.6 | |
| Lumbricidae | 08020205 | 0.67 | 0.67 | | -- | 0.6 | 0.6 |
| <i>Glossiphonia</i> | 08030101004 | | 0.33 | | -- | | 0.3 |
| <i>Glossiphonia complanata</i> | 08030101004001 | 0.33 | | | -- | 0.3 | |
| <i>Helobdella</i> | 08030101005 | | 0.33 | | -- | | 0.3 |
| <i>Helobdella stagnalis</i> | 08030101005004 | 0.33 | | | -- | 0.3 | |
| <i>Erpobdella</i> | 08030203002 | | 0.33 | | -- | | 0.3 |
| <i>Erpobdella punctata</i> | 08030203002001 | 0.33 | | | -- | 0.3 | |
| <i>Hyalella</i> | 09010203006 | | 0.67 | 8 | CG | | 0.6 |
| <i>Hyalella azteca</i> | 09010203006011 | 0.67 | | | -- | 0.6 | |
| <i>Boyeria</i> | 09020301004 | | 0.33 | 2 | PR | | 0.3 |
| <i>Boyeria vinosa</i> | 09020301004012 | 0.33 | | | -- | 0.3 | |
| <i>Calopteryx</i> | 09020307043 | 0.33 | 0.33 | 5 | PR | 0.3 | 0.3 |
| <i>Centropilum</i> | 09020401003 | 0.33 | 0.33 | 2 | CG | 0.3 | 0.3 |
| <i>Nyctiophylax</i> | 09020603009 | | 2.33 | 5 | PR | | 2.1 |
| <i>Nyctiophylax moestus</i> | 09020603009013 | 2.33 | | | -- | 2.1 | |
| <i>Rhyacophila</i> | 09020605019 | | 0.33 | 2 | PR | | 0.3 |
| <i>Rhyacophila minor</i> | 09020605019063 | 0.33 | | | PR | 0.3 | |
| Phryganeidae | 09020608 | 0.67 | 0.67 | | -- | 0.6 | 0.6 |
| <i>Oligostomis</i> | 09020608039 | 0.67 | 0.67 | 2 | PR | 0.6 | 0.6 |
| <i>Tipula</i> | 09021001002 | 1.00 | 1.00 | 4 | SH | 0.9 | 0.9 |
| <i>Antocha</i> | 09021001004 | 1.00 | 1.00 | 3 | CG | 0.9 | 0.9 |
| Chironomidae | 09021011 | 7.67 | | | -- | 6.9 | |
| <i>Paramerina</i> | 09021011013 | 0.67 | 0.73 | | -- | 0.6 | 0.7 |
| <i>Trissopelopia</i> | 09021011021 | | 0.37 | | PR | | 0.3 |
| <i>Trissopelopia ogemawi</i> | 09021011021042 | 0.33 | | | -- | 0.3 | |
| <i>Zavrelimyia</i> | 09021011022 | 0.33 | 0.37 | 8 | PR | 0.3 | 0.3 |
| <i>Prodiamesa</i> | 09021011031 | | 1.10 | 3 | CG | | 1.0 |
| <i>Prodiamesa olivacea</i> | 09021011031048 | 1.00 | | | -- | 0.9 | |
| <i>Cricotopus</i> | 09021011037 | | 0.37 | 7 | SH | | 0.3 |
| <i>Cricotopus luciae</i> | 09021011037073 | 0.33 | | | -- | 0.3 | |
| <i>Nanocladius</i> | 09021011049 | | 0.37 | 3 | CG | | 0.3 |



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| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance | |
|-------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Nanocladius balticus</i> | 09021011049085 | 0.33 | | | -- | 0.3 | |
| <i>Parametriocnemus</i> | 09021011053 | 10.67 | 11.72 | 5 | CG | 9.7 | 10.6 |
| <i>Tvetenia</i> | 09021011065 | | 0.37 | 5 | CG | | 0.3 |
| <i>Tvetenia paucunca</i> | 09021011065114 | 0.33 | | | -- | 0.3 | |
| <i>Micropsectra</i> | 09021011070 | 2.00 | 4.76 | 7 | CG | 1.8 | 4.3 |
| <i>Micropsectra polita</i> | 09021011070124 | 2.33 | | 7 | -- | 2.1 | |
| <i>Rheotanytarsus</i> | 09021011072 | 1.33 | 1.46 | 6 | CF | 1.2 | 1.3 |
| <i>Tanytarsus</i> | 09021011076 | 12.00 | 13.18 | 6 | CF | 10.9 | 11.9 |
| <i>Cryptochironomus</i> | 09021011082 | 2.67 | 2.93 | 8 | PR | 2.4 | 2.7 |
| <i>Dicrotendipes</i> | 09021011085 | | 1.83 | 8 | CG | | 1.7 |
| <i>Dicrotendipes neomodestus</i> | 09021011085152 | 1.67 | | | -- | 1.5 | |
| <i>Microtendipes</i> | 09021011094 | | 0.37 | 6 | CF | | 0.3 |
| <i>Microtendipes pedellus group</i> | 09021011094166 | 0.33 | | | -- | 0.3 | |
| <i>Paratendipes</i> | 09021011100 | | 39.19 | 8 | CG | | 35.5 |
| <i>Paratendipes albimanus group</i> | 09021011100176 | 35.67 | | | -- | 32.3 | |
| <i>Phaenopsectra</i> | 09021011101 | | 1.83 | 7 | SC | | 1.7 |
| <i>Phaenopsectra flavipes</i> | 09021011101179 | 0.67 | | | SC | 0.6 | |
| <i>Phaenopsectra obediens</i> | 09021011101182 | 1.00 | | | SC | 0.9 | |
| <i>Polypedilum</i> | 09021011102 | | 2.93 | 6 | SH | | 2.7 |
| <i>Polypedilum laetum</i> | 09021011102186 | 0.67 | | | -- | 0.6 | |
| <i>Polypedilum scalaenum group</i> | 09021011102189 | 2.00 | | | -- | 1.8 | |
| <i>Stictochironomus</i> | 09021011106 | 0.67 | 0.73 | 9 | CG | 0.6 | 0.7 |
| <i>Saetheria</i> | 09021011132 | | 0.73 | | -- | | 0.7 |
| <i>Saetheria tylus</i> | 09021011132001 | 0.67 | | | -- | 0.6 | |
| <i>Dubiraphia</i> | 09021113064 | | 4.00 | 6 | -- | | 3.6 |
| <i>Dubiraphia quadrinotata</i> | 09021113064037 | 4.00 | | | -- | 3.6 | |
| Basommatophora | 100102 | 1.00 | 1.00 | | -- | 0.9 | 0.9 |
| <i>Lymnaea</i> | 10010201022 | | 0.33 | | SC | | 0.3 |
| <i>Lymnaea columella</i> | 10010201022038 | 0.33 | | | -- | 0.3 | |
| <i>Physa</i> | 10010202026 | 2.00 | 2.00 | | SC | 1.8 | 1.8 |
| Planorbidae | 10010203 | 0.33 | 0.33 | | -- | 0.3 | 0.3 |
| <i>Gyraulus</i> | 10010203029 | 0.33 | 0.33 | | SC | 0.3 | 0.3 |