

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

Station Information

Station Number: W-408	Trip ID: 2023-408	River Basin:
Waterbody: SOUTH TWIN LAKE (K1)		HUC8 Name:
Town: T4 Indian Purchase Twp		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: KQ-2023-408	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 $P \geq 0.6$:	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: 0.83	Class C: 0.00	Class A, B, or C	1.00
Class B: 0.17	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.83
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.17

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	3.667	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.244	≥ 0.140
Shannon-Wiener Diversity Index	3.708	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.680	≥ 0.131
Abundance of Sensitive Taxa	82.471	≥ 3.424
Richness of Sensitive Taxa	12.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	24.337	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	4.034	≥ 0.334

Other Variables

Total Mean Abundance	197
Generic Richness:	45
Hilsenhoff Biotic Index:	7.26

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hyaella azteca</i>	26.78
2	<i>Stylaria lacustris</i>	23.73
3	<i>Amnicola</i>	7.97

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

4	<i>Nais</i>	7.63
5	<i>Pisidium</i>	4.58

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

Surface Water Chemistry

Sample Date: 8/16/2023 10:53:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.74	mg/l	
In-situ	pH	6.92		
In-situ	Specific Conductance	25	us/cm	
In-situ	Temperature	22.08	deg c	

Landcover Summary - 2004 Data

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

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 10% SILT		

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

Additional Summary Variables

Station Number: W-408	Waterbody: SOUTH TWIN LAKE (K1)	Town: T4 Indian Purchase T
Log Number: KQ-2023-408	Subsample Factor: X1	Replicates: 3
		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	14.33	0.073	11	0.24
EPT Taxa:	8.67	0.044	8	0.18
Insects:	38.67	0.197	28	0.62
Non-Insects:	158.00	0.803	17	0.38
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	77.67	0.395	10	0.22
Snails:	18.00	0.092	3	0.07
Bivalves:	9.00	0.046	1	0.02
Isopods:	0.00	0.000	0	0.00
Amphipods:	52.67	0.268	1	0.02
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	3.67	0.019	4	0.09
Odonates:	5.67	0.029	3	0.07
Caddisflies:	5.00	0.025	4	0.09
Diptera:	24.33	0.124	17	0.38
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.00	0.000	0	0.00
Chironomids:	23.00	0.117	15	0.33
Tanypodinae Tribe:	1.74	0.009	2	0.04
Chironomiinae Tribe:	10.11	0.051	8	0.18
Orthoclodiinae Tribe:	10.45	0.053	4	0.09
Collector-Filterers:	12.12	0.062	3	0.07
Collector-Gatherers:	133.75	0.680	17	0.38
Predators:	9.80	0.050	9	0.20
Piercers:	0.00	0.000	0	0.00
Shredders:	6.08	0.031	3	0.07
Scrapers:	17.02	0.087	3	0.07
Maine Tolerance:				
Sensitive:	82.47	0.479	12	0.40
Intermediate:	69.29	0.402	12	0.40
Eurytopic:	20.44	0.119	6	0.20
Ratio of MTI	4.03	4.034	2.00	2.00
Sensitive to Eurytopic				

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

Aquatic Life Taxonomic Inventory Report

Station Number: W-408	Waterbody: SOUTH TWIN LAKE (K1)	Town: T4 Indian Purchase T
Log Number: KQ-2023-408	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	3.00	3.00	--	--	--	--	Oligochaete
Lumbriculus	08020101002	0.00	1.00	--	CG	35-I	--	Worm
<i>Lumbriculus variegatus</i>	08020101002001	1.00	0.00	--	--	--	--	Worm
Tubificida	080202	1.33	1.33	--	--	--	--	Worm
Enchytraeidae	08020201	1.33	1.33	--	--	--	--	Worm
Naididae	08020202	1.33	0.00	--	--	--	--	Worm
Bratislavia	08020202003	1.00	1.02	--	--	--	--	Worm
Arcteonais	08020202006	0.00	1.02	--	--	--	--	Worm
<i>Arcteonais lomondi</i>	08020202006001	1.00	0.00	--	--	--	--	Worm
Nais	08020202009	15.00	15.29	--	CG	43-E	--	Worm
Slavina	08020202012	0.00	3.06	--	--	4.2-S	--	Worm
<i>Slavina appendiculata</i>	08020202012001	3.00	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	47.56	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	46.67	0.00	--	--	--	--	Worm
Vejdovskyella	08020202015	0.00	2.38	--	--	13.7-S	--	Worm
<i>Vejdovskyella comata</i>	08020202015001	2.33	0.00	--	--	--	--	Worm
Aulodrilus	08020202018	0.00	0.34	--	--	3.8-S	--	Tubificid Worm
<i>Aulodrilus pluriset</i>	08020202018004	0.33	0.00	--	--	--	--	Tubificid Worm
Limnodrilus	08020202022	0.33	0.34	--	CG	83.9-E	--	Tubificid Worm
Hyaella	09010203006	0.00	52.67	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	52.67	0.00	--	--	--	--	Amphipod
Orconectes	09010301008	0.33	0.33	--	CG	--	--	Crayfish
Boyeria	09020301004	0.00	0.33	2	PR	8-S	--	Dragonfly/damselfly
<i>Boyeria vinosa</i>	09020301004012	0.33	0.00	--	--	--	--	Dragonfly/damselfly
Libellulidae	09020306	0.67	0.67	--	--	--	--	Dragonfly/damselfly
Enallagma	09020309051	4.67	4.67	9	PR	26.2-I	--	Dragonfly/damselfly
Baetis	09020401001	1.67	1.67	4	CG	29.9-I	--	Mayfly
Centroptilum	09020401003	0.33	0.33	2	CG	--	--	Mayfly
Paraleptophlebia	09020406026	0.67	0.67	1	CG	--	--	Mayfly
Caenis	09020412040	1.00	1.00	7	CG	22.1-I	--	Mayfly
Chimarra	09020601003	0.33	0.33	2	CF	--	--	Caddisfly
Ptilostomis	09020608041	2.33	2.33	5	SH	--	--	Caddisfly
Triaenodes	09020618077	2.00	2.00	6	SH	19.3-S	--	Caddisfly
Oecetis	09020618078	0.33	0.33	8	PR	16.3-S	--	Caddisfly

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

Aquatic Life Taxonomic Inventory Report

Station Number: W-408	Waterbody: SOUTH TWIN LAKE (K1)	Town: T4 Indian Purchase T
Log Number: KQ-2023-408	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						
Probezzia	09021010041	0.67	0.67	6	PR	28.6-I	--	Fly: Biting Midge	
Chironomidae	09021011	1.00	0.00	--	--	--	--	Fly: Midge	
Labrundinia	09021011008	0.67	0.70	7	PR	18.1-S	T	Fly: Midge	
Thienemannimyia	09021011020	1.00	1.05	3	PR	--	T	Fly: Midge	
Potthastia	09021011026	0.00	0.70	2	CG	--	D	Fly: Midge	
<i>Potthastia longimana</i>	09021011026046	0.67	0.00	--	--	--	D	Fly: Midge	
Heterotrissocladius	09021011044	0.33	0.35	0	CG	--	--	Fly: Midge	
Nanocladius	09021011049	0.33	0.35	3	CG	14.1-S	--	Fly: Midge	
Orthocladius	09021011050	4.00	4.18	6	CG	22-S	--	Fly: Midge	
Psectrocladius	09021011056	5.33	5.58	8	CG	22-S	--	Fly: Midge	
Cladotanytarsus	09021011068	0.67	0.70	7	CG	22.2-I	Y	Fly: Midge	
Micropsectra	09021011070	1.00	1.05	7	CG	98.1-E	Y	Fly: Midge	
Paratanytarsus	09021011071	2.00	2.09	6	--	43-E	Y	Fly: Midge	
Tanytarsus	09021011076	2.67	2.79	6	CF	25.7-I	Y	Fly: Midge	
Cryptochironomus	09021011082	0.00	1.05	8	PR	31.3-I	C	Fly: Midge	
<i>Cryptochironomus fulvus</i>	09021011082144	1.00	0.00	--	--	--	C	Fly: Midge	
Parachironomus	09021011097	0.33	0.35	10	PR	28.6-I	C	Fly: Midge	
Phaenopsectra	09021011101	0.00	0.35	7	SC	44.2-E	C	Fly: Midge	
<i>Phaenopsectra obediens</i>	09021011101182	0.33	0.00	--	SC	--	C	Fly: Midge	
Polypedilum	09021011102	0.00	1.74	6	SH	24.2-I	C	Fly: Midge	
<i>Polypedilum illinoense</i>	09021011102204	1.67	0.00	--	--	--	--	Fly: Midge	
Hemerodromia	09021016057	0.67	0.67	3	PR	--	--	Fly: Aquatic Dance	
Amnicola	10010104013	15.67	15.67	--	SC	18.7-S	--	Snail	
Fossaria	10010201021	1.33	1.33	--	--	56.1-E	--	Snail	
Gyraulus	10010203029	1.00	1.00	--	SC	37.2-I	--	Snail	
Pisidium	10020201002	9.00	9.00	--	CF	--	--	Clam	