

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

Station Information

Station Number: W-402	Trip ID: 2023-402	River Basin:
Waterbody: NORTH TWIN LAKE (K2)		HUC8 Name:
Town: T4 Indian Purchase Twp		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: KQ-2023-402	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: 0.12	Class C: 0.11	Class A, B, or C	1.00
Class B: 0.77	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.89	Class A	0.12
Class C or Non-Attainment	0.11	Class B or C or Non-Attainment	0.88

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	2.333	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.188	≥ 0.140
Shannon-Wiener Diversity Index	3.368	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.764	≥ 0.131
Abundance of Sensitive Taxa	44.667	≥ 3.424
Richness of Sensitive Taxa	8.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	26.791	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	1.718	≥ 0.334

Other Variables

Total Mean Abundance	152
Generic Richness:	32
Hilsenhoff Biotic Index:	7.40

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hyaella azteca</i>	31.29
2	<i>Psectrocladius</i>	18.60
3	<i>Nais</i>	15.97

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4	<i>Stylaria lacustris</i>	5.91
5	<i>Enchytraeidae</i>	4.38

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Surface Water Chemistry

Sample Date: 8/16/2023 9:09:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.72	mg/l	
In-situ	pH	7.03		
In-situ	Specific Conductance	25	us/cm	
In-situ	Temperature	21.59	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: OPEN WATER STANDING Substrate Classification: BOULDER SUBSTRATE RUBBLE/COBBLE SUBSTRATE SAND SUBSTRATE SILT/MUCK 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:	4.33	0.028	6	0.19
EPT Taxa:	3.67	0.024	5	0.16
Insects:	55.33	0.363	22	0.69
Non-Insects:	97.00	0.637	10	0.31
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	46.33	0.304	5	0.16
Snails:	1.33	0.009	2	0.06
Bivalves:	1.33	0.009	1	0.03
Isopods:	0.00	0.000	0	0.00
Amphipods:	47.67	0.313	1	0.03
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	2.33	0.015	3	0.09
Odonates:	0.67	0.004	1	0.03
Caddisflies:	1.33	0.009	2	0.06
Diptera:	51.00	0.335	16	0.50
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.00	0.000	0	0.00
Chironomids:	49.33	0.324	13	0.41
Tanypodinae Tribe:	3.00	0.020	3	0.09
Chironomiinae Tribe:	17.00	0.112	8	0.25
Orthoclodiinae Tribe:	29.33	0.193	2	0.06
Collector-Filterers:	6.00	0.039	2	0.06
Collector-Gatherers:	116.33	0.764	11	0.34
Predators:	6.33	0.042	6	0.19
Piercers:	1.00	0.007	1	0.03
Shredders:	6.00	0.039	1	0.03
Scrapers:	2.00	0.013	4	0.13
Maine Tolerance:				
Sensitive:	44.67	0.326	8	0.36
Intermediate:	66.33	0.484	11	0.50
Eurytopic:	26.00	0.190	3	0.14
Ratio of MTI Sensitive to Eurytopic	1.72	1.718	2.67	2.67

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Aquatic Life Taxonomic Inventory Report

Station Number: W-402	Waterbody: NORTH TWIN LAKE (K2)	Town: T4 Indian Purchase T
Log Number: KQ-2023-402	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					
Nematoda	05	0.33	0.33	--	--	--	--	Nematode
Oligochaeta	0802	1.00	1.00	--	--	--	--	Oligochaete
Tubificida	080202	1.67	1.67	--	--	--	--	Worm
Enchytraeidae	08020201	6.67	6.67	--	--	--	--	Worm
Nais	08020202009	24.33	24.33	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	2.67	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	2.67	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	9.00	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	9.00	0.00	--	--	--	--	Worm
Vejdovskyella	08020202015	0.00	1.00	--	--	13.7-S	--	Worm
<i>Vejdovskyella comata</i>	08020202015001	1.00	0.00	--	--	--	--	Worm
Hyaella	09010203006	0.00	47.67	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	47.67	0.00	--	--	--	--	Amphipod
Enallagma	09020309051	0.67	0.67	9	PR	26.2-I	--	Dragonfly/damselfly
Centropilum	09020401003	1.33	1.33	2	CG	--	--	Mayfly
Maccaffertium	09020402015	0.33	0.33	4	SC	--	--	Mayfly
Caenis	09020412040	0.67	0.67	7	CG	22.1-I	--	Mayfly
Oxyethira	09020607028	1.00	1.00	3	P	22-S	--	Caddisfly
Psilotreta	09020614068	0.33	0.33	0	SC	--	--	Caddisfly
Culicidae	09021008	0.33	0.33	--	--	--	--	Fly: Mosquito
Probozzia	09021010041	1.00	1.00	6	PR	28.6-I	--	Fly: Biting Midge
Ceratopogon	09021010046	0.33	0.33	--	--	71.5-E	--	Fly: Biting Midge
Ablabesmyia	09021011001	0.67	0.67	8	PR	23.6-I	T	Fly: Midge
Labrundinia	09021011008	1.00	1.00	7	PR	18.1-S	T	Fly: Midge
Thienemannimyia	09021011020	0.00	1.33	3	PR	--	T	Fly: Midge
<i>Thienemannimyia group</i>	09021011020041	1.33	0.00	--	--	--	T	Fly: Midge
Orthocladius	09021011050	1.00	1.00	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	28.33	28.33	8	CG	22-S	--	Fly: Midge
Cladotanytarsus	09021011068	2.00	2.00	7	CG	22.2-I	Y	Fly: Midge
Tanytarsus	09021011076	4.67	4.67	6	CF	25.7-I	Y	Fly: Midge
Pseudochironomus	09021011078	1.33	1.33	5	CG	47.7-E	S	Fly: Midge
Cryptochironomus	09021011082	0.00	1.67	8	PR	31.3-I	C	Fly: Midge
<i>Cryptochironomus fulvus</i>	09021011082144	1.67	0.00	--	--	--	C	Fly: Midge
Nilothauma	09021011095	0.67	0.67	2	--	11-S	C	Fly: Midge
Paralauterborniella	09021011099	0.00	0.33	8	CG	--	C	Fly: Midge

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		Actual	Adjusted					
<i>Paralauterborniella nigrohalteralis</i>	09021011099175	0.33	0.00	--	--	--	C	Fly: Midge
Polypedilum	090210111102	1.33	6.00	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum illinoense</i>	09021011102204	4.67	0.00	--	--	--	--	Fly: Midge
Stenochironomus	090210111105	0.33	0.33	5	CG	--	C	Fly: Midge
Valvata	10010101001	0.67	0.67	--	SC	33.4-I	--	Snail
Helisoma	10010203030	0.67	0.67	--	SC	42.8-I	--	Snail
Pisidium	10020201002	1.33	1.33	--	CF	--	--	Clam