

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

Station Information

Station Number: W-370	Trip ID: 2022-370	River Basin: Penobscot
Waterbody: CHESUNCOOK LAKE (K1)		HUC8 Name: West Branch Penobscot
Town: T04 R12 Wels		Latitude: 45° 57' 34.272" N
Mitigation Monitoring Site: No		Longitude: 69° 19' 09.660" W

Sample Information

Sample ID: KQ-2022-370	Type of Sample: KICK-QUALITATIVE	Sampling Organization: NORMANDEAU ASSOCIATES
Date Sampled: 8/2/2022	Replicates: 3	Taxonomist: NORMANDEAU ASSOCIATES
Subsample Factor: X1		

Classification Attainment

Statutory Class:	GPA	Final Determination:	C	Date: 1/3/2024
Model Result with $P \geq 0.6$:	A	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: 0.76	Class C: 0.02	Class A, B, or C	1.00
Class B: 0.23	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	0.76
Class C or Non-Attainment	0.02	Class B or C or Non-Attainment	0.24

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	1.000	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.188	≥ 0.140
Shannon-Wiener Diversity Index	3.845	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.242	≥ 0.131
Abundance of Sensitive Taxa	15.667	≥ 3.424
Richness of Sensitive Taxa	8.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	24.668	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	5.875	≥ 0.334

Other Variables

Total Mean Abundance	77
Generic Richness:	32
Hilsenhoff Biotic Index:	6.90

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	27.71
2	<i>Polycentropus</i>	10.82
3	<i>Ablabesmyia</i>	7.79

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3	<i>Chironomus</i>	7.79
4	<i>Atrichopogon</i>	7.36
5	<i>Dugesiidae</i>	4.76

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Surface Water Chemistry

Sample Date: 8/2/2022 10:20:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.1	mg/l	
In-situ	Dissolved Oxygen Saturation	94.7	%	
In-situ	pH	6.61		
In-situ	Specific Conductance	27.8	us/cm	
In-situ	Temperature	23.2	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:	
	GRAVEL SUBSTRATE	
	SAND SUBSTRATE	
	SILT/MUCK SUBSTRATE	
Average Depth:		
Sample Comments:		

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Additional Summary Variables

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		Calculated: 12/20/2023

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	13.00	0.169	6	0.19
EPT Taxa:	9.33	0.121	4	0.13
Insects:	65.00	0.844	25	0.78
Non-Insects:	12.00	0.156	7	0.22
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	1.33	0.017	2	0.06
Snails:	3.33	0.043	2	0.06
Bivalves:	3.00	0.039	1	0.03
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:	1.00	0.013	3	0.09
Odonates:	3.67	0.048	2	0.06
Caddisflies:	8.33	0.108	1	0.03
Diptera:	51.67	0.671	18	0.56
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.33	0.004	1	0.03
Chironomids:	46.00	0.597	17	0.53
Tanypodinae Tribe:	7.67	0.100	1	0.03
Chironomiinae Tribe:	34.00	0.442	10	0.31
Orthoclodiinae Tribe:	4.33	0.056	6	0.19
Collector-Filterers:	25.00	0.325	3	0.09
Collector-Gatherers:	18.67	0.242	14	0.44
Predators:	21.33	0.277	6	0.19
Piercers:	0.00	0.000	0	0.00
Shredders:	2.00	0.026	2	0.06
Scrapers:	3.67	0.048	3	0.09
Maine Tolerance:				
Sensitive:	15.67	0.254	8	0.36
Intermediate:	43.33	0.703	12	0.55
Eurytopic:	2.67	0.043	2	0.09
Ratio of MTI Sensitive to Eurytopic	5.88	5.875	4.00	4.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-370	Waterbody: CHESUNCOOK LAKE (K1)	Town: T04 R12 Wels
Log Number: KQ-2022-370	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					
Dugesidae	03010102	3.67	3.67	--	--	--	--	Planaria
Slavina	08020202012	0.00	0.67	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	0.67	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	0.67	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	0.67	0.00	--	--	--	--	Worm
Orconectes	09010301008	0.67	0.67	--	CG	--	--	Crayfish
Libellula	09020306035	3.33	3.33	9	PR	15-S	--	Dragonfly/damselfly
Argia	09020309048	0.33	0.33	7	PR	--	--	Dragonfly/damselfly
Baetis	09020401001	0.33	0.33	4	CG	29.9-I	--	Mayfly
Stenonema	09020402016	0.00	0.33	4	SC	--	--	Mayfly
<i>Stenonema femoratum</i>	09020402016001	0.33	0.00	4	SC	--	--	Mayfly
Paraleptophlebia	09020406026	0.33	0.33	1	CG	--	--	Mayfly
Polycentropus	09020603010	8.33	8.33	6	PR	15.4-S	--	Caddisfly
Atrichopogon	09021010034	5.67	5.67	--	CG	--	--	Fly: Biting Midge
Ablabesmyia	09021011001	6.00	7.67	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia mallochi</i>	09021011001004	1.67	0.00	--	--	--	T	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	0.67	0.67	0	CG	--	--	Fly: Midge
Nanocladius	09021011049	0.33	0.33	3	CG	14.1-S	--	Fly: Midge
Orthocladius	09021011050	0.67	0.67	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	1.33	1.33	8	CG	22-S	--	Fly: Midge
Smittia	09021011058	0.33	0.33	6	CG	--	--	Fly: Midge
Cladotanytarsus	09021011068	1.00	1.00	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	1.67	1.67	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	21.33	21.33	6	CF	25.7-I	Y	Fly: Midge
Chironomus	09021011080	6.00	6.00	10	CG	27.4-I	C	Fly: Midge
Cryptochironomus	09021011082	0.00	0.67	8	PR	31.3-I	C	Fly: Midge
<i>Cryptochironomus fulvus</i>	09021011082144	0.67	0.00	--	--	--	C	Fly: Midge
Dicrotendipes	09021011085	0.33	0.33	8	CG	28.8-I	C	Fly: Midge
Microtendipes	09021011094	0.00	0.67	6	CF	22.3-I	C	Fly: Midge
<i>Microtendipes pedellus group</i>	09021011094166	0.67	0.00	--	--	--	C	Fly: Midge
Parachironomus	09021011097	0.00	1.00	10	PR	28.6-I	C	Fly: Midge
<i>Parachironomus tenuicaudatus complex</i>	09021011097179	1.00	0.00	--	--	--	C	Fly: Midge

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		Actual	Adjusted						
Paratendipes	09021011100	0.00	0.33	8	CG	20.8-S	C	Fly: Midge	
<i>Paratendipes albimanus group</i>	09021011100176	0.33	0.00	--	--	--	C	Fly: Midge	
Polypedilum	09021011102	0.00	1.00	6	SH	24.2-I	C	Fly: Midge	
<i>Polypedilum flavum</i>	09021011102182	0.67	0.00	--	--	--	C	Fly: Midge	
<i>Polypedilum laetum</i>	09021011102186	0.33	0.00	--	--	--	C	Fly: Midge	
Dytiscidae	09021103	0.33	0.33	--	--	--	--	Beetle	
Physella	10010202027	1.00	1.00	--	SC	34-I	--	Snail	
Helisoma	10010203030	2.33	2.33	--	SC	42.8-I	--	Snail	
Pisidium	10020201002	3.00	3.00	--	CF	--	--	Clam	