

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

Station Information

Station Number: W-400	Trip ID: 2023-400	River Basin:
Waterbody: NORTH TWIN LAKE (K1)		HUC8 Name:
Town: T4 Indian Purchase Twp		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: KQ-2023-400	Type of Sample: KICK-QUALITATIVE	Sampling Organization: NORMANDEAU ASSOCIATES
Date Sampled: 8/16/2023	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: 0.13	Class C: 0.04	Class A, B, or C	1.00
Class B: 0.83	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.96	Class A	0.13
Class C or Non-Attainment	0.04	Class B or C or Non-Attainment	0.87

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	1.333	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.207	≥ 0.140
Shannon-Wiener Diversity Index	2.176	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.867	≥ 0.131
Abundance of Sensitive Taxa	28.974	≥ 3.424
Richness of Sensitive Taxa	6.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	24.867	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	5.795	≥ 0.334

Other Variables

Total Mean Abundance	158
Generic Richness:	29
Hilsenhoff Biotic Index:	7.84

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hyaella azteca</i>	65.89
2	<i>Stylaria lacustris</i>	9.05
3	<i>Psectrocladius</i>	6.95

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4	<i>Enallagma</i>	2.11
4	<i>Gyraulus</i>	2.11
5	<i>Nais</i>	1.68

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Surface Water Chemistry

Sample Date: 8/16/2023 7:28:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	7.91	mg/l	
In-situ	pH	6.74		
In-situ	Specific Conductance	28	us/cm	
In-situ	Temperature	20.91	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

SILT/MUCK SUBSTRATE

Average Depth:

Visible Flow: No

Rain In Previous 24 Hours: No

Sample Comments: SUBSTRATE ALSO HAS 20% CLAY/MUCK

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Additional Summary Variables

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		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	5.67	0.036	6	0.21
EPT Taxa:	1.67	0.011	4	0.14
Insects:	26.67	0.168	16	0.55
Non-Insects:	131.67	0.832	13	0.45
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	18.00	0.114	4	0.14
Snails:	6.67	0.042	4	0.14
Bivalves:	1.67	0.011	2	0.07
Isopods:	0.00	0.000	0	0.00
Amphipods:	104.33	0.659	1	0.03
Mites:	0.67	0.004	1	0.03
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	1.33	0.008	3	0.10
Odonates:	4.00	0.025	2	0.07
Caddisflies:	0.33	0.002	1	0.03
Diptera:	19.67	0.124	9	0.31
Hemiptera:	0.00	0.000	0	0.00
Beetles:	1.33	0.008	1	0.03
Chironomids:	18.67	0.118	8	0.28
Tanypodinae Tribe:	2.15	0.014	2	0.07
Chironomiinae Tribe:	2.87	0.018	4	0.14
Orthoclodiinae Tribe:	13.64	0.086	2	0.07
Collector-Filterers:	2.03	0.013	3	0.10
Collector-Gatherers:	137.33	0.867	10	0.34
Predators:	7.87	0.050	6	0.21
Piercers:	0.33	0.002	1	0.03
Shredders:	1.44	0.009	1	0.03
Scrapers:	4.67	0.029	4	0.14
Maine Tolerance:				
Sensitive:	28.97	0.187	6	0.26
Intermediate:	121.00	0.781	15	0.65
Eurytopic:	5.00	0.032	2	0.09
Ratio of MTI Sensitive to Eurytopic	5.79	5.795	3.00	3.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-400	Waterbody: NORTH TWIN LAKE (K1)	Town: T4 Indian Purchase T
Log Number: KQ-2023-400	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					
Lumbriculus	08020101002	0.00	0.67	--	CG	35-I	--	Worm
<i>Lumbriculus variegatus</i>	08020101002001	0.67	0.00	--	--	--	--	Worm
Nais	08020202009	2.67	2.67	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	0.33	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	0.33	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	14.33	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	14.33	0.00	--	--	--	--	Worm
Hyaella	09010203006	0.00	104.33	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	104.33	0.00	--	--	--	--	Amphipod
Orconectes	09010301008	0.33	0.33	--	CG	--	--	Crayfish
Leucorrhinia	09020306034	0.00	0.67	9	PR	24.7-I	--	Dragonfly/damselfly
<i>Leucorrhinia intacta</i>	09020306034073	0.67	0.00	--	--	--	--	Dragonfly/damselfly
Enallagma	09020309051	3.33	3.33	9	PR	26.2-I	--	Dragonfly/damselfly
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	0.33	0.33	3	P	22-S	--	Caddisfly
Probezzia	09021010041	1.00	1.00	6	PR	28.6-I	--	Fly: Biting Midge
Chironomidae	09021011	1.33	0.00	--	--	--	--	Fly: Midge
Ablabesmyia	09021011001	1.00	1.79	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia mallochi</i>	09021011001004	0.67	0.00	--	--	--	T	Fly: Midge
Thienemannimyia	09021011020	0.00	0.36	3	PR	--	T	Fly: Midge
<i>Thienemannimyia group</i>	09021011020041	0.33	0.00	--	--	--	T	Fly: Midge
Orthocladius	09021011050	1.67	1.79	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	11.00	11.85	8	CG	22-S	--	Fly: Midge
Cladotanytarsus	09021011068	0.33	0.36	7	CG	22.2-I	Y	Fly: Midge
Tanytarsus	09021011076	0.33	0.36	6	CF	25.7-I	Y	Fly: Midge
Cryptochironomus	09021011082	0.00	0.72	8	PR	31.3-I	C	Fly: Midge
<i>Cryptochironomus fulvus</i>	09021011082144	0.67	0.00	--	--	--	C	Fly: Midge
Polypedilum	09021011102	0.67	1.44	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum illinoense</i>	09021011102204	0.67	0.00	--	--	--	--	Fly: Midge
Dineutus	09021104032	1.33	1.33	2	--	23.2-I	--	Beetle
Hydrachnidia	09030101	0.67	0.67	--	--	--	--	Mite
Amnicola	10010104013	0.33	0.33	--	SC	18.7-S	--	Snail
Fossaria	10010201021	2.33	2.33	--	--	56.1-E	--	Snail

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		Actual	Adjusted					
Gyraulus	10010203029	3.33	3.33	--	SC	37.2-I	--	Snail
Helisoma	10010203030	0.00	0.67	--	SC	42.8-I	--	Snail
<i>Helisoma anceps</i>	10010203030058	0.67	0.00	--	--	--	--	Snail
Musculium	10020201001	0.33	0.33	--	CF	24.8-I	--	Clam
Pisidium	10020201002	1.33	1.33	--	CF	--	--	Clam