

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

Station Information

Station Number: W-407	Trip ID: 2023-407	River Basin:
Waterbody: PEMADUMCOOK LAKE (S2)		HUC8 Name:
Town: T01 R09 Wels		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: SB-2023-407	Type of Sample: SURBER	Sampling Organization: NORMANDEAU ASSOCIATES
Date Sampled: 8/15/2023	Replicates: 3	Taxonomist: NORMANDEAU ASSOCIATES
Subsample Factor: X1		

Classification Attainment

Statutory Class:	GPA	Final Determination:	C	Date: 1/3/2025
Model Result with $P \geq 0.6$:	B	Reason for Determination: Best Professional Judgement		
Date Last Calculated:	11/21/2024	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: 0.16	Class C: 0.35	Class A, B, or C	1.00
Class B: 0.48	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.65	Class A	0.16
Class C or Non-Attainment	0.35	Class B or C or Non-Attainment	0.84

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	0.226	≥ 0.140
Shannon-Wiener Diversity Index	4.115	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.293	≥ 0.131
Abundance of Sensitive Taxa	18.766	≥ 3.424
Richness of Sensitive Taxa	6.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	33.922	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	0.826	≥ 0.334

Other Variables

Total Mean Abundance	85
Generic Richness:	31
Hilsenhoff Biotic Index:	5.73

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Fossaria</i>	19.69
2	<i>Tanytarsus</i>	13.39
3	<i>Gyraulus</i>	7.87
4	<i>Stylaria lacustris</i>	6.69

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5 *Maccaffertium*

6.30

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Surface Water Chemistry

Sample Date: 8/15/2023 11:35:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	9.45	mg/l	
In-situ	pH	6.96		
In-situ	Specific Conductance	24	us/cm	
In-situ	Temperature	21.3	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:

OPEN WATER STANDING

Substrate Classification:

BOULDER SUBSTRATE

RUBBLE/COBBLE SUBSTRATE

Average Depth:

Visible Flow: No

Rain In Previous 24 Hours: No

Sample Comments:

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Additional Summary Variables

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		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	12.33	0.146	7	0.23
EPT Taxa:	13.00	0.154	8	0.26
Insects:	47.00	0.555	21	0.68
Non-Insects:	37.67	0.445	10	0.32
Leeches:	1.00	0.012	1	0.03
Oligochaetes:	8.33	0.098	3	0.10
Snails:	23.33	0.276	2	0.06
Bivalves:	0.67	0.008	1	0.03
Isopods:	0.00	0.000	0	0.00
Amphipods:	2.67	0.031	1	0.03
Mites:	1.00	0.012	1	0.03
Stoneflies:	0.67	0.008	1	0.03
Mayflies:	9.33	0.110	4	0.13
Odonates:	0.00	0.000	0	0.00
Caddisflies:	3.00	0.035	3	0.10
Diptera:	34.00	0.402	13	0.42
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.00	0.000	0	0.00
Chironomids:	31.67	0.374	12	0.39
Tanypodinae Tribe:	1.35	0.016	2	0.06
Chironomiinae Tribe:	19.88	0.235	6	0.19
Orthocloidiinae Tribe:	10.11	0.119	3	0.10
Collector-Filterers:	12.12	0.143	2	0.06
Collector-Gatherers:	24.81	0.293	11	0.35
Predators:	7.35	0.087	8	0.26
Piercers:	0.00	0.000	0	0.00
Shredders:	0.34	0.004	1	0.03
Scrapers:	15.00	0.177	4	0.13
Maine Tolerance:				
Sensitive:	18.77	0.273	6	0.30
Intermediate:	27.17	0.396	11	0.55
Eurytopic:	22.72	0.331	3	0.15
Ratio of MTI Sensitive to Eurytopic	0.83	0.826	2.00	2.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-407	Waterbody: PEMADUMCOOK LAKE (S2)	Town: T01 R09 Wels
Log Number: SB-2023-407	Subsample Factor: X1	Replicates: 3
		Calculated: 11/21/2024

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					
Hydra	02010101001	0.67	0.67	--	PR	--	--	Hydroid
Nais	08020202009	1.33	1.33	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	1.33	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	1.33	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	5.67	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	5.67	0.00	--	--	--	--	Worm
Erpobdella	08030203002	1.00	1.00	--	--	36.4-I	--	Leech
Hyaella	09010203006	0.00	2.67	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	2.67	0.00	--	--	--	--	Amphipod
Acroneuria	09020209042	0.67	0.67	0	PR	--	--	Stonefly
Centropilum	09020401003	1.00	1.00	2	CG	--	--	Mayfly
Heterocloeon	09020401005	0.33	0.33	2	SC	--	--	Mayfly
Leucrocuta	09020402011	2.67	2.67	1	SC	--	--	Mayfly
Maccaffertium	09020402015	5.33	5.33	4	SC	--	--	Mayfly
Polycentropus	09020603010	0.33	0.33	6	PR	15.4-S	--	Caddisfly
Ceraclea	09020618072	0.67	0.67	3	CG	23.9-I	--	Caddisfly
Oecetis	09020618078	2.00	2.00	8	PR	16.3-S	--	Caddisfly
Diptera	090210	0.33	0.33	--	--	--	--	Fly
Palpomyia	09021010044	2.00	2.00	6	PR	--	--	Fly: Biting Midge
Chironomidae	09021011	0.33	0.00	--	--	--	--	Fly: Midge
Ablabesmyia	09021011001	0.33	0.34	8	PR	23.6-I	T	Fly: Midge
Thienemannimyia	09021011020	1.00	1.01	3	PR	--	T	Fly: Midge
Potthastia	09021011026	0.00	0.34	2	CG	--	D	Fly: Midge
<i>Potthastia longimana</i>	09021011026046	0.33	0.00	--	--	--	D	Fly: Midge
Orthocladius	09021011050	4.33	4.38	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	5.00	5.05	8	CG	22-S	--	Fly: Midge
Thienemanniella	09021011062	0.67	0.67	6	CG	24.7-I	--	Fly: Midge
Cladotanytarsus	09021011068	1.33	1.35	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	4.67	4.72	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	11.33	11.45	6	CF	25.7-I	Y	Fly: Midge
Dicrotendipes	09021011085	1.67	1.68	8	CG	28.8-I	C	Fly: Midge
Parachironomus	09021011097	0.33	0.34	10	PR	28.6-I	C	Fly: Midge
Polypedilum	09021011102	0.33	0.34	6	SH	24.2-I	C	Fly: Midge
Hydrachnidia	09030101	1.00	1.00	--	--	--	--	Mite
Fossaria	10010201021	16.67	16.67	--	--	56.1-E	--	Snail

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		Actual	Adjusted					
Gyraulus	10010203029	6.67	6.67	--	SC	37.2-I	--	Snail
Pisidium	10020201002	0.67	0.67	--	CF	--	--	Clam