

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

|                            |
|----------------------------|
| <b>Station Information</b> |
|----------------------------|

|                                |                   |                                  |
|--------------------------------|-------------------|----------------------------------|
| <b>Station Number: W-379</b>   | Trip ID: 2022-379 | River Basin: Penobscot           |
| Waterbody: RIPOGENUS LAKE (K2) |                   | HUC8 Name: West Branch Penobscot |
| Town: T03 R12 Wels             |                   | Latitude: 45° 53' 03.300" N      |
| Mitigation Monitoring Site: No |                   | Longitude: 69° 13' 34.788" W     |

|                           |
|---------------------------|
| <b>Sample Information</b> |
|---------------------------|

|                               |                                  |                                              |
|-------------------------------|----------------------------------|----------------------------------------------|
| <b>Sample ID: KQ-2022-379</b> | Type of Sample: KICK-QUALITATIVE | Sampling Organization: NORMANDEAU ASSOCIATES |
| Date Sampled: 8/3/2022        | Replicates: 3                    | Taxonomist: NORMANDEAU ASSOCIATES            |
| Subsample Factor: X1          |                                  |                                              |

|                                  |
|----------------------------------|
| <b>Classification Attainment</b> |
|----------------------------------|

|                                  |            |                                                                                             |          |                  |
|----------------------------------|------------|---------------------------------------------------------------------------------------------|----------|------------------|
| <b>Statutory Class:</b>          | <b>GPA</b> | <b>Final Determination:</b>                                                                 | <b>C</b> | Date: 12/21/2023 |
| Model Result with $P \geq 0.6$ : | B          | <b>Reason for Determination: Best Professional Judgement</b>                                |          |                  |
| Date Last Calculated:            | 12/21/2023 | Comments: Sample method not appropriate for model. Sample does meet structure and function. |          |                  |

|                            |
|----------------------------|
| <b>Model Probabilities</b> |
|----------------------------|

| <u>First Stage Model</u>  |               | <u>C or Better Model</u>       |      |
|---------------------------|---------------|--------------------------------|------|
| Class A: 0.06             | Class C: 0.12 | Class A, B, or C               | 1.00 |
| Class B: 0.82             | NA: 0.00      | Non-Attainment                 | 0.00 |
| <u>B or Better Model</u>  |               | <u>A Model</u>                 |      |
| Class A or B              | 0.88          | Class A                        | 0.06 |
| Class C or Non-Attainment | 0.12          | Class B or C or Non-Attainment | 0.94 |

|                        |
|------------------------|
| <b>Model Variables</b> |
|------------------------|

|                                                                               |        | Reference Range<br>(10th or 90th percentile value) |
|-------------------------------------------------------------------------------|--------|----------------------------------------------------|
| Abundance of Taxa in the Order Ephemeroptera                                  | 1.333  | $\geq 0.000$                                       |
| Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera | 0.211  | $\geq 0.140$                                       |
| Shannon-Wiener Diversity Index                                                | 2.414  | $\geq 2.497$                                       |
| Relative Abundance of Collector-Gatherer Taxa                                 | 0.505  | $\geq 0.131$                                       |
| Abundance of Sensitive Taxa                                                   | 18.667 | $\geq 3.424$                                       |
| Richness of Sensitive Taxa                                                    | 3.000  | $\geq 3.000$                                       |
| Maine Tolerance Index Score For Wetland Macroinvertebrates                    | 26.851 | $\leq 29.776$                                      |
| Ratio of MTI Sensitive to Eurytopic Taxa Abundance                            | 7.000  | $\geq 0.334$                                       |

|                        |
|------------------------|
| <b>Other Variables</b> |
|------------------------|

|                          |      |
|--------------------------|------|
| Total Mean Abundance     | 175  |
| Generic Richness:        | 19   |
| Hilsenhoff Biotic Index: | 7.27 |

|                                |
|--------------------------------|
| <b>Five Most Dominant Taxa</b> |
|--------------------------------|

| Rank | Taxon Name            | Percent |
|------|-----------------------|---------|
| 1    | <i>Tanytarsus</i>     | 36.19   |
| 2    | <i>Dicrotendipes</i>  | 34.86   |
| 3    | <i>Psectrocladius</i> | 10.29   |

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

---

|   |                    |      |
|---|--------------------|------|
| 4 | <i>Ablabesmyia</i> | 6.10 |
| 5 | <i>Chironomus</i>  | 3.43 |

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

|                                |
|--------------------------------|
| <b>Surface Water Chemistry</b> |
|--------------------------------|

**Sample Date:** 8/3/2022 3:40:00 PM

| <b>Collection Method</b> | <b>Parameter</b>            | <b>Value</b> | <b>Units</b> | <b>Qualifier</b> |
|--------------------------|-----------------------------|--------------|--------------|------------------|
| In-situ                  | Dissolved Oxygen            | 8.5          | mg/l         |                  |
| In-situ                  | Dissolved Oxygen Saturation | 104.2        | %            |                  |
| In-situ                  | pH                          | 6.84         |              |                  |
| In-situ                  | Specific Conductance        | 28.7         | us/cm        |                  |
| In-situ                  | Temperature                 | 26.1         | deg c        |                  |

|                                      |
|--------------------------------------|
| <b>Landcover Summary - 2004 Data</b> |
|--------------------------------------|

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

|                                           |
|-------------------------------------------|
| <b>Summary of Habitat Characteristics</b> |
|-------------------------------------------|

| <u>Human Disturbance</u>  | <u>Landscape-level Cowardin Classification</u> | <u>Hydrogeomorphic Setting</u> |
|---------------------------|------------------------------------------------|--------------------------------|
| Total Score:              | System:                                        | Landscape Position:            |
| Hydrologic Modifications: | Subsystem:                                     | Lotic Gradient:                |
| Vegetative Modifications: | Class 1:                                       | Flow Path:                     |
| Chemical Pollutants:      | Subclass 1:                                    | Land Form:                     |
| Watershed                 | Class 2:                                       | Land Form Type:                |
| Characterization and      | Subclass 2:                                    | Waterbody Type:                |
| Non-point Sources:        | Class 3:                                       | Waterbody Subtype:             |
|                           | Subclass 3:                                    |                                |
|                           |                                                | Comments:                      |

Dominant Plant Species:

Additional Plant Community Observations:

Habitat Classification:

Substrate Classification:  
BOULDER SUBSTRATE  
GRAVEL SUBSTRATE  
RUBBLE/COBBLE SUBSTRATE  
SILT/MUCK SUBSTRATE

Average Depth:

Sample Comments:

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

**Additional Summary Variables**

|                                |                                |                        |
|--------------------------------|--------------------------------|------------------------|
| <b>Station Number: W-379</b>   | Waterbody: RIPOGENUS LAKE (K2) | Town: T03 R12 Wels     |
| <b>Log Number: KQ-2022-379</b> | Subsample Factor: X1           | Replicates: 3          |
|                                |                                | Calculated: 12/21/2023 |

|                                     | Abundance | Relative Abundance | Richness | Relative Richness |
|-------------------------------------|-----------|--------------------|----------|-------------------|
| EOT Taxa:                           | 2.00      | 0.011              | 4        | 0.21              |
| EPT Taxa:                           | 1.67      | 0.010              | 3        | 0.16              |
| Insects:                            | 170.67    | 0.975              | 15       | 0.79              |
| Non-Insects:                        | 4.33      | 0.025              | 4        | 0.21              |
| Leeches:                            | 0.00      | 0.000              | 0        | 0.00              |
| Oligochaetes:                       | 2.33      | 0.013              | 2        | 0.11              |
| Snails:                             | 2.00      | 0.011              | 2        | 0.11              |
| Bivalves:                           | 0.00      | 0.000              | 0        | 0.00              |
| Isopods:                            | 0.00      | 0.000              | 0        | 0.00              |
| Amphipods:                          | 0.00      | 0.000              | 0        | 0.00              |
| Mites:                              | 0.00      | 0.000              | 0        | 0.00              |
| Stoneflies:                         | 0.00      | 0.000              | 0        | 0.00              |
| Mayflies:                           | 1.33      | 0.008              | 2        | 0.11              |
| Odonates:                           | 0.33      | 0.002              | 1        | 0.05              |
| Caddisflies:                        | 0.33      | 0.002              | 1        | 0.05              |
| Diptera:                            | 167.33    | 0.956              | 10       | 0.53              |
| Hemiptera:                          | 1.33      | 0.008              | 1        | 0.05              |
| Beetles:                            | 0.00      | 0.000              | 0        | 0.00              |
| Chironomids:                        | 167.33    | 0.956              | 10       | 0.53              |
| Tanypodinae Tribe:                  | 13.33     | 0.076              | 2        | 0.11              |
| Chironomiinae Tribe:                | 134.33    | 0.768              | 5        | 0.26              |
| Orthoclodiinae Tribe:               | 19.67     | 0.112              | 3        | 0.16              |
| Collector-Filterers:                | 65.00     | 0.371              | 2        | 0.11              |
| Collector-Gatherers:                | 88.33     | 0.505              | 6        | 0.32              |
| Predators:                          | 16.33     | 0.093              | 5        | 0.26              |
| Piercers:                           | 0.00      | 0.000              | 0        | 0.00              |
| Shredders:                          | 1.00      | 0.006              | 1        | 0.05              |
| Scrapers:                           | 2.33      | 0.013              | 3        | 0.16              |
| Maine Tolerance:                    |           |                    |          |                   |
| Sensitive:                          | 18.67     | 0.108              | 3        | 0.19              |
| Intermediate:                       | 151.33    | 0.876              | 11       | 0.69              |
| Eurytopic:                          | 2.67      | 0.015              | 2        | 0.13              |
| Ratio of MTI Sensitive to Eurytopic | 7.00      | 7.000              | 1.50     | 1.50              |

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

**Aquatic Life Taxonomic Inventory Report**

|                                |                                |                        |
|--------------------------------|--------------------------------|------------------------|
| <b>Station Number: W-379</b>   | Waterbody: RIPOGENUS LAKE (K2) | Town: T03 R12 Wels     |
| <b>Log Number: KQ-2022-379</b> | Subsample Factor: X1           | Replicates: 3          |
|                                |                                | Calculated: 12/21/2023 |

| Taxon                               | Maine<br>Taxonomic<br>Code | Count<br>(Mean of<br>Samples) |          | Hilsen-<br>hoff<br>Biotic<br>Index | Func-<br>tional<br>Feeding<br>Group | Maine<br>Toler-<br>ance<br>Index | Tribe Taxa Group |                     |
|-------------------------------------|----------------------------|-------------------------------|----------|------------------------------------|-------------------------------------|----------------------------------|------------------|---------------------|
|                                     |                            | Actual                        | Adjusted |                                    |                                     |                                  |                  |                     |
| Nais                                | 08020202009                | 1.67                          | 1.67     | --                                 | CG                                  | 43-E                             | --               | Worm                |
| Ripistes                            | 08020202011                | 0.00                          | 0.67     | --                                 | --                                  | --                               | --               | Worm                |
| <i>Ripistes parasita</i>            | 08020202011001             | 0.67                          | 0.00     | --                                 | --                                  | --                               | --               | Worm                |
| Libellula                           | 09020306035                | 0.33                          | 0.33     | 9                                  | PR                                  | 15-S                             | --               | Dragonfly/damselfly |
| Baetis                              | 09020401001                | 1.00                          | 1.00     | 4                                  | CG                                  | 29.9-I                           | --               | Mayfly              |
| Stenacron                           | 09020402014                | 0.33                          | 0.33     | 7                                  | SC                                  | --                               | --               | Mayfly              |
| Palmaria                            | 09020501005                | 1.33                          | 1.33     | --                                 | --                                  | --                               | --               | True Bug            |
| Oecetis                             | 09020618078                | 0.33                          | 0.33     | 8                                  | PR                                  | 16.3-S                           | --               | Caddisfly           |
| Ablabesmyia                         | 09021011001                | 10.67                         | 12.67    | 8                                  | PR                                  | 23.6-I                           | T                | Fly: Midge          |
| <i>Ablabesmyia mallochii</i>        | 09021011001004             | 2.00                          | 0.00     | --                                 | --                                  | --                               | T                | Fly: Midge          |
| Procladius                          | 09021011015                | 0.67                          | 0.67     | 9                                  | PR                                  | 25.1-I                           | T                | Fly: Midge          |
| Corynoneura                         | 09021011036                | 0.67                          | 0.67     | 7                                  | CG                                  | 40.1-I                           | --               | Fly: Midge          |
| Cricotopus                          | 09021011037                | 1.00                          | 1.00     | 7                                  | SH                                  | 43-E                             | --               | Fly: Midge          |
| Psectrocladius                      | 09021011056                | 18.00                         | 18.00    | 8                                  | CG                                  | 22-S                             | --               | Fly: Midge          |
| Tanytarsus                          | 09021011076                | 63.33                         | 63.33    | 6                                  | CF                                  | 25.7-I                           | Y                | Fly: Midge          |
| Chironomus                          | 09021011080                | 6.00                          | 6.00     | 10                                 | CG                                  | 27.4-I                           | C                | Fly: Midge          |
| Cryptochironomus                    | 09021011082                | 0.00                          | 2.33     | 8                                  | PR                                  | 31.3-I                           | C                | Fly: Midge          |
| <i>Cryptochironomus fulvus</i>      | 09021011082144             | 2.33                          | 0.00     | --                                 | --                                  | --                               | C                | Fly: Midge          |
| Dicrotendipes                       | 09021011085                | 61.00                         | 61.00    | 8                                  | CG                                  | 28.8-I                           | C                | Fly: Midge          |
| Microtendipes                       | 09021011094                | 0.00                          | 1.67     | 6                                  | CF                                  | 22.3-I                           | C                | Fly: Midge          |
| <i>Microtendipes pedellus group</i> | 09021011094166             | 1.67                          | 0.00     | --                                 | --                                  | --                               | C                | Fly: Midge          |
| Gyraulus                            | 10010203029                | 0.33                          | 0.33     | --                                 | SC                                  | 37.2-I                           | --               | Snail               |
| Helisoma                            | 10010203030                | 0.00                          | 1.67     | --                                 | SC                                  | 42.8-I                           | --               | Snail               |
| <i>Helisoma anceps</i>              | 10010203030058             | 1.67                          | 0.00     | --                                 | --                                  | --                               | --               | Snail               |