

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

Station Information

Station Number: W-404	Trip ID: 2023-404	River Basin:
Waterbody: PEMADUMCOOK LAKE (K1)		HUC8 Name:
Town: T01 R09 Wels		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: KQ-2023-404	Type of Sample: KICK-QUALITATIVE	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 $P \geq 0.6$:	A	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: 0.63	Class C: 0.01	Class A, B, or C	1.00
Class B: 0.36	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.99	Class A	0.63
Class C or Non-Attainment	0.01	Class B or C or Non-Attainment	0.37

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	1.667	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.267	≥ 0.140
Shannon-Wiener Diversity Index	3.589	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.678	≥ 0.131
Abundance of Sensitive Taxa	72.339	≥ 3.424
Richness of Sensitive Taxa	10.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	24.396	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	3.121	≥ 0.334

Other Variables

Total Mean Abundance	122
Generic Richness:	30
Hilsenhoff Biotic Index:	6.56

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Stylaria lacustris</i>	26.58
2	<i>Psectrocladius</i>	13.97
3	<i>Nais</i>	10.41

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4	<i>Hyaella azteca</i>	8.49
4	<i>Paratanytarsus</i>	8.49
5	<i>Oxyethira</i>	6.30

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Surface Water Chemistry

Sample Date: 8/15/2023 8:38:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.7	mg/l	
In-situ	pH	6.88		
In-situ	Specific Conductance	26	us/cm	
In-situ	Temperature	19.76	deg c	

Landcover Summary - 2004 Data

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Summary of Habitat Characteristics		
<u>Human Disturbance</u> Total Score: Hydrologic Modifications: Vegetative Modifications: Chemical Pollutants: Watershed Characterization and Non-point Sources:	<u>Landscape-level Cowardin Classification</u> System: Subsystem: Class 1: Subclass 1: Class 2: Subclass 2: Class 3: Subclass 3:	<u>Hydrogeomorphic Setting</u> Landscape Position: Lotic Gradient: Flow Path: Land Form: Land Form Type: Waterbody Type: Waterbody Subtype: Comments:
Dominant Plant Species: Additional Plant Community Observations: Habitat Classification: Substrate Classification: OPEN WATER STANDING BOULDER SUBSTRATE GRAVEL SUBSTRATE RUBBLE/COBBLE SUBSTRATE SAND SUBSTRATE		
Average Depth: Visible Flow: No Rain In Previous 24 Hours: No Sample Comments: SUBSTRATE ALSO HAS 5% SILT		

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Additional Summary Variables

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Log Number: KQ-2023-404	Subsample Factor: X1	Replicates: 3
		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	12.67	0.104	8	0.27
EPT Taxa:	12.67	0.104	8	0.27
Insects:	52.67	0.433	19	0.63
Non-Insects:	69.00	0.567	11	0.37
Leeches:	0.33	0.003	1	0.03
Oligochaetes:	54.33	0.447	7	0.23
Snails:	3.00	0.025	1	0.03
Bivalves:	1.00	0.008	1	0.03
Isopods:	0.00	0.000	0	0.00
Amphipods:	10.33	0.085	1	0.03
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	1.67	0.014	4	0.13
Odonates:	0.00	0.000	0	0.00
Caddisflies:	11.00	0.090	4	0.13
Diptera:	39.67	0.326	10	0.33
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.33	0.003	1	0.03
Chironomids:	39.33	0.323	9	0.30
Tanypodinae Tribe:	0.00	0.000	0	0.00
Chironomiinae Tribe:	18.99	0.156	6	0.20
Orthoclodiinae Tribe:	20.01	0.164	2	0.07
Collector-Filterers:	4.05	0.033	2	0.07
Collector-Gatherers:	82.43	0.678	13	0.43
Predators:	1.67	0.014	3	0.10
Piercers:	7.67	0.063	1	0.03
Shredders:	1.67	0.014	2	0.07
Scrapers:	4.33	0.036	3	0.10
Maine Tolerance:				
Sensitive:	72.34	0.625	10	0.48
Intermediate:	20.14	0.174	9	0.43
Eurytopic:	23.18	0.200	2	0.10
Ratio of MTI Sensitive to Eurytopic	3.12	3.121	5.00	5.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-404	Waterbody: PEMADUMCOOK LAKE (K1)	Town: T01 R09 Wels
Log Number: KQ-2023-404	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					
Oligochaeta	0802	0.33	0.33	--	--	--	--	Oligochaete
Lumbriculus	08020101002	0.00	0.33	--	CG	35-I	--	Worm
<i>Lumbriculus variegatus</i>	08020101002001	0.33	0.00	--	--	--	--	Worm
Enchytraeidae	08020201	0.67	0.67	--	--	--	--	Worm
Nais	08020202009	12.67	12.67	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	7.00	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	7.00	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	32.33	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	32.33	0.00	--	--	--	--	Worm
Vejdovskyella	08020202015	0.00	0.67	--	--	13.7-S	--	Worm
<i>Vejdovskyella comata</i>	08020202015001	0.67	0.00	--	--	--	--	Worm
Aulodrilus	08020202018	0.00	0.33	--	--	3.8-S	--	Tubificid Worm
<i>Aulodrilus pluriseta</i>	08020202018004	0.33	0.00	--	--	--	--	Tubificid Worm
Erpobdella	08030203002	0.00	0.33	--	--	36.4-I	--	Leech
<i>Erpobdella punctata</i>	08030203002001	0.33	0.00	--	--	--	--	Leech
Hyaella	09010203006	0.00	10.33	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	10.33	0.00	--	--	--	--	Amphipod
Plauditus	09020401012	0.33	0.33	--	CG	--	--	Mayfly
Maccaffertium	09020402015	0.33	0.33	4	SC	--	--	Mayfly
Paraleptophlebia	09020406026	0.33	0.33	1	CG	--	--	Mayfly
Caenis	09020412040	0.67	0.67	7	CG	22.1-I	--	Mayfly
Oxyethira	09020607028	7.67	7.67	3	P	22-S	--	Caddisfly
Molanna	09020615069	1.00	1.00	6	SC	--	--	Caddisfly
Nectopsyche	09020618074	1.33	1.33	3	SH	--	--	Caddisfly
Oecetis	09020618078	1.00	1.00	8	PR	16.3-S	--	Caddisfly
Probezzia	09021010041	0.33	0.33	6	PR	28.6-I	--	Fly: Biting Midge
Chironomidae	09021011	0.67	0.00	--	--	--	--	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	2.67	2.71	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	17.00	17.29	8	CG	22-S	--	Fly: Midge
Cladotanytarsus	09021011068	1.00	1.02	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	10.33	10.51	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	3.00	3.05	6	CF	25.7-I	Y	Fly: Midge
Dicrotendipes	09021011085	3.67	3.73	8	CG	28.8-I	C	Fly: Midge

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		Actual	Adjusted					
Polypedilum	09021011102	0.33	0.34	6	SH	24.2-I	C	Fly: Midge
Stictochironomus	09021011106	0.00	0.34	9	CG	--	C	Fly: Midge
<i>Stictochironomus devinctus</i>	09021011106197	0.33	0.00	--	--	--	C	Fly: Midge
Gyrinus	09021104033	0.33	0.33	2	PR	11.9-S	--	Beetle
Amnicola	10010104013	3.00	3.00	--	SC	18.7-S	--	Snail
Pisidium	10020201002	1.00	1.00	--	CF	--	--	Clam