



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

Station Information

Station Number: S-343

Waterbody: Aunt Hannah Brook - Station 343

Town: Dixfield

Directions: 15 M BELOW RT. 142 CROSSING

DEP Drainage: Androscoggin

HUC8 Name: Lower Androscoggin

Latitude: 44 33 32.02 N

Longitude: 70 27 7.63 W

Stream Order: 2

Sample Information

Log Number: 2212

Type of Sample: ROCK BAG

Date Deployed: 7/22/2013

Subsample Factor: X4

Replicates: 3

Date Retrieved: 8/20/2013

Classification Attainment

Statutory Class: B

Final Determination: A

Date: 3/18/2014

Model Result with P>.6: B

Reason for Determination: Best Professional Judgement

Date Last Calculated: 3/17/2014

Comments: Indeterminate Class A (.59) raised to Class A based on sensitive taxa present.

Model Probabilities

| First Stage Model | | | | C or Better Model | |
|---------------------------|------|---------|------|--------------------------------|------|
| Class A | 0.54 | Class C | 0.01 | Class A, B, or C | 1.00 |
| Class B | 0.44 | NA | 0.00 | Non-Attainment | 0.00 |
| B or Better Model | | | | A Model | |
| Class A or B | | | 1.00 | Class A | 0.59 |
| Class C or Non-Attainment | | | 0.00 | Class B or C or Non-Attainment | 0.41 |

Model Variables

| | | | |
|---|--------|---|-------------------------|
| 01 Total Mean Abundance | 422.67 | 18 Relative Abundance Ephemeroptera | 0.15 |
| 02 Generic Richness | 42.00 | 19 EPT Generic Richness | 19.00 |
| 03 Plecoptera Mean Abundance | 30.67 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 44.61 |
| 04 Ephemeroptera Mean Abundance | 61.33 | 23 Relative Generic Richness- Plecoptera | 0.14 |
| 05 Shannon-Wiener Generic Diversity | 4.55 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 72.29 |
| 06 Hilsenhoff Biotic Index | 4.71 | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i> | 21.33 |
| 07 Relative Abundance - Chironomidae | 0.46 | 28 EP Generic Richness/14 | 0.86 |
| 08 Relative Generic Richness Diptera | 0.40 | 30 Presence of Class A Indicator Taxa/7 | 0.14 |
| 09 <i>Hydropsyche</i> Abundance | 29.33 | Five Most Dominant Taxa | |
| 11 <i>Cheumatopsyche</i> Abundance | 50.67 | | |
| 12 EPT Generic Richness/ Diptera Generic Richness | 1.12 | Rank | Taxon Name |
| 13 Relative Abundance - Oligochaeta | 0.01 | | Percent |
| 15 Perlidae Mean Abundance (Family Functional Group) | 8.00 | 1 | <i>Cheumatopsyche</i> |
| 16 Tanypodinae Mean Abundance | 14.87 | 2 | <i>Micropsectra</i> |
| (Family Functional Group) | | 3 | <i>Rheotanytarsus</i> |
| 17 Chironomini Abundance (Family Functional Group) | 43.26 | 4 | <i>Parametriocnemus</i> |
| | | 5 | <i>Hydropsyche</i> |



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Waterbody: Aunt Hannah Brook - Station 343

Date Retrieved: 8/20/2013

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 17.6 deg C
Dissolved Oxygen: 8.3 mg/l
Specific Conductance: 38 uS/cm
Velocity: 23.2 cm/s
pH: 5.8
Wetted Width: 7.3 m
Bankfull Width: 9.3 m
Depth: 30 cm

Waterbody Information - Retrieval

Temperature: 16.7 deg C
Dissolved Oxygen: 8.2 mg/l
Specific Conductance: 31 uS/cm
Velocity: 18.6 cm/s
pH: 6.49
Wetted Width: 7.8 m
Bankfull Width: 9.3 m
Depth: 27 cm

Water Chemistry - 8/20/2013

| | | | |
|--------------------------|------------|-----------------------------|------------|
| Ammonia As Nitrogen | <0.01 mg/l | Soluble Reactive Phosphorus | 5 ug/l |
| Nitrate+nitrite As N | 0.05 mg/l | Total Phosphorus | 0.017 mg/l |
| Total Kjeldahl Nitrogen | 0.2 mg/l | Total Suspended Solids | <2 mg/l |
| Dissolved Organic Carbon | 4.3 mg/l | Total Dissolved Solids | 44 mg/l |

Summary of Habitat Characteristics

Landuse Name

Canopy Cover

Terrain

Pasture

Dense

Hilly

Swamp Hardwood

Upland Hardwood

Potential Stressor

Location

Substrate

Below Road Crossing

Boulder 10 %

Main Stem

Gravel 30 %

Rubble/Cobble 40 %

Sand 20 %

Landcover Summary - 2004 Data

Sample Comments

7/22/2013 - FISH AND CRAYFISH OBSERVED

8/20/2013 - FISH OBSERVED



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

Station Number: S-343

Waterbody: Aunt Hannah Brook - Station 343

Town: Dixfield

Log Number: 2212

Subsample Factor: X4

Replicates: 3

Calculated: 3/17/2014

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance | |
|-------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| Lumbricidae | 08020205 | 2.67 | 2.67 | | -- | 0.6 | 0.6 |
| <i>Paracapnia</i> | 09020203018 | 2.67 | 2.67 | 1 | SH | 0.6 | 0.6 |
| <i>Leuctra</i> | 09020204020 | 4.00 | 10.67 | 0 | SH | 0.9 | 2.5 |
| <i>Leuctra ferruginea</i> | 09020204020050 | 4.00 | | | -- | 0.9 | |
| <i>Leuctra truncata</i> | 09020204020058 | 2.67 | | | -- | 0.6 | |
| Perlodidae | 09020207 | 4.00 | 4.00 | | -- | 0.9 | 0.9 |
| <i>Isoperla</i> | 09020207026 | 5.33 | 5.33 | 2 | PR | 1.3 | 1.3 |
| <i>Acroneuria</i> | 09020209042 | 2.67 | 6.67 | 0 | PR | 0.6 | 1.6 |
| <i>Acroneuria abnormis</i> | 09020209042121 | 4.00 | | 0 | PR | 0.9 | |
| <i>Agnetina</i> | 09020209050 | | 1.33 | 2 | PR | | 0.3 |
| <i>Agnetina capitata</i> | 09020209050152 | 1.33 | | 2 | PR | 0.3 | |
| <i>Boyeria</i> | 09020301004 | | 1.33 | 2 | PR | | 0.3 |
| <i>Boyeria grafiana</i> | 09020301004011 | 1.33 | | | -- | 0.3 | |
| <i>Cordulegaster</i> | 09020303019 | 1.33 | 1.33 | 3 | PR | 0.3 | 0.3 |
| Calopterygidae | 09020307 | 1.33 | 1.33 | | -- | 0.3 | 0.3 |
| <i>Acerpenna</i> | 09020401007 | 1.33 | 2.67 | 5 | CG | 0.3 | 0.6 |
| <i>Acerpenna macdunnoughi</i> | 09020401007001 | 1.33 | | | -- | 0.3 | |
| <i>Diphetor</i> | 09020401013 | | 1.33 | | -- | | 0.3 |
| <i>Diphetor hageni</i> | 09020401013001 | 1.33 | | | -- | 0.3 | |
| <i>Maccaffertium</i> | 09020402015 | 10.67 | 14.67 | 4 | SC | 2.5 | 3.5 |
| <i>Maccaffertium modestum</i> | 09020402015051 | 4.00 | | | -- | 0.9 | |
| Leptophlebiidae | 09020406 | 24.00 | 24.00 | | -- | 5.7 | 5.7 |
| <i>Ephemerella</i> | 09020410035 | 4.00 | 4.00 | 1 | CG | 0.9 | 0.9 |
| <i>Eurylophella</i> | 09020410036 | 14.67 | 14.67 | 3 | CG | 3.5 | 3.5 |
| <i>Polycentropus</i> | 09020603010 | 4.00 | 4.00 | 6 | PR | 0.9 | 0.9 |
| <i>Diplectrona</i> | 09020604014 | | 1.33 | 0 | CF | | 0.3 |
| <i>Diplectrona modesta</i> | 09020604014025 | 1.33 | | | -- | 0.3 | |
| <i>Cheumatopsyche</i> | 09020604015 | 50.67 | 50.67 | 5 | CF | 12.0 | 12.0 |
| <i>Hydropsyche</i> | 09020604016 | 8.00 | 29.33 | 4 | CF | 1.9 | 6.9 |
| <i>Hydropsyche slossonae</i> | 09020604016031 | 16.00 | | | -- | 3.8 | |
| <i>Hydropsyche sparna</i> | 09020604016032 | 5.33 | | | -- | 1.3 | |
| <i>Rhyacophila</i> | 09020605019 | | 6.67 | 2 | PR | | 1.6 |
| <i>Rhyacophila acutiloba</i> | 09020605019056 | 2.67 | | | PR | 0.6 | |
| <i>Rhyacophila minor</i> | 09020605019063 | 4.00 | | | PR | 0.9 | |
| Limnephilidae | 09020610 | | | | -- | | |
| <i>Lepidostoma</i> | 09020611064 | 12.00 | 12.00 | 1 | SH | 2.8 | 2.8 |
| <i>Molanna</i> | 09020615069 | | 2.67 | 6 | SC | | 0.6 |
| <i>Molanna blenda</i> | 09020615069133 | 2.67 | | | -- | 0.6 | |



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| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Nigronia</i> | 09020701003 | | 2.67 | 0 | PR | | 0.6 |
| <i>Nigronia serricornis</i> | 09020701003003 | 2.67 | | | -- | 0.6 | |
| <i>Nymphomyia</i> | 09021004021 | 2.67 | 2.67 | | SC | 0.6 | 0.6 |
| Chironomidae | 09021011 | 2.67 | | | -- | 0.6 | |
| <i>Ablabesmyia</i> | 09021011001 | | 1.35 | 8 | PR | | 0.3 |
| <i>Ablabesmyia mallochi</i> | 09021011001004 | 1.33 | | | -- | 0.3 | |
| <i>Conchapelopia</i> | 09021011004 | 1.33 | 1.35 | 6 | PR | 0.3 | 0.3 |
| <i>Meropelopia</i> | 09021011010 | 2.67 | 2.70 | | -- | 0.6 | 0.6 |
| <i>Rheopelopia</i> | 09021011017 | | 1.35 | | PR | | 0.3 |
| <i>Rheopelopia acra group</i> | 09021011017036 | 1.33 | | | -- | 0.3 | |
| <i>Trissopelopia</i> | 09021011021 | | 8.11 | | PR | | 1.9 |
| <i>Trissopelopia ogemawi</i> | 09021011021042 | 8.00 | | | -- | 1.9 | |
| <i>Parachaetocladius</i> | 09021011051 | 1.33 | 1.35 | | CG | 0.3 | 0.3 |
| <i>Parametriocnemus</i> | 09021011053 | 29.33 | 29.74 | 5 | CG | 6.9 | 7.0 |
| <i>Micropsectra</i> | 09021011070 | 44.00 | 44.61 | 7 | CG | 10.4 | 10.6 |
| <i>Paratanytarsus</i> | 09021011071 | | 1.35 | 6 | -- | | 0.3 |
| <i>Paratanytarsus longistylus</i> | 09021011071126 | 1.33 | | 6 | -- | 0.3 | |
| <i>Rheotanytarsus</i> | 09021011072 | 36.00 | 36.50 | 6 | CF | 8.5 | 8.6 |
| <i>Stempellinella</i> | 09021011074 | | 4.06 | 2 | -- | | 1.0 |
| <i>Stempellinella leptocelloides</i> | 09021011074001 | 1.33 | | | -- | 0.3 | |
| <i>Stempellinella fimbriata</i> | 09021011074002 | 2.67 | | | -- | 0.6 | |
| <i>Tanytarsus</i> | 09021011076 | 20.00 | 20.28 | 6 | CF | 4.7 | 4.8 |
| <i>Microtendipes</i> | 09021011094 | | 8.11 | 6 | CF | | 1.9 |
| <i>Microtendipes pedellus group</i> | 09021011094166 | 2.67 | | | -- | 0.6 | |
| <i>Microtendipes rydalensis group</i> | 09021011094168 | 5.33 | | | -- | 1.3 | |
| <i>Phaenopsectra</i> | 09021011101 | | 13.52 | 7 | SC | | 3.2 |
| <i>Phaenopsectra obediens</i> | 09021011101182 | 13.33 | | | SC | 3.2 | |
| <i>Polypedilum</i> | 09021011102 | | 21.63 | 6 | SH | | 5.1 |
| <i>Polypedilum aviceps</i> | 09021011102181 | 13.33 | | | -- | 3.2 | |
| <i>Polypedilum albicorne</i> | 09021011102195 | 8.00 | | | -- | 1.9 | |
| <i>Roederiodes</i> | 09021016058 | 2.67 | 2.67 | 3 | PR | 0.6 | 0.6 |
| <i>Promoresia</i> | 09021113069 | | 13.33 | | -- | | 3.2 |
| <i>Promoresia tardella</i> | 09021113069052 | 13.33 | | | -- | 3.2 | |