



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

Station Information

Station Number: S-973	River Basin: Penobscot
Waterbody: Eaton Brook - Station 973	HUC8 Name: Lower Penobscot
Town: Brewer	Latitude: 44 47 44.77 N
Directions: DOWNSTREAM OF LAMBERT ROAD BY INTERSECTION WITH DAY ROAD	Longitude: 68 42 8.5 W
	Stream Order: 3

Sample Information

Log Number: 2911	Type of Sample: ROCK BAG	Date Deployed: 7/8/2021
Subsample Factor: X4	Replicates: 3	Date Retrieved: 8/5/2021

Classification Attainment

Statutory Class: B	Final Determination: C	Date: 1/13/2023
Model Result with $P \geq 0.6$: C	Reason for Determination: Model	
Date Last Calculated: 11/16/2022	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	1.00
Class B	0.01	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.01
Class A or B	0.00	Class B or C or Non-Attainment	0.99
Class C or Non-Attainment	1.00		

Model Variables

01 Total Mean Abundance	914.67	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	41.00	19 EPT Generic Richness	18.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	77.33
04 Ephemeroptera Mean Abundance	142.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.21	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	288.00
06 Hilsenhoff Biotic Index	6.01	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	14.67
07 Relative Abundance - Chironomidae	0.66	28 EP Generic Richness/14	0.71
08 Relative Generic Richness Diptera	0.37	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	13.33		
11 <i>Cheumatopsyche</i> Abundance	57.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.20		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	85.33		
17 Chironomini Abundance (Family Functional Group)	142.67		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tanytarsus</i>	15.01
2	<i>Rheotanytarsus</i>	11.95
3	<i>Cricotopus</i>	9.04
4	<i>Dicrotendipes</i>	8.16
5	<i>Caenis</i>	7.29



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Station Number: S-973 Town: Brewer Date Deployed: 7/8/2021
Log Number: 2911 Waterbody: Eaton Brook - Station 973 Date Retrieved: 8/5/2021

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 21.8 deg C
Dissolved Oxygen: 9.68 mg/l
Dissolved Oxygen Saturation: 109.4 %
Specific Conductance: 105.4 uS/cm
Velocity: 8.13 cm/s
pH: 7.17
Wetted Width: 5.34 m
Bankfull Width: 5.34 m
Depth:

Waterbody Information - Retrieval

Temperature: 21.2 deg C
Dissolved Oxygen: 9.22 mg/l
Dissolved Oxygen Saturation: 102.2 %
Specific Conductance: 128.6 uS/cm
Velocity: 8.13 cm/s
pH: 6.58
Wetted Width: 5.7 m
Bankfull Width:
Depth: 32 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	0.7 mg/l	Total Phosphorus Mixed Forms (po	25 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>
Agricultural Runoff		Boulder 30 % Gravel 10 % Rubble/Cobble 50 % Sand 10 %

Landcover Summary - 2004 Data

Total Area (ac)	8537	High Int. Dev. %	2.8	Water %	0.4	Non-vegetated %	0.1
		Med Int. Dev. %	0.6	Wetland %	8.4	Tilled Agriculture %	2.6
		Low Int. Dev. %	1.2	Upland Woody %	78.6	Grassland %	4.7
		Development %	4.6	Natural %	91.8	Human Altered %	12.4
						Impervious %	3.5
Total Land (ac)	8500	High Int. Dev. %	2.8	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.6	Wetland %	8.5	Tilled Agriculture %	2.6
		Low Int. Dev. %	0.6	Upland Woody %	78.9	Grassland %	4.7
		Development %	4.6	Natural %	92.2	Human Altered %	12.4
						Impervious %	3.6

Sample Comments



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

Station Number: S-973

Waterbody: Eaton Brook - Station 973

Town: Brewer

Log Number: 2911

Subsample Factor: X4

Replicates: 3

Calculated: 11/16/2022

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002	1.33	1.33		--	0.1	0.1
<i>Nais</i>	08020202009	1.33	1.33		CG	0.1	0.1
<i>Helobdella</i>	08030101005		2.67		--		0.3
<i>Helobdella stagnalis complex</i>	08030101005004	2.67			--	0.3	
<i>Hyaella</i>	09010203006	2.67	2.67	8	CG	0.3	0.3
<i>Argia</i>	09020309048	6.67	6.67	7	PR	0.7	0.7
<i>Baetis</i>	09020401001		2.67	4	CG		0.3
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.1	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.1	
<i>Acerpenna</i>	09020401007	2.67	10.67	5	CG	0.3	1.2
<i>Acerpenna macdunnoughi</i>	09020401007001	5.33			--	0.6	
<i>Acerpenna pygmaea</i>	09020401007011	2.67			--	0.3	
<i>Procloeon</i>	09020401010	2.67	2.67		CG	0.3	0.3
<i>Iswaeon</i>	09020401015		1.33		--		0.1
<i>Iswaeon anoka</i>	09020401015001	1.33			--	0.1	
<i>Stenacron</i>	09020402014	26.67	36.00	7	SC	2.9	3.9
<i>Stenacron interpunctatum</i>	09020402014045	9.33			--	1.0	
<i>Maccaffertium</i>	09020402015	13.33	14.67	4	SC	1.5	1.6
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.1	
<i>Paraleptophlebia</i>	09020406026	1.33	1.33	1	CG	0.1	0.1
<i>Ephemerella</i>	09020410035	1.33	1.33	1	CG	0.1	0.1
<i>Tricorythodes</i>	09020411038	5.33	5.33	4	CG	0.6	0.6
<i>Caenis</i>	09020412040	66.67	66.67	7	CG	7.3	7.3
<i>Chimarra</i>	09020601003		2.67	2	CF		0.3
<i>Chimarra obscura</i>	09020601003003	2.67			--	0.3	
Polycentropodidae	09020603	1.33	1.33		--	0.1	0.1
<i>Cernotina</i>	09020603006	13.33	13.33		PR	1.5	1.5
<i>Cheumatopsyche</i>	09020604015	57.33	57.33	5	CF	6.3	6.3
<i>Hydropsyche</i>	09020604016		13.33	4	CF		1.5
<i>Hydropsyche betteni</i>	09020604016037	13.33			--	1.5	
Hydroptilidae	09020607				--		
<i>Hydroptila</i>	09020607026	9.33	9.33	6	P	1.0	1.0
<i>Oxyethira</i>	09020607028	2.67	2.67	3	P	0.3	0.3
<i>Triaenodes</i>	09020618077	4.00	4.00	6	SH	0.4	0.4
<i>Ablabesmyia</i>	09021011001	10.67	10.67	8	PR	1.2	1.2
<i>Labrundinia</i>	09021011008		10.67	7	PR		1.2
<i>Labrundinia pilosella</i>	09021011008022	10.67			--	1.2	



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<i>Pentaneura</i>	09021011014	5.33	5.33	6	PR	0.6	0.6
<i>Thienemannimyia</i>	09021011020		58.67	3	PR		6.4
<i>Thienemannimyia group</i>	09021011020041	58.67			--	6.4	
<i>Cricotopus</i>	09021011037	5.33	82.67	7	SH	0.6	9.0
<i>Cricotopus bicinctus</i>	09021011037057	77.33			--	8.5	
<i>Eukiefferiella</i>	09021011041		1.33	8	CG		0.1
<i>Eukiefferiella brehmi group</i>	09021011041073	1.33			--	0.1	
<i>Thienemanniella</i>	09021011062	2.67	2.67	6	CG	0.3	0.3
<i>Paratanytarsus</i>	09021011071	40.00	40.00	6	--	4.4	4.4
<i>Rheotanytarsus</i>	09021011072		109.33	6	CF		12.0
<i>Rheotanytarsus exiguus group</i>	09021011072127	88.00			CF	9.6	
<i>Rheotanytarsus pellucidus</i>	09021011072128	21.33			CF	2.3	
<i>Tanytarsus</i>	09021011076	137.33	137.33	6	CF	15.0	15.0
<i>Dicrotendipes</i>	09021011085	74.67	74.67	8	CG	8.2	8.2
<i>Microtendipes</i>	09021011094		2.67	6	CF		0.3
<i>Microtendipes rydalensis group</i>	09021011094168	2.67			--	0.3	
<i>Nilothauma</i>	09021011095	1.33	1.33	2	--	0.1	0.1
<i>Polypedilum</i>	09021011102		58.67	6	SH		6.4
<i>Polypedilum aviceps</i>	09021011102181	5.33			--	0.6	
<i>Polypedilum flavum</i>	09021011102182	53.33			--	5.8	
<i>Stenochironomus</i>	09021011105	5.33	5.33	5	CG	0.6	0.6
<i>Dubiraphia</i>	09021113064	20.00	20.00	6	--	2.2	2.2
<i>Stenelmis</i>	09021113070	5.33	13.33	5	SC	0.6	1.5
<i>Stenelmis crenata</i>	09021113070055	8.00			--	0.9	
<i>Amnicola</i>	10010104013	18.67	18.67		SC	2.0	2.0