



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

Station Information

Station Number: S-285	River Basin: Penobscot
Waterbody: Silver Lake Outlet Stream - Station 285	HUC8 Name: Lower Penobscot
Town: Bucksport	Latitude: 44 34 37.33 N
Directions: BELOW BUCKS MILL RD. BRIDGE	Longitude: 68 47 26.81 W
	Stream Order: 1

Sample Information

Log Number: 2913	Type of Sample: ROCK BAG	Date Deployed: 7/8/2021
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/5/2021

Classification Attainment

Statutory Class: B	Final Determination: NA	Date: 1/13/2023
Model Result with $P \geq 0.6$: NA	Reason for Determination: Model	
Date Last Calculated: 3/17/2023	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.14
Class B	0.01	Non-Attainment	0.86
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.00
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	1.00

Model Variables

01 Total Mean Abundance	404.00	18 Relative Abundance Ephemeroptera	0.01
02 Generic Richness	48.00	19 EPT Generic Richness	9.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	3.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.73	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	39.67
06 Hilsenhoff Biotic Index	5.61	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.38	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.38	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	4.67		
11 <i>Cheumatopsyche</i> Abundance	3.67		
12 EPT Generic Richness/ Diptera Generic Richness	0.50		
13 Relative Abundance - Oligochaeta	0.04		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	10.00		
17 Chironomini Abundance (Family Functional Group)	84.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Stenelmis</i>	35.48
2	<i>Microtendipes</i>	16.67
3	<i>Cricotopus</i>	7.43
4	<i>Oecetis</i>	4.29
5	<i>Pisidium</i>	3.22



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Station Number: S-285 Town: Bucksport Date Deployed: 7/8/2021
Log Number: 2913 Waterbody: Silver Lake Outlet Stream - Station 285 Date Retrieved: 8/5/2021

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 19.9 deg C
Dissolved Oxygen: 6.91 mg/l
Dissolved Oxygen Saturation: 75.2 %
Specific Conductance: 160.8 uS/cm
Velocity: 9.14 cm/s
pH: 6.51
Wetted Width: 3.02 m
Bankfull Width: 7 m
Depth: 28 cm

Waterbody Information - Retrieval

Temperature: 20.4 deg C
Dissolved Oxygen: 6.65 mg/l
Dissolved Oxygen Saturation: 73.1 %
Specific Conductance: 156.6 uS/cm
Velocity:
pH: 5.41
Wetted Width: 3.55 m
Bankfull Width:
Depth: 30 cm

Water Chemistry - 7/8/2021

Nitrate + Nitrite As Nitrogen	0.01 mg/l	Nitrate As Nitrogen	0.01 mg/l
Nitrite As Nitrogen	<0.01 mg/l	Orthophosphate As Phosphorus	2 ug/l
Total Kjeldahl Nitrogen (organic A	0.4 mg/l	Total Phosphorus Mixed Forms (po	19 ug/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
	Open	
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Urban Runoff		Bedrock 10 % Boulder 25 % Detritus 10 % Gravel 10 % Rubble/Cobble 10 % Sand 15 % Silt 20 %

Landcover Summary - 2004 Data

Total Area (ac)	3289	High Int. Dev. %	3.2	Water %	19.1	Non-vegetated %	0.0
		Med Int. Dev. %	1.2	Wetland %	4.1	Tilled Agriculture %	3.8
		Low Int. Dev. %	1.5	Upland Woody %	58.5	Grassland %	5.7
		Development %	5.9	Natural %	68.2	Human Altered %	16.5
						Impervious %	4.5
Total Land (ac)	2661	High Int. Dev. %	3.9	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	1.5	Wetland %	5.0	Tilled Agriculture %	4.7
		Low Int. Dev. %	1.5	Upland Woody %	72.3	Grassland %	7.0
		Development %	7.2	Natural %	84.3	Human Altered %	20.3
						Impervious %	5.6

Sample Comments



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-285

Waterbody: Silver Lake Outlet Stream - Station 285

Town: Bucksport

Log Number: 2913

Subsample Factor: X1

Replicates: 3

Calculated: 3/17/2023

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002	2.33	2.33		--	0.6	0.6
<i>Prostoma</i>	04010101001	3.67	3.67		--	0.9	0.9
Nematoda	05	0.33	0.33		--	0.1	0.1
<i>Pristina</i>	08020202004	0.33	0.33		--	0.1	0.1
<i>Nais</i>	08020202009	1.67	1.67		CG	0.4	0.4
<i>Slavina</i>	08020202012		1.33		--		0.3
<i>Slavina appendiculata</i>	08020202012001	1.33			--	0.3	
<i>Stylaria</i>	08020202014	9.67	9.67		CG	2.4	2.4
<i>Aulodrilus</i>	08020202018		1.67		--		0.4
<i>Aulodrilus pluriseta</i>	08020202018004	1.67			--	0.4	
<i>Erpobdella</i>	08030203002		2.33		--		0.6
<i>Erpobdella punctata</i>	08030203002001	2.33			--	0.6	
<i>Hyaella</i>	09010203006	7.67	7.67	8	CG	1.9	1.9
<i>Boyeria</i>	09020301004		1.00	2	PR		0.2
<i>Boyeria vinosa</i>	09020301004012	1.00			--	0.2	
<i>Calopteryx</i>	09020307043	0.67	0.67	5	PR	0.2	0.2
Coenagrionidae	09020309	2.33	2.33		--	0.6	0.6
<i>Argia</i>	09020309048	0.67	0.67	7	PR	0.2	0.2
<i>Acerpenna</i>	09020401007	2.33	3.33	5	CG	0.6	0.8
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.2	
<i>Chimarra</i>	09020601003		3.00	2	CF		0.7
<i>Chimarra aterrima</i>	09020601003002	1.67			--	0.4	
<i>Chimarra socia</i>	09020601003004	1.33			--	0.3	
<i>Polycentropus</i>	09020603010	4.00	4.00	6	PR	1.0	1.0
<i>Cheumatopsyche</i>	09020604015	3.67	3.67	5	CF	0.9	0.9
<i>Hydropsyche</i>	09020604016		4.67	4	CF		1.2
<i>Hydropsyche betteni</i>	09020604016037	4.67			--	1.2	
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.1	0.1
<i>Oxyethira</i>	09020607028	0.33	0.33	3	P	0.1	0.1
<i>Mystacides</i>	09020618075		1.67	4	CG		0.4
<i>Mystacides sepulchralis</i>	09020618075147	1.67			--	0.4	
<i>Oecetis</i>	09020618078	14.33	17.33	8	PR	3.5	4.3
<i>Oecetis persimilis</i>	09020618078157	3.00			--	0.7	
<i>Nigronia</i>	09020701003		0.67	0	PR		0.2
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.2	
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.1	0.1
<i>Ablabesmyia</i>	09021011001	0.67	0.67	8	PR	0.2	0.2



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nilotanytus</i>	09021011012		1.33	6	PR		0.3
<i>Nilotanytus fimbriatus</i>	09021011012027	1.33			--	0.3	
<i>Thienemannimyia</i>	09021011020		8.00	3	PR		2.0
<i>Thienemannimyia group</i>	09021011020041	8.00			--	2.0	
<i>Corynoneura</i>	09021011036	1.33	1.33	7	CG	0.3	0.3
<i>Cricotopus</i>	09021011037		30.00	7	SH		7.4
<i>Cricotopus bicinctus</i>	09021011037057	30.00			--	7.4	
<i>Parametriocnemus</i>	09021011053	2.00	2.00	5	CG	0.5	0.5
<i>Psectrocladius</i>	09021011056	1.33	1.33	8	CG	0.3	0.3
<i>Thienemanniella</i>	09021011062	6.67	6.67	6	CG	1.7	1.7
<i>Tvetenia</i>	09021011065		4.00	5	CG		1.0
<i>Tvetenia paucunca</i>	09021011065114	4.00			--	1.0	
<i>Rheotanytarsus</i>	09021011072		7.33	6	CF		1.8
<i>Rheotanytarsus pellucidus</i>	09021011072128	7.33			CF	1.8	
<i>Stempellinella</i>	09021011074	2.00	2.00	2	--	0.5	0.5
<i>Tanytarsus</i>	09021011076	5.33	5.33	6	CF	1.3	1.3
<i>Microtendipes</i>	09021011094		67.33	6	CF		16.7
<i>Microtendipes rydalensis group</i>	09021011094168	67.33			--	16.7	
<i>Paratendipes</i>	09021011100	6.00	6.00	8	CG	1.5	1.5
<i>Phaenopsectra</i>	09021011101	0.67	0.67	7	SC	0.2	0.2
<i>Polypedilum</i>	09021011102		10.67	6	SH		2.6
<i>Polypedilum aviceps</i>	09021011102181	8.00			--	2.0	
<i>Polypedilum flavum</i>	09021011102182	0.67			--	0.2	
<i>Polypedilum illinoense group</i>	09021011102185	2.00			--	0.5	
<i>Simulium</i>	09021012047	0.33	0.33	4	CF	0.1	0.1
<i>Psephenus</i>	09021108058		0.33	4	SC		0.1
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.1	
<i>Macronychus</i>	09021113065		5.67	4	--		1.4
<i>Macronychus glabratus</i>	09021113065040	5.67			--	1.4	
<i>Stenelmis</i>	09021113070	143.33	143.33	5	SC	35.5	35.5
Gastropoda	1001	0.33	0.33		--	0.1	0.1
<i>Physella</i>	10010202027	5.00	5.00		SC	1.2	1.2
Sphaeriidae	10020201	6.33	6.33		CF	1.6	1.6
<i>Pisidium</i>	10020201002	13.00	13.00		CF	3.2	3.2