

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

Station Information

Station Number: W-375	Trip ID: 2022-375	River Basin: Penobscot
Waterbody: CARIBOU LAKE (K2)		HUC8 Name: West Branch Penobscot
Town: T03 R13 Wels		Latitude: 45° 53' 02.256" N
Mitigation Monitoring Site: No		Longitude: 69° 20' 52.764" W

Sample Information

Sample ID: KQ-2022-375	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: 12/20/2023
Model Result with $P \geq 0.6$:	C	Reason for Determination: Best Professional Judgement		
Date Last Calculated:	12/20/2023	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: 0.00	Class C: 0.71	Class A, B, or C	1.00
Class B: 0.28	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.29	Class A	0.00
Class C or Non-Attainment	0.71	Class B or C or Non-Attainment	1.00

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	0.000	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.083	≥ 0.140
Shannon-Wiener Diversity Index	3.515	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.569	≥ 0.131
Abundance of Sensitive Taxa	26.667	≥ 3.424
Richness of Sensitive Taxa	7.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	28.919	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	1.067	≥ 0.334

Other Variables

Total Mean Abundance	101
Generic Richness:	24
Hilsenhoff Biotic Index:	6.86

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	19.41
2	<i>Nais</i>	17.11
3	<i>Psectrocladius</i>	15.46

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4	<i>Dicrotendipes</i>	10.20
5	<i>Paratanytarsus</i>	6.58

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Surface Water Chemistry

Sample Date: 8/3/2022 11:40:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	9	mg/l	
In-situ	Dissolved Oxygen Saturation	106.9	%	
In-situ	pH	7.1		
In-situ	Specific Conductance	27.8	us/cm	
In-situ	Temperature	24	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

Station Number: W-375	Waterbody: CARIBOU LAKE (K2)	Town: T03 R13 Wels
Log Number: KQ-2022-375	Subsample Factor: X1	Replicates: 3
		Calculated: 12/20/2023

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	0.67	0.007	2	0.08
EPT Taxa:	0.67	0.007	2	0.08
Insects:	78.67	0.776	19	0.79
Non-Insects:	22.67	0.224	5	0.21
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	22.00	0.217	3	0.13
Snails:	0.33	0.003	1	0.04
Bivalves:	0.00	0.000	0	0.00
Isopods:	0.00	0.000	0	0.00
Amphipods:	0.33	0.003	1	0.04
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	0.00	0.000	0	0.00
Odonates:	0.00	0.000	0	0.00
Caddisflies:	0.67	0.007	2	0.08
Diptera:	76.67	0.757	15	0.63
Hemiptera:	0.67	0.007	1	0.04
Beetles:	0.67	0.007	1	0.04
Chironomids:	76.33	0.753	14	0.58
Tanypodinae Tribe:	6.33	0.063	1	0.04
Chironomiinae Tribe:	46.67	0.461	8	0.33
Orthoclodiinae Tribe:	23.33	0.230	5	0.21
Collector-Filterers:	25.33	0.250	2	0.08
Collector-Gatherers:	57.67	0.569	12	0.50
Predators:	7.33	0.072	3	0.13
Piercers:	0.33	0.003	1	0.04
Shredders:	2.33	0.023	2	0.08
Scrapers:	0.33	0.003	1	0.04
Maine Tolerance:				
Sensitive:	26.67	0.268	7	0.32
Intermediate:	47.67	0.480	12	0.55
Eurytopic:	25.00	0.252	3	0.14
Ratio of MTI Sensitive to Eurytopic	1.07	1.067	2.33	2.33

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Aquatic Life Taxonomic Inventory Report

Station Number: W-375	Waterbody: CARIBOU LAKE (K2)	Town: T03 R13 Wels
Log Number: KQ-2022-375	Subsample Factor: X1	Replicates: 3
		Calculated: 12/20/2023

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					
Nais	08020202009	17.33	17.33	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	0.67	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	0.67	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	4.00	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	4.00	0.00	--	--	--	--	Worm
Hyaella	09010203006	0.00	0.33	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	0.33	0.00	--	--	--	--	Amphipod
Palmacorixa	09020501005	0.67	0.67	--	--	--	--	True Bug
Oxyethira	09020607028	0.33	0.33	3	P	22-S	--	Caddisfly
Mystacides	09020618075	0.33	0.33	4	CG	18.2-S	--	Caddisfly
Culicoides	09021010037	0.33	0.33	10	PR	42.1-I	--	Fly: Biting Midge
Ablabesmyia	09021011001	5.33	6.33	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia mallochi</i>	09021011001004	1.00	0.00	--	--	--	T	Fly: Midge
Corynoneura	09021011036	0.33	0.33	7	CG	40.1-I	--	Fly: Midge
Cricotopus	09021011037	0.00	1.00	7	SH	43-E	--	Fly: Midge
<i>Cricotopus sylvestris group</i>	09021011037079	1.00	0.00	--	SH	--	--	Fly: Midge
Heterotrissocladius	09021011044	0.00	1.33	0	CG	--	--	Fly: Midge
<i>Heterotrissocladius marcidus</i>	09021011044083	1.33	0.00	--	--	--	--	Fly: Midge
Orthocladius	09021011050	5.00	5.00	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	15.67	15.67	8	CG	22-S	--	Fly: Midge
Cladotanytarsus	09021011068	0.67	0.67	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	6.67	6.67	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	19.67	19.67	6	CF	25.7-I	Y	Fly: Midge
Chironomus	09021011080	1.67	1.67	10	CG	27.4-I	C	Fly: Midge
Dicrotendipes	09021011085	10.33	10.33	8	CG	28.8-I	C	Fly: Midge
Microtendipes	09021011094	0.00	5.67	6	CF	22.3-I	C	Fly: Midge
<i>Microtendipes pedellus group</i>	09021011094166	5.67	0.00	--	--	--	C	Fly: Midge
Paratendipes	09021011100	0.00	0.67	8	CG	20.8-S	C	Fly: Midge
<i>Paratendipes albimanus group</i>	09021011100176	0.67	0.00	--	--	--	C	Fly: Midge
Polypedilum	09021011102	0.00	1.33	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum illinoense group</i>	09021011102185	1.33	0.00	--	--	--	C	Fly: Midge
Coptotomus	09021103023	0.67	0.67	--	PR	32-I	--	Beetle
Gyraulus	10010203029	0.33	0.33	--	SC	37.2-I	--	Snail