



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

Station Information

Station Number: S-74
Waterbody: Sheepscot River - Station 74
Town: Whitefield
Directions: ABOVE RT. 126 BRIDGE AT USGS GAGE

DEP Drainage: St. Croix - Coastal
HUC8: 01050003
HUC8 Name: Coastal Drainages East of Small Po
Latitude: 44 13 23.47 N
Longitude: 69 35 36.03 W
Stream Order: 4

Sample Information

Log Number: 1875
Subsample Factor: X1
Type of Sample: ROCK BASKET
Replicates: 3
Date Deployed: 8/3/2009
Date Retrieved: 8/31/2009

Classification Attainment

Statutory Class: AA
Model Result with P>.6: A
Date Last Calculated: 4/1/2010

Final Determination: A
Reason for Determination: Model
Comments:

Date: 4/1/2010

Model Probabilities

| First Stage Model | | C or Better Model | |
|-------------------|------|-------------------|------|
| Class A | 0.92 | Class A, B, or C | 1.00 |
| Class B | 0.08 | Non-Attainment | 0.00 |

| B or Better Model | | A Model | |
|---------------------------|------|--------------------------------|------|
| 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 | 131.33 | 18 Relative Abundance Ephemeroptera | 0.34 |
| 02 Generic Richness | 36.00 | 19 EPT Generic Richness | 21.00 |
| 03 Plecoptera Mean Abundance | 10.67 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.00 |
| 04 Ephemeroptera Mean Abundance | 44.00 | 23 Relative Generic Richness- Plecoptera | 0.03 |
| 05 Shannon-Wiener Generic Diversity | 4.23 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 2.73 |
| 06 Hilsenhoff Biotic Index | 3.33 | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i> | 20.27 |
| 07 Relative Abundance - Chironomidae | 0.06 | 28 EP Generic Richness/14 | 0.71 |
| 08 Relative Generic Richness Diptera | 0.22 | 30 Presence of Class A Indicator Taxa/7 | 0.43 |
| 09 <i>Hydropsyche</i> Abundance | 11.27 | | |
| 11 <i>Cheumatopsyche</i> Abundance | 2.73 | | |
| 12 EPT Generic Richness/ Diptera | 2.63 | | |
| Generic Richness | | | |
| 13 Relative Abundance - Oligochaeta | 0.00 | | |
| 15 Perlidae Mean Abundance | 10.67 | | |
| (Family Functional Group) | | | |
| 16 Tanypodinae Mean Abundance | 0.00 | | |
| (Family Functional Group) | | | |
| 17 Chironomini Abundance (Family | 4.33 | | |
| Functional Group) | | | |

Five Most Dominant Taxa

| Rank | Taxon Name | Percent |
|------|----------------------|---------|
| 1 | <i>Baetis</i> | 15.48 |
| 2 | <i>Simulium</i> | 10.15 |
| 3 | <i>Hydropsyche</i> | 8.58 |
| 4 | <i>Brachycentrus</i> | 8.38 |
| 5 | <i>Acroneuria</i> | 8.12 |



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Log Number: 1875

Town: Whitefield
Waterbody: Sheepscot River - Station 74

Date Deployed: 8/3/2009
Date Retrieved: 8/31/2009

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 22.8 deg C
Dissolved Oxygen: 8.4 mg/l
Specific Conductance: 42 uS/cm
Velocity: 55 cm/s
pH: 6.89
Wetted Width: 18 m
Bankfull Width: 18 m
Depth: 69 cm

Waterbody Information - Retrieval

Temperature: 18.5 deg C
Dissolved Oxygen: 8.7 mg/l
Specific Conductance: 54 uS/cm
Velocity: 23 cm/s
pH: 6.86
Wetted Width: 17 m
Bankfull Width: 17 m
Depth: 51 cm

Water Chemistry - 8/3/2009

| | | | |
|-----------------------------|------------|-------------------------|-----------|
| Soluble Reactive Phosphorus | 2 ug/l | Nitrate+nitrite As N | 0.02 mg/l |
| Total Phosphorus | 0.018 mg/l | Total Kjeldahl Nitrogen | 0.3 mg/l |
| Dissolved Organic Carbon | 6.6 mg/l | Total Alkalinity | 12 mg/l |

Summary of Habitat Characteristics

Landuse Name

Cultivated

Pasture

Swamp Hardwood

Upland Hardwood

Potential Stressor

Canopy Cover

Open

Terrain

Rolling

Location

Above Road Crossing

Main Stem

Substrate

Boulder 60 %

Gravel 10 %

Rubble/Cobble 30 %

Landcover Summary - 2004 Data

| | | | | | | | |
|-----------------|-------|------------------|-----|----------------|------|----------------------|------|
| Total Area (ac) | 89648 | High Int. Dev. % | 0.2 | Water % | 4.2 | Non-vegetated % | 0.3 |
| | | Med Int. Dev. % | 0.4 | Wetland % | 8.7 | Tilled Agriculture % | 2.3 |
| | | Low Int. Dev. % | 3.1 | Upland Woody % | 76.1 | Grassland % | 4.7 |
| | | Development % | 3.7 | Natural % | 84.0 | Human Altered % | 11.8 |
| | | | | | | Impervious % | 3.0 |

Sample Comments



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| Log Number: 1875 | Subsample Factor: X1 | Replicates: 3 |
| | | Calculated: 4/1/2010 |

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance | |
|--|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Hydra</i> | 02010101001 | 0.33 | 0.33 | | PR | 0.3 | 0.3 |
| <i>Acroneuria</i> | 09020209042 | 1.00 | 10.67 | 0 | PR | 0.8 | 8.1 |
| <i>Acroneuria abnormis</i> | 09020209042121 | 2.67 | | 0 | PR | 2.0 | |
| <i>Acroneuria lycorias</i> | 09020209042125 | 2.67 | | | -- | 2.0 | |
| <i>Acroneuria mela</i> | 09020209042126 | 4.33 | | | -- | 3.3 | |
| <i>Boyeria</i> | 09020301004 | | 0.67 | 2 | PR | | 0.5 |
| <i>Boyeria grafiana</i> | 09020301004011 | 0.33 | | | -- | 0.3 | |
| <i>Boyeria vinosa</i> | 09020301004012 | 0.33 | | | -- | 0.3 | |
| <i>Baetis</i> | 09020401001 | 2.67 | 20.33 | 4 | CG | 2.0 | 15.5 |
| <i>Baetis flavistriga</i> | 09020401001004 | 4.67 | | | -- | 3.6 | |
| <i>Baetis intercalaris</i> | 09020401001008 | 12.00 | | | -- | 9.1 | |
| <i>Baetis pluto</i> | 09020401001009 | 1.00 | | | -- | 0.8 | |
| <i>Acerpenna</i> | 09020401007 | 2.67 | 8.00 | 5 | CG | 2.0 | 6.1 |
| <i>Acerpenna pygmaea</i> | 09020401007011 | 5.33 | | | -- | 4.1 | |
| <i>Plauditus</i> | 09020401012 | 1.00 | 1.00 | | CG | 0.8 | 0.8 |
| Heptageniidae | 09020402 | 2.00 | | | -- | 1.5 | |
| <i>Leucrocuta</i> | 09020402011 | 2.00 | 2.40 | 1 | SC | 1.5 | 1.8 |
| <i>Maccaffertium</i> | 09020402015 | 2.33 | 9.60 | 4 | SC | 1.8 | 7.3 |
| <i>Maccaffertium luteum</i> | 09020402015049 | 3.33 | | | -- | 2.5 | |
| <i>Maccaffertium modestum</i> | 09020402015051 | 2.33 | | | -- | 1.8 | |
| <i>Isonychia</i> | 09020404018 | 0.33 | 0.33 | 2 | CF | 0.3 | 0.3 |
| <i>Ephemerella</i> | 09020410035 | 1.67 | 1.67 | 1 | CG | 1.3 | 1.3 |
| <i>Serratella</i> | 09020410037 | | 0.33 | 2 | CG | | 0.3 |
| <i>Serratella (Teloganopsis) deficiens</i> | 09020410037121 | 0.33 | | | -- | 0.3 | |
| <i>Tricorythodes</i> | 09020411038 | 0.33 | 0.33 | 4 | CG | 0.3 | 0.3 |
| <i>Chimarra</i> | 09020601003 | 6.67 | 6.67 | 2 | CF | 5.1 | 5.1 |
| <i>Neureclipsis</i> | 09020603008 | 3.67 | 3.67 | 7 | CF | 2.8 | 2.8 |
| <i>Polycentropus</i> | 09020603010 | 2.00 | 2.00 | 6 | PR | 1.5 | 1.5 |
| Hydropsychidae | 09020604 | 0.33 | | | -- | 0.3 | |
| <i>Cheumatopsyche</i> | 09020604015 | 2.67 | 2.73 | 5 | CF | 2.0 | 2.1 |
| <i>Hydropsyche</i> | 09020604016 | 2.67 | 11.27 | 4 | CF | 2.0 | 8.6 |
| <i>Hydropsyche morosa</i> | 09020604016030 | 3.00 | | | -- | 2.3 | |
| <i>Hydropsyche sparna</i> | 09020604016032 | 4.00 | | | -- | 3.0 | |
| <i>Hydropsyche scalaris group</i> | 09020604016048 | 1.33 | | | -- | 1.0 | |
| <i>Protoptila</i> | 09020606022 | 0.33 | 0.33 | 1 | SC | 0.3 | 0.3 |
| <i>Brachycentrus</i> | 09020609043 | | 11.00 | 0 | CF | | 8.4 |
| <i>Brachycentrus appalachia</i> | 09020609043096 | 11.00 | | | -- | 8.4 | |
| <i>Micrasema</i> | 09020609044 | | 2.00 | 2 | SH | | 1.5 |



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| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Micrasema wataga</i> | 09020609044101 | 2.00 | | | -- | 1.5 | |
| <i>Lepidostoma</i> | 09020611064 | 1.33 | 1.33 | 1 | SH | 1.0 | 1.0 |
| <i>Helicopsyche</i> | 09020616070 | | 1.67 | 3 | SC | | 1.3 |
| <i>Helicopsyche borealis</i> | 09020616070137 | 1.67 | | | -- | 1.3 | |
| <i>Oecetis</i> | 09020618078 | | 1.33 | 8 | PR | | 1.0 |
| <i>Oecetis persimilis</i> | 09020618078157 | 1.33 | | | -- | 1.0 | |
| <i>Nanocladius</i> | 09021011049 | | 0.33 | 3 | CG | | 0.3 |
| <i>Nanocladius downesi</i> | 09021011049092 | 0.33 | | | -- | 0.3 | |
| <i>Rheocricotopus</i> | 09021011057 | | 0.33 | 6 | CG | | 0.3 |
| <i>Rheocricotopus robacki</i> | 09021011057105 | 0.33 | | | -- | 0.3 | |
| <i>Tvetenia</i> | 09021011065 | | 1.33 | 5 | CG | | 1.0 |
| <i>Tvetenia vitracies</i> | 09021011065113 | 1.33 | | | -- | 1.0 | |
| <i>Rheotanytarsus</i> | 09021011072 | 1.67 | 1.67 | 6 | CF | 1.3 | 1.3 |
| <i>Microtendipes</i> | 09021011094 | | 2.00 | 6 | CF | | 1.5 |
| <i>Microtendipes rydalis group</i> | 09021011094168 | 2.00 | | | -- | 1.5 | |
| <i>Polypedilum</i> | 09021011102 | | 2.33 | 6 | SH | | 1.8 |
| <i>Polypedilum aviceps</i> | 09021011102181 | 1.67 | | | -- | 1.3 | |
| <i>Polypedilum flavum</i> | 09021011102182 | 0.67 | | | -- | 0.5 | |
| <i>Simulium</i> | 09021012047 | 0.33 | 13.33 | 4 | CF | 0.3 | 10.2 |
| <i>Simulium jenningsi</i> | 09021012047060 | | | | -- | | |
| <i>Simulium jenningsi complex</i> | 09021012047070 | 11.67 | | | CF | 8.9 | |
| <i>Simulium venustum/verecundum complex</i> | 09021012047072 | 1.33 | | | CF | 1.0 | |
| <i>Atherix</i> | 09021015055 | 0.33 | 0.33 | 2 | PR | 0.3 | 0.3 |
| <i>Psephenus</i> | 09021108058 | | 0.33 | 4 | SC | | 0.3 |
| <i>Psephenus herricki</i> | 09021108058028 | 0.33 | | | -- | 0.3 | |
| <i>Promoresia</i> | 09021113069 | | 0.33 | | -- | | 0.3 |
| <i>Promoresia elegans</i> | 09021113069051 | 0.33 | | | -- | 0.3 | |
| <i>Stenelmis</i> | 09021113070 | | 0.67 | 5 | SC | | 0.5 |
| <i>Stenelmis concinna</i> | 09021113070054 | 0.67 | | | -- | 0.5 | |
| Curculionidae | 09021115 | 1.33 | 1.33 | | -- | 1.0 | 1.0 |
| <i>Amnicola</i> | 10010104013 | | 7.33 | | SC | | 5.6 |
| <i>Amnicola limosa</i> | 10010104013018 | 7.33 | | | -- | 5.6 | |