

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

Station Information

Station Number: W-405	Trip ID: 2023-405	River Basin:
Waterbody: PEMADUMCOOK LAKE (S1)		HUC8 Name:
Town: T01 R09 Wels		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: SB-2023-405	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: 0.46	Class C: 0.22	Class A, B, or C	1.00
Class B: 0.31	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.78	Class A	0.46
Class C or Non-Attainment	0.22	Class B or C or Non-Attainment	0.54

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	10.000	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.323	≥ 0.140
Shannon-Wiener Diversity Index	3.899	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.236	≥ 0.131
Abundance of Sensitive Taxa	9.733	≥ 3.424
Richness of Sensitive Taxa	7.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	40.794	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	0.362	≥ 0.334

Other Variables

Total Mean Abundance	73
Generic Richness:	31
Hilsenhoff Biotic Index:	4.86

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Fossaria</i>	29.22
2	<i>Gyraulus</i>	9.13
3	<i>Maccaffertium</i>	8.68
4	<i>Hyalella azteca</i>	6.39

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5 *Stylaria lacustris*

5.94

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Surface Water Chemistry

Sample Date: 8/15/2023 9:25:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	9.29	mg/l	
In-situ	pH	7		
In-situ	Specific Conductance	26	us/cm	
In-situ	Temperature	20.37	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

GRAVEL 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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Log Number: SB-2023-405	Subsample Factor: X1	Replicates: 3
		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	13.33	0.183	10	0.32
EPT Taxa:	14.33	0.196	10	0.32
Insects:	24.67	0.338	22	0.71
Non-Insects:	48.33	0.662	9	0.29
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	12.67	0.174	4	0.13
Snails:	31.00	0.425	4	0.13
Bivalves:	0.00	0.000	0	0.00
Isopods:	0.00	0.000	0	0.00
Amphipods:	4.67	0.064	1	0.03
Mites:	0.00	0.000	0	0.00
Stoneflies:	1.33	0.018	1	0.03
Mayflies:	10.00	0.137	5	0.16
Odonates:	0.33	0.005	1	0.03
Caddisflies:	3.00	0.041	4	0.13
Diptera:	10.00	0.137	11	0.35
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.00	0.000	0	0.00
Chironomids:	7.33	0.100	9	0.29
Tanypodinae Tribe:	0.73	0.010	1	0.03
Chironomiinae Tribe:	5.87	0.080	6	0.19
Orthoclodiinae Tribe:	0.73	0.010	2	0.06
Collector-Filterers:	2.57	0.035	1	0.03
Collector-Gatherers:	17.23	0.236	8	0.26
Predators:	4.80	0.066	8	0.26
Piercers:	0.33	0.005	1	0.03
Shredders:	2.70	0.037	3	0.10
Scrapers:	17.70	0.242	7	0.23
Maine Tolerance:				
Sensitive:	9.73	0.185	7	0.39
Intermediate:	16.03	0.305	7	0.39
Eurytopic:	26.87	0.510	4	0.22
Ratio of MTI Sensitive to Eurytopic	0.36	0.362	1.75	1.75

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Aquatic Life Taxonomic Inventory Report

Station Number: W-405	Waterbody: PEMADUMCOOK LAKE (S1)	Town: T01 R09 Wels
Log Number: SB-2023-405	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					
Stylodrilus	08020101004	0.00	1.33	--	--	--	--	Worm
<i>Stylodrilus heringianus</i>	08020101004001	1.33	0.00	--	--	--	--	Worm
Nais	08020202009	3.33	3.33	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	3.67	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	3.67	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	4.33	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	4.33	0.00	--	--	--	--	Worm
Hyaella	09010203006	0.00	4.67	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	4.67	0.00	--	--	--	--	Amphipod
Acroneuria	09020209042	0.00	1.33	0	PR	--	--	Stonefly
<i>Acroneuria carolinensis</i>	09020209042123	1.33	0.00	--	--	--	--	Stonefly
Boyeria	09020301004	0.00	0.33	2	PR	8-S	--	Dragonfly/damselfly
<i>Boyeria vinosa</i>	09020301004012	0.33	0.00	--	--	--	--	Dragonfly/damselfly
Centropilum	09020401003	2.00	2.00	2	CG	--	--	Mayfly
Leucrocuta	09020402011	0.33	0.33	1	SC	--	--	Mayfly
Stenacron	09020402014	1.00	1.00	7	SC	--	--	Mayfly
Maccaffertium	09020402015	6.33	6.33	4	SC	--	--	Mayfly
Paraleptophlebia	09020406026	0.33	0.33	1	CG	--	--	Mayfly
Oxyethira	09020607028	0.33	0.33	3	P	22-S	--	Caddisfly
Lepidostoma	09020611064	2.00	2.00	1	SH	--	--	Caddisfly
Nectopsyche	09020618074	0.33	0.33	3	SH	--	--	Caddisfly
Oecetis	09020618078	0.33	0.33	8	PR	16.3-S	--	Caddisfly
Diptera	090210	1.33	1.33	--	--	--	--	Fly
Palpomyia	09021010044	0.67	0.67	6	PR	--	--	Fly: Biting Midge
Chironomidae	09021011	0.67	0.00	--	--	--	--	Fly: Midge
Ablabesmyia	09021011001	0.00	0.73	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia mallochi</i>	09021011001004	0.67	0.00	--	--	--	T	Fly: Midge
Eukiefferiella	09021011041	0.33	0.37	8	CG	--	--	Fly: Midge
Psectrocladius	09021011056	0.33	0.37	8	CG	22-S	--	Fly: Midge
Micropsectra	09021011070	1.67	1.83	7	CG	98.1-E	Y	Fly: Midge
Tanytarsus	09021011076	2.33	2.57	6	CF	25.7-I	Y	Fly: Midge
Parachironomus	09021011097	0.33	0.37	10	PR	28.6-I	C	Fly: Midge
Phaenopsectra	09021011101	0.00	0.37	7	SC	44.2-E	C	Fly: Midge
<i>Phaenopsectra punctipes</i>	09021011101183	0.33	0.00	--	SC	--	C	Fly: Midge
Polypedilum	09021011102	0.00	0.37	6	SH	24.2-I	C	Fly: Midge

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		Actual	Adjusted						
<i>Polypedilum illinoense</i>	09021011102204	0.33	0.00	--	--	--	--	Fly: Midge	
<i>Xenochironomus</i>	090210111108	0.00	0.37	0	PR	1.5-S	C	Fly: Midge	
<i>Xenochironomus xenolabis</i>	09021011108200	0.33	0.00	--	--	--	C	Fly: Midge	
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	--	--	Fly: Aquatic Dance	
<i>Fossaria</i>	10010201021	21.33	21.33	--	--	56.1-E	--	Snail	
<i>Physidae</i>	10010202	2.33	2.33	--	SC	--	--	Snail	
<i>Gyraulus</i>	10010203029	6.67	6.67	--	SC	37.2-I	--	Snail	
<i>Helisoma</i>	10010203030	0.67	0.67	--	SC	42.8-I	--	Snail	