

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

Station Information

Station Number: W-377	Trip ID: 2022-377	River Basin: Penobscot
Waterbody: CARIBOU LAKE (S2)		HUC8 Name: West Branch Penobscot
Town: T03 R13 Wels		Latitude: 45° 53' 10.428" N
Mitigation Monitoring Site: No		Longitude: 69° 20' 45.564" W

Sample Information

Sample ID: SB-2022-377	Type of Sample: SURBER	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 $P \geq 0.6$:	I	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: 0.93	Class C: 0.02	Class A, B, or C	1.00
Class B: 0.05	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.98	Class A	0.93
Class C or Non-Attainment	0.02	Class B or C or Non-Attainment	0.07

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	9.333	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.320	≥ 0.140
Shannon-Wiener Diversity Index	3.972	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.447	≥ 0.131
Abundance of Sensitive Taxa	3.000	≥ 3.424
Richness of Sensitive Taxa	4.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	30.824	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	4.500	≥ 0.334

Other Variables

Total Mean Abundance	25
Generic Richness:	25
Hilsenhoff Biotic Index:	5.03

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Stenonema femoratum</i>	23.68
2	<i>Corynoneura</i>	14.47
3	<i>Psectrocladius</i>	5.26
3	<i>Stenacron</i>	5.26

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3	<i>Tanytarsus</i>	5.26
4	<i>Ablabesmyia mallochi</i>	3.95
4	<i>Choroterpes</i>	3.95
4	<i>Heterotrissocladius marcidus</i>	3.95
4	<i>Stylaria lacustris</i>	3.95
5	<i>Ablabesmyia</i>	2.63
5	<i>Dolophilodes</i>	2.63
5	<i>Helisoma</i>	2.63
5	<i>Nais</i>	2.63
5	<i>Neoporus</i>	2.63
5	<i>Orconectes</i>	2.63

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Surface Water Chemistry

Sample Date: 8/3/2022 12:10:00 PM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.6	mg/l	
In-situ	Dissolved Oxygen Saturation	101.5	%	
In-situ	pH	6.98		
In-situ	Specific Conductance	27.7	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	
Average Depth:		
Sample Comments:		

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Additional Summary Variables

Station Number: W-377	Waterbody: CARIBOU LAKE (S2)	Town: T03 R13 Wels
Log Number: SB-2022-377	Subsample Factor: X1	Replicates: 3
		Calculated: 12/21/2023

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	10.33	0.408	8	0.32
EPT Taxa:	10.33	0.408	8	0.32
Insects:	22.00	0.868	20	0.80
Non-Insects:	3.33	0.132	5	0.20
Leeches:	0.33	0.013	1	0.04
Oligochaetes:	1.67	0.066	2	0.08
Snails:	0.67	0.026	1	0.04
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:	9.33	0.368	6	0.24
Odonates:	0.00	0.000	0	0.00
Caddisflies:	1.00	0.039	2	0.08
Diptera:	11.00	0.434	11	0.44
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.67	0.026	1	0.04
Chironomids:	10.33	0.408	9	0.36
Tanypodinae Tribe:	2.00	0.079	2	0.08
Chironomiinae Tribe:	2.00	0.079	3	0.12
Orthoclodiinae Tribe:	6.33	0.250	4	0.16
Collector-Filterers:	2.33	0.092	3	0.12
Collector-Gatherers:	11.33	0.447	13	0.52
Predators:	2.00	0.079	2	0.08
Piercers:	0.00	0.000	0	0.00
Shredders:	0.33	0.013	1	0.04
Scrapers:	8.00	0.316	3	0.12
Maine Tolerance:				
Sensitive:	3.00	0.237	4	0.29
Intermediate:	9.00	0.711	9	0.64
Eurytopic:	0.67	0.053	1	0.07
Ratio of MTI Sensitive to Eurytopic	4.50	4.500	4.00	4.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-377	Waterbody: CARIBOU LAKE (S2)	Town: T03 R13 Wels
Log Number: SB-2022-377	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					
Nais	08020202009	0.67	0.67	--	CG	43-E	--	Worm
Stylaria	08020202014	0.00	1.00	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	1.00	0.00	--	--	--	--	Worm
Erpobdella	08030203002	0.33	0.33	--	--	36.4-I	--	Leech
Orconectes	09010301008	0.67	0.67	--	CG	--	--	Crayfish
Baetis	09020401001	0.33	0.33	4	CG	29.9-I	--	Mayfly
Stenacron	09020402014	1.33	1.33	7	SC	--	--	Mayfly
Stenonema	09020402016	0.00	6.00	4	SC	--	--	Mayfly
<i>Stenonema femoratum</i>	09020402016001	6.00	0.00	4	SC	--	--	Mayfly
Siphonurus	09020405021	0.33	0.33	7	CG	17-S	--	Mayfly
Choroterpes	09020406022	1.00	1.00	2	CG	--	--	Mayfly
Paraleptophlebia	09020406026	0.33	0.33	1	CG	--	--	Mayfly
Dolophilodes	09020601001	0.67	0.67	0	CF	--	--	Caddisfly
Hydropsyche	09020604016	0.33	0.33	4	CF	--	--	Caddisfly
Atrichopogon	09021010034	0.33	0.33	--	CG	--	--	Fly: Biting Midge
Dasyhelea	09021010036	0.33	0.33	--	CG	30.6-I	--	Fly: Biting Midge
Ablabesmyia	09021011001	0.67	1.67	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia mallochii</i>	09021011001004	1.00	0.00	--	--	--	T	Fly: Midge
Thienemannimyia	09021011020	0.33	0.33	3	PR	--	T	Fly: Midge
Corynoneura	09021011036	3.67	3.67	7	CG	40.1-I	--	Fly: Midge
Heterotrissocladius	09021011044	0.00	1.00	0	CG	--	--	Fly: Midge
<i>Heterotrissocladius marcidus</i>	09021011044083	1.00	0.00	--	--	--	--	Fly: Midge
Orthocladius	09021011050	0.33	0.33	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	1.33	1.33	8	CG	22-S	--	Fly: Midge
Stempellinella	09021011074	0.33	0.33	2	--	35.7-I	Y	Fly: Midge
Tanytarsus	09021011076	1.33	1.33	6	CF	25.7-I	Y	Fly: Midge
Polypedilum	09021011102	0.00	0.33	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum laetum</i>	09021011102186	0.33	0.00	--	--	--	C	Fly: Midge
Neoporus	09021103033	0.67	0.67	--	--	--	--	Beetle
Helisoma	10010203030	0.67	0.67	--	SC	42.8-I	--	Snail