

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

Station Information

Station Number: W-378	Trip ID: 2022-378	River Basin: Penobscot
Waterbody: RIPOGENUS LAKE (K1)		HUC8 Name: West Branch Penobscot
Town: T03 R12 Wels		Latitude: 45° 54' 48.492" N
Mitigation Monitoring Site: No		Longitude: 69° 13' 30.972" W

Sample Information

Sample ID: KQ-2022-378	Type of Sample: KICK-QUALITATIVE	Sampling Organization: NORMANDEAU ASSOCIATES
Date Sampled: 8/3/2022	Replicates: 3	Taxonomist: NORMANDEAU ASSOCIATES
Subsample Factor: X1		

Classification Attainment

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

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A: 0.21	Class C: 0.15	Class A, B, or C	1.00
Class B: 0.64	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.85	Class A	0.21
Class C or Non-Attainment	0.15	Class B or C or Non-Attainment	0.79

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	1.000	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.192	≥ 0.140
Shannon-Wiener Diversity Index	3.225	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.410	≥ 0.131
Abundance of Sensitive Taxa	11.333	≥ 3.424
Richness of Sensitive Taxa	5.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	25.287	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	4.250	≥ 0.334

Other Variables

Total Mean Abundance	90
Generic Richness:	26
Hilsenhoff Biotic Index:	7.05

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	34.32
2	<i>Hyalella azteca</i>	16.24
3	<i>Ablabesmyia</i>	11.81

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4	<i>Psectrocladius</i>	10.33
5	<i>Dicrotendipes</i>	6.27

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Surface Water Chemistry

Sample Date: 8/3/2022 2:00:00 PM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.3	mg/l	
In-situ	Dissolved Oxygen Saturation	103.1	%	
In-situ	pH	6.85		
In-situ	Specific Conductance	34.7	us/cm	
In-situ	Temperature	26.3	deg c	

Landcover Summary - 2004 Data

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Summary of Habitat Characteristics

<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:

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Additional Summary Variables

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Log Number: KQ-2022-378	Subsample Factor: X1	Replicates: 3
		Calculated: 12/21/2023

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	2.33	0.026	5	0.19
EPT Taxa:	2.00	0.022	4	0.15
Insects:	75.33	0.834	24	0.92
Non-Insects:	15.00	0.166	2	0.08
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	0.33	0.004	1	0.04
Snails:	0.00	0.000	0	0.00
Bivalves:	0.00	0.000	0	0.00
Isopods:	0.00	0.000	0	0.00
Amphipods:	14.67	0.162	1	0.04
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	1.00	0.011	2	0.08
Odonates:	0.33	0.004	1	0.04
Caddisflies:	1.00	0.011	2	0.08
Diptera:	72.67	0.804	18	0.69
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.33	0.004	1	0.04
Chironomids:	72.67	0.804	18	0.69
Tanypodinae Tribe:	14.00	0.155	4	0.15
Chironomiinae Tribe:	47.00	0.520	9	0.35
Orthoclodiinae Tribe:	11.67	0.129	5	0.19
Collector-Filterers:	33.67	0.373	3	0.12
Collector-Gatherers:	37.00	0.410	10	0.38
Predators:	13.67	0.151	6	0.23
Piercers:	0.00	0.000	0	0.00
Shredders:	2.00	0.022	3	0.12
Scrapers:	0.33	0.004	1	0.04
Maine Tolerance:				
Sensitive:	11.33	0.131	5	0.24
Intermediate:	72.67	0.838	12	0.57
Eurytopic:	2.67	0.031	4	0.19
Ratio of MTI	4.25	4.250	1.25	1.25
Sensitive to Eurytopic				

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Aquatic Life Taxonomic Inventory Report

Station Number: W-378	Waterbody: RIPOGENUS LAKE (K1)	Town: T03 R12 Wels
Log Number: KQ-2022-378	Subsample Factor: X1	Replicates: 3
		Calculated: 12/21/2023

Taxon	Maine Taxonomic Code	Count (Mean of Samples)		Hilsen- hoff Biotic Index	Func- tional Feeding Group	Maine Toler- ance Index	Tribe Taxa Group	
		Actual	Adjusted					
Naididae	08020202	0.33	0.33	--	--	--	--	Worm
Hyalella	09010203006	0.00	14.67	8	CG	24.5-I	--	Amphipod
<i>Hyalella azteca</i>	09010203006011	14.67	0.00	--	--	--	--	Amphipod
Boyeria	09020301004	0.00	0.33	2	PR	8-S	--	Dragonfly/damselfly
<i>Boyeria vinosa</i>	09020301004012	0.33	0.00	--	--	--	--	Dragonfly/damselfly
Baetis	09020401001	0.33	0.33	4	CG	29.9-I	--	Mayfly
Caenis	09020412040	0.67	0.67	7	CG	22.1-I	--	Mayfly
Phylocentropus	09020603011	0.33	0.33	5	CF	43.8-E	--	Caddisfly
Mystacides	09020618075	0.67	0.67	4	CG	18.2-S	--	Caddisfly
Ablabesmyia	09021011001	10.67	10.67	8	PR	23.6-I	T	Fly: Midge
Procladius	09021011015	1.00	1.00	9	PR	25.1-I	T	Fly: Midge
Thienemannimyia	09021011020	0.00	0.33	3	PR	--	T	Fly: Midge
<i>Thienemannimyia group</i>	09021011020041	0.33	0.00	--	--	--	T	Fly: Midge
Brillia	09021011033	0.33	0.33	5	SH	--	--	Fly: Midge
Cricotopus	09021011037	0.67	0.67	7	SH	43-E	--	Fly: Midge
Heterotrissocladius	09021011044	0.67	0.67	0	CG	--	--	Fly: Midge
Orthocladius	09021011050	0.67	0.67	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	9.33	9.33	8	CG	22-S	--	Fly: Midge
Cladotanytarsus	09021011068	1.33	1.33	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	1.33	1.33	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	31.00	31.00	6	CF	25.7-I	Y	Fly: Midge
Chironomus	09021011080	3.00	3.00	10	CG	27.4-I	C	Fly: Midge
Dicrotendipes	09021011085	5.67	5.67	8	CG	28.8-I	C	Fly: Midge
Microtendipes	09021011094	0.00	2.33	6	CF	22.3-I	C	Fly: Midge
<i>Microtendipes pedellus group</i>	09021011094166	2.33	0.00	--	--	--	C	Fly: Midge
Parachironomus	09021011097	0.00	1.00	10	PR	28.6-I	C	Fly: Midge
<i>Parachironomus tenuicaudatus complex</i>	09021011097179	1.00	0.00	--	--	--	C	Fly: Midge
Phaenopsectra	09021011101	0.00	0.33	7	SC	44.2-E	C	Fly: Midge
<i>Phaenopsectra punctipes group</i>	09021011101181	0.33	0.00	--	--	--	C	Fly: Midge
Polypedilum	09021011102	1.00	1.00	6	SH	24.2-I	C	Fly: Midge
Alotanypus	09021011136	2.00	2.00	--	--	--	T	Fly: Midge
Gyrinus	09021104033	0.33	0.33	2	PR	11.9-S	--	Beetle