



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

Station Information

| | |
|---|---|
| Station Number: S-795 | DEP Drainage: Piscataqua - Presumpscot - Saco |
| Waterbody: Kimball Brook - Station 795 | HUC8: 01060001 |
| Town: South Portland | HUC8 Name: Presumpscot |
| Directions: 40 M UPSTREAM OF OCEAN STREET | Latitude: 43 37 50.17 N |
| | Longitude: 70 15 6.17 W |
| | Stream Order: 1 |

Sample Information

| | | |
|-------------------------|--------------------------|---------------------------|
| Log Number: 1927 | Type of Sample: ROCK BAG | Date Deployed: 7/12/2010 |
| Subsample Factor: X1 | Replicates: 3 | Date Retrieved: 8/13/2010 |

Classification Attainment

| | | |
|--------------------------------|--|-----------------|
| Statutory Class: C | Final Determination: NA | Date: 6/10/2011 |
| Model Result with P>.6: I | Reason for Determination: Best Professional Judgement | |
| Date Last Calculated: 6/7/2011 | Comments: Low Numbers. Urban toxics and altered hydrology. | |

Model Probabilities

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

Model Variables

| | | | |
|--------------------------------------|-------|---|------|
| 01 Total Mean Abundance | 18.67 | 18 Relative Abundance Ephemeroptera | 0.00 |
| 02 Generic Richness | 13.00 | 19 EPT Generic Richness | 1.00 |
| 03 Plecoptera Mean Abundance | 0.00 | 21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i> | 0.33 |
| 04 Ephemeroptera Mean Abundance | 0.00 | 23 Relative Generic Richness- Plecoptera | 0.00 |
| 05 Shannon-Wiener Generic Diversity | 2.74 | 25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i> | 1.00 |
| 06 Hilsenhoff Biotic Index | 5.63 | 26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i> | 0.00 |
| 07 Relative Abundance - Chironomidae | 0.43 | 28 EP Generic Richness/14 | 0.00 |
| 08 Relative Generic Richness Diptera | 0.38 | 30 Presence of Class A Indicator Taxa/7 | 0.00 |
| 09 <i>Hydropsyche</i> Abundance | 0.00 | | |
| 11 <i>Cheumatopsyche</i> Abundance | 1.00 | | |
| 12 EPT Generic Richness/ Diptera | 0.20 | | |
| Generic Richness | | | |

Five Most Dominant Taxa

| | | | | |
|-------------------------------------|------|------|-----------------------|---------|
| 13 Relative Abundance - Oligochaeta | 0.07 | Rank | Taxon Name | Percent |
| 15 Perlidae Mean Abundance | 0.00 | 1 | <i>Polypedilum</i> | 39.13 |
| (Family Functional Group) | | 2 | <i>Erpobdella</i> | 21.43 |
| 16 Tanypodinae Mean Abundance | 0.35 | 3 | <i>Stenelmis</i> | 12.50 |
| (Family Functional Group) | | 4 | <i>Stylodrilus</i> | 5.36 |
| 17 Chironomini Abundance (Family | 7.65 | 5 | <i>Cheumatopsyche</i> | 5.36 |
| Functional Group) | | | | |



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Town: South Portland

Date Deployed: 7/12/2010

Log Number: 1927

Waterbody: Kimball Brook - Station 795

Date Retrieved: 8/13/2010

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 23 deg C
Dissolved Oxygen: 7.4 mg/l
Specific Conductance: 266 uS/cm
Velocity:
pH:
Wetted Width: 1 m
Bankfull Width: 2 m
Depth: 10 cm

Waterbody Information - Retrieval

Temperature: 21.1 deg C
Dissolved Oxygen: 6.8 mg/l
Specific Conductance: 410 uS/cm
Velocity:
pH:
Wetted Width:
Bankfull Width: 2 m
Depth: 15 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name

Upland Hardwood
Urban

Canopy Cover

Dense

Terrain

Flat

Potential Stressor

Nps Pollution
Urban Runoff

Location

Above Road Crossing
Below Urban NPS

Substrate

Detritus 5 %
Sand 95 %

Landcover Summary - 2004 Data

| | | | | | | | |
|-----------------|-----|------------------|-----|----------------|------|----------------------|------|
| Total Area (ac) | 330 | High Int. Dev. % | 0.0 | Water % | 1.6 | Non-vegetated % | 0.1 |
| | | Med Int. Dev. % | 0.6 | Wetland % | 2.4 | Tilled Agriculture % | 0.0 |
| | | Low Int. Dev. % | 7.4 | Upland Woody % | 64.8 | Grassland % | 4.5 |
| | | Development % | 8.0 | Natural % | 67.8 | Human Altered % | 30.6 |
| | | | | | | Impervious % | 9.2 |

Sample Comments

8/13/2010 IRON FLOC STILL. FLOW VISIBLE BUT VELOCITY NOT MEASURABLE.

7/12/2010 IRON FLOC, DISTINCT SMALL OF SEWAGE. FLOW VISIBLE BUT VELOCITY NOT MEASURABLE.

7/12/2010 IRON FLOC, DISTINCT SMELL OF SEWAGE. FLOW VISIBLE BUT VELOCITY NOT MEASURABLE.



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-795

Waterbody: Kimball Brook - Station 795

Town: South Portland

Log Number: 1927

Subsample Factor: X1

Replicates: 3

Calculated: 6/7/2011

| Taxon | Maine Taxonomic Code | Count (Mean of Samplers) | | Hilsenhoff Biotic Index | Functional Feeding Group | Relative Abundance | |
|------------------------------------|----------------------------|-----------------------------|----------|-------------------------------|--------------------------------|-----------------------|----------|
| | | Actual | Adjusted | | | Actual | Adjusted |
| <i>Stylodrilus</i> | 08020101004 | | 1.00 | | -- | | 5.4 |
| <i>Stylodrilus heringianus</i> | 08020101004001 | 1.00 | | | -- | 5.4 | |
| Lumbricidae | 08020205 | 0.33 | 0.33 | | -- | 1.8 | 1.8 |
| <i>Glossiphonia</i> | 08030101004 | | 0.67 | | -- | | 3.6 |
| <i>Glossiphonia complanata</i> | 08030101004001 | 0.67 | | | -- | 3.6 | |
| <i>Helobdella</i> | 08030101005 | | 0.33 | | -- | | 1.8 |
| <i>Helobdella stagnalis</i> | 08030101005004 | 0.33 | | | -- | 1.8 | |
| <i>Erpobdella</i> | 08030203002 | 0.33 | 4.00 | | -- | 1.8 | 21.4 |
| <i>Erpobdella punctata</i> | 08030203002001 | 1.67 | | | -- | 8.9 | |
| <i>Erpobdella tetragon</i> | 08030203002004 | 2.00 | | | -- | 10.7 | |
| <i>Cheumatopsyche</i> | 09020604015 | 1.00 | 1.00 | 5 | CF | 5.4 | 5.4 |
| <i>Tipula</i> | 09021001002 | 0.33 | 0.33 | 4 | SH | 1.8 | 1.8 |
| Chironomidae | 09021011 | 0.33 | | | -- | 1.8 | |
| <i>Meropelopia</i> | 09021011010 | 0.33 | 0.35 | | -- | 1.8 | 1.9 |
| <i>Polypedilum</i> | 09021011102 | | 7.30 | 6 | SH | | 39.1 |
| <i>Polypedilum scalaenum group</i> | 09021011102189 | 7.00 | | | -- | 37.5 | |
| <i>Stenochironomus</i> | 09021011105 | 0.33 | 0.35 | 5 | CG | 1.8 | 1.9 |
| Stratiomyidae | 09021013 | 0.33 | 0.33 | | -- | 1.8 | 1.8 |
| <i>Ancyronyx</i> | 09021113063 | | 0.33 | 6 | -- | | 1.8 |
| <i>Ancyronyx variegatus</i> | 09021113063034 | 0.33 | | | CG | 1.8 | |
| <i>Stenelmis</i> | 09021113070 | 2.33 | 2.33 | 5 | SC | 12.5 | 12.5 |