

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

Station Information

Station Number: W-409	Trip ID: 2023-409	River Basin:
Waterbody: SOUTH TWIN LAKE (S1)		HUC8 Name:
Town: T4 Indian Purchase Twp		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: SB-2023-409	Type of Sample: SURBER	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: 0.15	Class C: 0.20	Class A, B, or C	1.00
Class B: 0.65	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.80	Class A	0.15
Class C or Non-Attainment	0.20	Class B or C or Non-Attainment	0.85

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	5.333	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.300	≥ 0.140
Shannon-Wiener Diversity Index	3.022	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.833	≥ 0.131
Abundance of Sensitive Taxa	31.000	≥ 3.424
Richness of Sensitive Taxa	6.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	37.712	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	0.853	≥ 0.334

Other Variables

Total Mean Abundance	86
Generic Richness:	30
Hilsenhoff Biotic Index:	5.82

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Stylaria lacustris</i>	32.30
2	<i>Nais</i>	31.91
3	<i>Micropsectra</i>	10.12
4	<i>Hyalella azteca</i>	2.72

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4	<i>Tubificida</i>	2.72
5	<i>Hemerodromia</i>	1.95
5	<i>Probetzia</i>	1.95

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Surface Water Chemistry

Sample Date: 8/16/2023 11:30:00 AM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	8.82	mg/l	
In-situ	pH	6.93		
In-situ	Specific Conductance	24	us/cm	
In-situ	Temperature	22.19	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

SAND 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:	6.33	0.074	9	0.30
EPT Taxa:	6.33	0.074	9	0.30
Insects:	24.33	0.284	22	0.73
Non-Insects:	61.33	0.716	8	0.27
Leeches:	0.00	0.000	0	0.00
Oligochaetes:	58.67	0.685	6	0.20
Snails:	0.33	0.004	1	0.03
Bivalves:	0.00	0.000	0	0.00
Isopods:	0.00	0.000	0	0.00
Amphipods:	2.33	0.027	1	0.03
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	5.33	0.062	6	0.20
Odonates:	0.00	0.000	0	0.00
Caddisflies:	1.00	0.012	3	0.10
Diptera:	17.67	0.206	12	0.40
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.33	0.004	1	0.03
Chironomids:	14.00	0.163	9	0.30
Tanypodinae Tribe:	0.33	0.004	1	0.03
Chironomiinae Tribe:	11.00	0.128	5	0.17
Orthoclodiinae Tribe:	2.67	0.031	3	0.10
Collector-Filterers:	1.00	0.012	2	0.07
Collector-Gatherers:	71.33	0.833	12	0.40
Predators:	4.67	0.054	6	0.20
Piercers:	0.00	0.000	0	0.00
Shredders:	0.67	0.008	2	0.07
Scrapers:	4.00	0.047	3	0.10
Maine Tolerance:				
Sensitive:	31.00	0.419	6	0.38
Intermediate:	6.67	0.090	7	0.44
Eurytopic:	36.33	0.491	3	0.19
Ratio of MTI Sensitive to Eurytopic	0.85	0.853	2.00	2.00

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Aquatic Life Taxonomic Inventory Report

Station Number: W-409	Waterbody: SOUTH TWIN LAKE (S1)	Town: T4 Indian Purchase T
Log Number: SB-2023-409	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	0.33	--	CG	35-I	--	Worm
<i>Lumbriculus variegatus</i>	08020101002001	0.33	0.00	--	--	--	--	Worm
Stylodrilus	08020101004	0.00	0.33	--	--	--	--	Worm
<i>Stylodrilus heringianus</i>	08020101004001	0.33	0.00	--	--	--	--	Worm
Tubificida	080202	2.33	2.33	--	--	--	--	Worm
Bratislavia	08020202003	0.33	0.33	--	--	--	--	Worm
Nais	08020202009	27.33	27.33	--	CG	43-E	--	Worm
Ripistes	08020202011	0.00	0.33	--	--	--	--	Worm
<i>Ripistes parasita</i>	08020202011001	0.33	0.00	--	--	--	--	Worm
Stylaria	08020202014	0.00	27.67	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	27.67	0.00	--	--	--	--	Worm
Hyaella	09010203006	0.00	2.33	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	2.33	0.00	--	--	--	--	Amphipod
Centropetium	09020401003	0.67	0.67	2	CG	--	--	Mayfly
Acentrella	09020401008	0.33	0.33	3	CG	--	--	Mayfly
Plauditus	09020401012	0.33	0.33	--	CG	--	--	Mayfly
Leucrocuta	09020402011	1.33	1.33	1	SC	--	--	Mayfly
Maccaffertium	09020402015	1.33	1.33	4	SC	--	--	Mayfly
Stenonema	09020402016	0.00	1.33	4	SC	--	--	Mayfly
<i>Stenonema femoratum</i>	09020402016001	1.33	0.00	4	SC	--	--	Mayfly
Cheumatopsyche	09020604015	0.33	0.33	5	CF	--	--	Caddisfly
Lepidostoma	09020611064	0.33	0.33	1	SH	--	--	Caddisfly
Oecetis	09020618078	0.33	0.33	8	PR	16.3-S	--	Caddisfly
Probezzia	09021010041	1.67	1.67	6	PR	28.6-I	--	Fly: Biting Midge
Palpomyia	09021010044	0.33	0.33	6	PR	--	--	Fly: Biting Midge
Labrundinia	09021011008	0.33	0.33	7	PR	18.1-S	T	Fly: Midge
Nanocladius	09021011049	0.33	0.33	3	CG	14.1-S	--	Fly: Midge
Orthocladius	09021011050	1.33	1.33	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	1.00	1.00	8	CG	22-S	--	Fly: Midge
Micropsectra	09021011070	8.67	8.67	7	CG	98.1-E	Y	Fly: Midge
Tanytarsus	09021011076	0.67	0.67	6	CF	25.7-I	Y	Fly: Midge
Cryptochironomus	09021011082	0.00	0.33	8	PR	31.3-I	C	Fly: Midge
<i>Cryptochironomus fulvus</i>	09021011082144	0.33	0.00	--	--	--	C	Fly: Midge
Dicortendipes	09021011085	1.00	1.00	8	CG	28.8-I	C	Fly: Midge
Polypedilum	09021011102	0.00	0.33	6	SH	24.2-I	C	Fly: Midge

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		Actual	Adjusted					
<i>Polypedilum flavum</i>	09021011102182	0.33	0.00	--	--	--	C	Fly: Midge
Hemerodromia	09021016057	1.67	1.67	3	PR	--	--	Fly: Aquatic Dance
Oulimnius	09021113068	0.00	0.33	--	--	--	--	Beetle
<i>Oulimnius latiusculus</i>	09021113068049	0.33	0.00	--	--	--	--	Beetle
Fossaria	10010201021	0.33	0.33	--	--	56.1-E	--	Snail