

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

Station Information

Station Number: W-411	Trip ID: 2023-411	River Basin:
Waterbody: SOUTH TWIN LAKE (S2)		HUC8 Name:
Town: T4 Indian Purchase Twp		Latitude:
Mitigation Monitoring Site: No		Longitude:

Sample Information

Sample ID: SB-2023-411	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 $P \geq 0.6$:	I	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: 0.17	Class C: 0.33	Class A, B, or C	1.00
Class B: 0.50	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.67	Class A	0.17
Class C or Non-Attainment	0.33	Class B or C or Non-Attainment	0.83

Model Variables

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	3.333	≥ 0.000
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.185	≥ 0.140
Shannon-Wiener Diversity Index	3.881	≥ 2.497
Relative Abundance of Collector-Gatherer Taxa	0.593	≥ 0.131
Abundance of Sensitive Taxa	12.083	≥ 3.424
Richness of Sensitive Taxa	4.000	≥ 3.000
Maine Tolerance Index Score For Wetland Macroinvertebrates	25.226	≤ 29.776
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	3.229	≥ 0.334

Other Variables

Total Mean Abundance	45
Generic Richness:	27
Hilsenhoff Biotic Index:	6.79

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hyaella azteca</i>	25.37
2	<i>Stylaria lacustris</i>	11.94
3	<i>Enchytraeidae</i>	8.21
4	<i>Polycentropus</i>	7.46

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

5 *Paratanytarsus*

6.72

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

Surface Water Chemistry

Sample Date: 8/16/2023 12:54:00 PM

Collection Method	Parameter	Value	Units	Qualifier
In-situ	Dissolved Oxygen	9.09	mg/l	
In-situ	pH	7.08		
In-situ	Specific Conductance	24	us/cm	
In-situ	Temperature	22.67	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>	<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

Average Depth:

Visible Flow: No

Rain In Previous 24 Hours: No

Sample Comments:

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

Additional Summary Variables

Station Number: W-411	Waterbody: SOUTH TWIN LAKE (S2)	Town: T4 Indian Purchase T
Log Number: SB-2023-411	Subsample Factor: X1	Replicates: 3
		Calculated: 11/21/2024

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	6.67	0.149	5	0.19
EPT Taxa:	7.00	0.157	6	0.22
Insects:	22.67	0.507	21	0.78
Non-Insects:	22.00	0.493	6	0.22
Leeches:	0.33	0.007	1	0.04
Oligochaetes:	9.67	0.216	3	0.11
Snails:	0.00	0.000	0	0.00
Bivalves:	0.00	0.000	0	0.00
Isopods:	0.00	0.000	0	0.00
Amphipods:	11.33	0.254	1	0.04
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.33	0.007	1	0.04
Mayflies:	3.33	0.075	4	0.15
Odonates:	0.00	0.000	0	0.00
Caddisflies:	3.33	0.075	1	0.04
Diptera:	15.67	0.351	15	0.56
Hemiptera:	0.00	0.000	0	0.00
Beetles:	0.00	0.000	0	0.00
Chironomids:	13.67	0.306	11	0.41
Tanypodinae Tribe:	1.03	0.023	2	0.07
Chironomiinae Tribe:	8.54	0.191	6	0.22
Orthoclodiinae Tribe:	4.10	0.092	3	0.11
Collector-Filterers:	1.71	0.038	1	0.04
Collector-Gatherers:	26.51	0.593	13	0.48
Predators:	6.03	0.135	7	0.26
Piercers:	0.00	0.000	0	0.00
Shredders:	0.68	0.015	1	0.04
Scrapers:	2.00	0.045	1	0.04
Maine Tolerance:				
Sensitive:	12.08	0.346	4	0.25
Intermediate:	19.14	0.547	10	0.63
Eurytopic:	3.74	0.107	2	0.13
Ratio of MTI Sensitive to Eurytopic	3.23	3.229	2.00	2.00

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

Aquatic Life Taxonomic Inventory Report

Station Number: W-411	Waterbody: SOUTH TWIN LAKE (S2)	Town: T4 Indian Purchase T
Log Number: SB-2023-411	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	0.67	0.67	--	--	--	--	Nematode
Enchytraeidae	08020201	3.67	3.67	--	--	--	--	Worm
Nais	08020202009	0.67	0.67	--	CG	43-E	--	Worm
Stylaria	08020202014	0.00	5.33	--	CG	18-S	--	Worm
<i>Stylaria lacustris</i>	08020202014002	5.33	0.00	--	--	--	--	Worm
Erpobdella	08030203002	0.33	0.33	--	--	36.4-I	--	Leech
Hyaella	09010203006	0.00	11.33	8	CG	24.5-I	--	Amphipod
<i>Hyaella azteca</i>	09010203006011	11.33	0.00	--	--	--	--	Amphipod
Sweltsa	09020208040	0.33	0.33	--	PR	--	--	Stonefly
Maccaffertium	09020402015	2.00	2.00	4	SC	--	--	Mayfly
Choroterpes	09020406022	0.67	0.67	2	CG	--	--	Mayfly
Caenis	09020412040	0.33	0.33	7	CG	22.1-I	--	Mayfly
Baetisca	09020413041	0.33	0.33	4	CG	--	--	Mayfly
Polycentropus	09020603010	3.33	3.33	6	PR	15.4-S	--	Caddisfly
Dasyhelea	09021010036	0.67	0.67	--	CG	30.6-I	--	Fly: Biting Midge
Culicoides	09021010037	0.67	0.67	10	PR	42.1-I	--	Fly: Biting Midge
Sphaeromias	09021010042	0.33	0.33	6	PR	--	--	Fly: Biting Midge
Mallochohelea	09021010047	0.33	0.33	--	PR	--	--	Fly: Biting Midge
Chironomidae	09021011	0.33	0.00	--	--	--	--	Fly: Midge
Ablabesmyia	09021011001	0.67	0.68	8	PR	23.6-I	T	Fly: Midge
Thienemannimyia	09021011020	0.00	0.34	3	PR	--	T	Fly: Midge
<i>Thienemannimyia group</i>	09021011020041	0.33	0.00	--	--	--	T	Fly: Midge
Orthocladius	09021011050	1.33	1.37	6	CG	22-S	--	Fly: Midge
Psectrocladius	09021011056	2.00	2.05	8	CG	22-S	--	Fly: Midge
Tvetenia	09021011065	0.00	0.68	5	CG	--	--	Fly: Midge
<i>Tvetenia paucunca</i>	09021011065114	0.67	0.00	--	--	--	--	Fly: Midge
Cladotanytarsus	09021011068	0.33	0.34	7	CG	22.2-I	Y	Fly: Midge
Paratanytarsus	09021011071	3.00	3.08	6	--	43-E	Y	Fly: Midge
Stempellina	09021011073	0.33	0.34	2	CG	--	Y	Fly: Midge
Tanytarsus	09021011076	1.67	1.71	6	CF	25.7-I	Y	Fly: Midge
Dicrotendipes	09021011085	2.33	2.39	8	CG	28.8-I	C	Fly: Midge
Polypedilum	09021011102	0.67	0.68	6	SH	24.2-I	C	Fly: Midge