



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

Station Information

| | |
|---|--------------------------|
| Station Number: S-548 | River Basin: Saco |
| Waterbody: Pleasant River (presumpscot) - Station 548 | HUC8 Name: Presumpscot |
| Town: Windham | Latitude: 43 48 19.9 N |
| Directions: RIFFLES BELOW RTE 302 CROSSING | Longitude: 70 24 40.27 W |
| | Stream Order: 3 |

Sample Information

| | | |
|-------------------------|--------------------------|---------------------------|
| Log Number: 2843 | Type of Sample: ROCK BAG | Date Deployed: 7/31/2020 |
| Subsample Factor: X1 | Replicates: 3 | Date Retrieved: 8/25/2020 |

Classification Attainment

| | | |
|------------------------------------|--|-----------------|
| Statutory Class: B | Final Determination: B | Date: 2/17/2021 |
| Model Result with $P \geq 0.6$: B | Reason for Determination: Model | |
| Date Last Calculated: 2/16/2021 | Comments: | |

Model Probabilities

| <u>First Stage Model</u> | | <u>C or Better Model</u> | |
|---------------------------|------|--------------------------------|------|
| Class A | 0.37 | Class A, B, or C | 1.00 |
| Class B | 0.53 | Non-Attainment | 0.00 |
| | | | |
| <u>B or Better Model</u> | | <u>A Model</u> | |
| Class A or B | 0.99 | Class A | 0.35 |
| Class C or Non-Attainment | 0.01 | Class B or C or Non-Attainment | 0.65 |

Model Variables

| | | | |
|--|--------|---|--------|
| 01 Total Mean Abundance | 342.33 | 18 Relative Abundance Ephemeroptera | 0.07 |
| 02 Generic Richness | 53.00 | 19 EPT Generic Richness | 20.00 |
| 03 Plecoptera Mean Abundance | 1.00 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.00 |
| 04 Ephemeroptera Mean Abundance | 22.67 | 23 Relative Generic Richness- Plecoptera | 0.04 |
| 05 Shannon-Wiener Generic Diversity | 3.97 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 108.86 |
| 06 Hilsenhoff Biotic Index | 5.17 | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i> | 13.00 |
| 07 Relative Abundance - Chironomidae | 0.27 | 28 EP Generic Richness/14 | 0.57 |
| 08 Relative Generic Richness Diptera | 0.32 | 30 Presence of Class A Indicator Taxa/7 | 0.29 |
| 09 <i>Hydropsyche</i> Abundance | 36.52 | | |
| 11 <i>Cheumatopsyche</i> Abundance | 90.13 | | |
| 12 EPT Generic Richness/ Diptera Generic Richness | 1.18 | | |
| 13 Relative Abundance - Oligochaeta | 0.00 | | |
| 15 Perlidae Mean Abundance (Family Functional Group) | 0.67 | | |
| 16 Tanypodinae Mean Abundance (Family Functional Group) | 3.35 | | |
| 17 Chironomini Abundance (Family Functional Group) | 26.43 | | |

Five Most Dominant Taxa

| Rank | Taxon Name | Percent |
|------|-----------------------|---------|
| 1 | <i>Cheumatopsyche</i> | 26.33 |
| 2 | <i>Rheotanytarsus</i> | 12.41 |
| 3 | <i>Hydropsyche</i> | 10.67 |
| 4 | <i>Hydroptila</i> | 7.98 |
| 5 | <i>Phaenopsectra</i> | 5.28 |



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Station Number: S-548 Town: Windham Date Deployed: 7/31/2020
Log Number: 2843 Waterbody: Pleasant River (presumpscot) - Station 548 Date Retrieved: 8/25/2020

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 23.8 deg C
Dissolved Oxygen: 9.45 mg/l
Dissolved Oxygen Saturation: 112.5 %
Specific Conductance: 201.5 uS/cm
Velocity: 18.3 cm/s
pH: 7.66
Wetted Width: 11.3 m
Bankfull Width: 11.6 m
Depth: 56.3 cm

Waterbody Information - Retrieval

Temperature: 21.4 deg C
Dissolved Oxygen: 8.26 mg/l
Dissolved Oxygen Saturation: 94.6 %
Specific Conductance: 282.3 uS/cm
Velocity: 14 cm/s
pH: 7.35
Wetted Width: 11.5 m
Bankfull Width: 11.6 m
Depth: 53 cm

Water Chemistry

Summary of Habitat Characteristics

| | | | |
|---------------------------|---------------------|------------------|------|
| <u>Landuse Name</u> | <u>Canopy Cover</u> | <u>Terrain</u> | |
| Cultivated | Dense | Flat | |
| Pasture | | | |
| Urban | | | |
| <u>Potential Stressor</u> | <u>Location</u> | <u>Substrate</u> | |
| Agricultural Runoff | Below Urban NPS | Boulder | 5 % |
| Urban Runoff | | Gravel | 10 % |
| | | Rubble/Cobble | 80 % |
| | | Sand | 5 % |

Landcover Summary - 2004 Data

| | | | | | | | |
|-----------------|-------|------------------|-----|----------------|------|----------------------|------|
| Total Area (ac) | 29255 | High Int. Dev. % | 0.7 | Water % | 6.9 | Non-vegetated % | 0.3 |
| | | Med Int. Dev. % | 1.1 | Wetland % | 5.3 | Tilled Agriculture % | 1.6 |
| | | Low Int. Dev. % | 4.4 | Upland Woody % | 70.7 | Grassland % | 6.2 |
| | | Development % | 6.2 | Natural % | 75.3 | Human Altered % | 17.8 |
| | | | | | | Impervious % | 5.5 |

Sample Comments

BLACKNOSE DACE OBSERVED.
DACE SP. AND POTAMOGETON EPIHYDRUS OBSERVED. SLIGHT COW MANURE ODOR.



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Aquatic Life Taxonomic Inventory Report

Station Number: S-548 Waterbody: Pleasant River (presumpscot) - Station 548 Town: Windham
Log Number: 2843 Subsample Factor: X1 Replicates: 3 Calculated: 2/16/2021

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance % | |
|--|----------------------|-----------------------------|----------|-------------------------|--------------------------|----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Girardia</i> | 03010102002 | 1.33 | 1.33 | | -- | 0.4 | 0.4 |
| <i>Prostoma</i> | 04010101001 | 0.67 | 0.67 | | -- | 0.2 | 0.2 |
| Lumbriculidae | 08020101 | 0.33 | 0.33 | | -- | 0.1 | 0.1 |
| <i>Nais</i> | 08020202009 | 1.00 | 1.00 | | CG | 0.3 | 0.3 |
| <i>Crangonyx</i> | 09010202004 | 1.00 | 1.00 | 8 | -- | 0.3 | 0.3 |
| <i>Orconectes</i> | 09010301008 | 0.67 | 0.67 | | CG | 0.2 | 0.2 |
| <i>Taeniopteryx</i> | 09020202014 | 0.33 | 0.33 | 2 | SH | 0.1 | 0.1 |
| <i>Acroneuria</i> | 09020209042 | 0.33 | 0.67 | 0 | PR | 0.1 | 0.2 |
| <i>Acroneuria lycorias</i> | 09020209042125 | 0.33 | | | -- | 0.1 | |
| <i>Boyeria</i> | 09020301004 | | 2.33 | 2 | PR | | 0.7 |
| <i>Boyeria vinosa</i> | 09020301004012 | 2.33 | | | -- | 0.7 | |
| <i>Hagenius</i> | 09020302008 | | 0.33 | 1 | PR | | 0.1 |
| <i>Hagenius brevistylus</i> | 09020302008015 | 0.33 | | | PR | 0.1 | |
| Calopterygidae | 09020307 | 1.33 | 1.33 | | -- | 0.4 | 0.4 |
| <i>Calopteryx</i> | 09020307043 | 1.33 | 1.33 | 5 | PR | 0.4 | 0.4 |
| <i>Baetis</i> | 09020401001 | | 3.00 | 4 | CG | | 0.9 |
| <i>Baetis flavistriga</i> | 09020401001004 | 2.00 | | | -- | 0.6 | |
| <i>Baetis intercalaris</i> | 09020401001008 | 1.00 | | | -- | 0.3 | |
| <i>Acerpenna</i> | 09020401007 | | 1.00 | 5 | CG | | 0.3 |
| <i>Acerpenna macdunnoughi</i> | 09020401007001 | 1.00 | | | -- | 0.3 | |
| <i>Leucrocuta</i> | 09020402011 | 1.33 | 1.33 | 1 | SC | 0.4 | 0.4 |
| <i>Maccaffertium</i> | 09020402015 | 5.33 | 12.33 | 4 | SC | 1.6 | 3.6 |
| <i>Maccaffertium modestum</i> | 09020402015051 | 7.00 | | | -- | 2.0 | |
| <i>Isonychia</i> | 09020404018 | 3.33 | 3.33 | 2 | CF | 1.0 | 1.0 |
| <i>Serratella</i> | 09020410037 | | 1.67 | 2 | CG | | 0.5 |
| <i>Serratella deficiens (Teloganopsis deficiens)</i> | 09020410037121 | 1.67 | | | -- | 0.5 | |
| Philopotamidae | 09020601 | 0.33 | 0.33 | | -- | 0.1 | 0.1 |
| <i>Chimarra</i> | 09020601003 | | 2.00 | 2 | CF | | 0.6 |
| <i>Chimarra aterrima</i> | 09020601003002 | 1.00 | | | -- | 0.3 | |
| <i>Chimarra obscura</i> | 09020601003003 | 1.00 | | | -- | 0.3 | |
| <i>Neureclipsis</i> | 09020603008 | 1.67 | 1.67 | 7 | CF | 0.5 | 0.5 |
| <i>Polycentropus</i> | 09020603010 | 2.67 | 2.67 | 6 | PR | 0.8 | 0.8 |
| Hydropsychidae | 09020604 | 0.67 | | | -- | 0.2 | |
| <i>Cheumatopsyche</i> | 09020604015 | 89.67 | 90.13 | 5 | CF | 26.2 | 26.3 |
| <i>Hydropsyche</i> | 09020604016 | 6.67 | 36.52 | 4 | CF | 1.9 | 10.7 |
| <i>Hydropsyche bronta</i> | 09020604016029 | 8.67 | | | -- | 2.5 | |
| <i>Hydropsyche morosa</i> | 09020604016030 | 7.67 | | | -- | 2.2 | |



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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>Hydropsyche sparna</i> | 09020604016032 | | | 3.00 | |
| <i>Hydropsyche betteni</i> | 09020604016037 | 10.33 | | | -- | 3.0 | |
| <i>Macrostemum</i> | 09020604018 | 4.00 | 4.02 | 3 | CF | 1.2 | 1.2 |
| Hydroptilidae | 09020607 | 0.33 | 0.33 | | -- | 0.1 | 0.1 |
| <i>Hydroptila</i> | 09020607026 | 27.33 | 27.33 | 6 | P | 8.0 | 8.0 |
| <i>Micrasema</i> | 09020609044 | 0.33 | 0.33 | 2 | SH | 0.1 | 0.1 |
| <i>Pycnopsyche</i> | 09020610049 | 0.67 | 0.67 | 4 | SH | 0.2 | 0.2 |
| Leptoceridae | 09020618 | | | | -- | | |
| <i>Oecetis</i> | 09020618078 | 14.33 | 14.33 | 8 | PR | 4.2 | 4.2 |
| <i>Nigronia</i> | 09020701003 | | 0.33 | 0 | PR | | 0.1 |
| <i>Nigronia serricornis</i> | 09020701003003 | 0.33 | | | -- | 0.1 | |
| <i>Antocha</i> | 09021001004 | | | 3 | CG | | |
| Chironomidae | 09021011 | 0.33 | | | -- | 0.1 | |
| <i>Ablabesmyia</i> | 09021011001 | 0.67 | 0.67 | 8 | PR | 0.2 | 0.2 |
| <i>Nilotanytus</i> | 09021011012 | | 2.01 | 6 | PR | | 0.6 |
| <i>Nilotanytus fimbriatus</i> | 09021011012027 | 2.00 | | | -- | 0.6 | |
| <i>Pentaneura</i> | 09021011014 | 0.67 | 0.67 | 6 | PR | 0.2 | 0.2 |
| <i>Cricotopus</i> | 09021011037 | 5.33 | 12.38 | 7 | SH | 1.6 | 3.6 |
| <i>Cricotopus bicinctus</i> | 09021011037057 | 7.00 | | | -- | 2.0 | |
| <i>Nanocladius</i> | 09021011049 | 0.33 | 0.33 | 3 | CG | 0.1 | 0.1 |
| <i>Orthocladius</i> | 09021011050 | | 0.67 | 6 | CG | | 0.2 |
| <i>Orthocladius dubitatus</i> | 09021011050103 | 0.67 | | | -- | 0.2 | |
| <i>Thienemanniella</i> | 09021011062 | 1.33 | 1.34 | 6 | CG | 0.4 | 0.4 |
| <i>Tvetenia</i> | 09021011065 | | 0.67 | 5 | CG | | 0.2 |
| <i>Tvetenia vitracies</i> | 09021011065113 | 0.67 | | | -- | 0.2 | |
| <i>Cladotanytarsus</i> | 09021011068 | 0.33 | 0.33 | 7 | CG | 0.1 | 0.1 |
| <i>Rheotanytarsus</i> | 09021011072 | | 42.48 | 6 | CF | | 12.4 |
| <i>Rheotanytarsus exiguus group</i> | 09021011072127 | 37.33 | | | CF | 10.9 | |
| <i>Rheotanytarsus pellucidus</i> | 09021011072128 | 5.00 | | | CF | 1.5 | |
| <i>Stempellinella</i> | 09021011074 | 0.33 | 0.33 | 2 | -- | 0.1 | 0.1 |
| <i>Tanytarsus</i> | 09021011076 | 5.67 | 5.69 | 6 | CF | 1.7 | 1.7 |
| <i>Microtendipes</i> | 09021011094 | | 4.01 | 6 | CF | | 1.2 |
| <i>Microtendipes pedellus group</i> | 09021011094166 | 0.67 | | | -- | 0.2 | |
| <i>Microtendipes rydalensis group</i> | 09021011094168 | 3.33 | | | -- | 1.0 | |
| <i>Phaenopsectra</i> | 09021011101 | | 18.06 | 7 | SC | | 5.3 |
| <i>Phaenopsectra obediens group</i> | 09021011101180 | 18.00 | | | -- | 5.3 | |
| <i>Polypedilum</i> | 09021011102 | | 4.35 | 6 | SH | | 1.3 |
| <i>Polypedilum aviceps</i> | 09021011102181 | 1.67 | | | -- | 0.5 | |



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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>Polypedilum flavum</i> | 09021011102182 | 0.67 | | | -- | 0.2 | |
| <i>Polypedilum illinoense group</i> | 09021011102185 | 2.00 | | | -- | 0.6 | |
| <i>Simulium</i> | 09021012047 | 0.33 | 0.33 | 4 | CF | 0.1 | 0.1 |
| <i>Hemerodromia</i> | 09021016057 | 1.33 | 1.33 | 3 | PR | 0.4 | 0.4 |
| <i>Ancyronyx</i> | 09021113063 | | 1.00 | 6 | -- | | 0.3 |
| <i>Ancyronyx variegatus</i> | 09021113063034 | 1.00 | | | CG | 0.3 | |
| <i>Dubiraphia</i> | 09021113064 | 1.67 | 1.67 | 6 | -- | 0.5 | 0.5 |
| <i>Macronychus</i> | 09021113065 | | 13.67 | 4 | -- | | 4.0 |
| <i>Macronychus glabratus</i> | 09021113065040 | 13.67 | | | -- | 4.0 | |
| <i>Optioservus</i> | 09021113067 | 1.33 | 15.00 | 3 | SC | 0.4 | 4.4 |
| <i>Optioservus tardella</i> | 09021113067052 | 13.67 | | | -- | 4.0 | |
| <i>Stenelmis</i> | 09021113070 | 0.33 | 0.67 | 5 | SC | 0.1 | 0.2 |
| <i>Stenelmis crenata</i> | 09021113070055 | 0.33 | | | -- | 0.1 | |