



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

Station Information

Station Number: S-844	River Basin: Kennebec
Waterbody: Lily Bay Brook - Station 844	HUC8 Name: Upper Kennebec
Town: Lily Bay Twp	Latitude: 45 36 20.54 N
Directions: 24M UPSTREAM OF UNNAMED CAMP ROAD OFF OF LILY BAY ROAD ACROSS FROM CASEY'S CAMP ROAD	Longitude: 69 29 55.95 W
	Stream Order: 3

Sample Information

Log Number: 2585	Type of Sample: ROCK BAG	Date Deployed: 7/26/2017
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/23/2017

Classification Attainment

Statutory Class: A	Final Determination: A	Date: 3/16/2018
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/15/2018	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.70	Class A, B, or C	1.00
Class B	0.30	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	1.00
Class A or B	1.00	Class B or C or Non-Attainment	0.00
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	353.67	18 Relative Abundance Ephemeroptera	0.06
02 Generic Richness	65.00	19 EPT Generic Richness	27.00
03 Plecoptera Mean Abundance	24.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	113.33
04 Ephemeroptera Mean Abundance	19.67	23 Relative Generic Richness- Plecoptera	0.09
05 Shannon-Wiener Generic Diversity	4.03	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.67
06 Hilsenhoff Biotic Index	5.03	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.67
07 Relative Abundance - Chironomidae	0.66	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.43	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	28.00		
11 <i>Cheumatopsyche</i> Abundance	0.33		
12 EPT Generic Richness/ Diptera Generic Richness	0.96		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	5.00		
17 Chironomini Abundance (Family Functional Group)	12.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Micropsectra</i>	32.05
2	<i>Hydropsyche</i>	7.92
3	<i>Rheotanytarsus</i>	6.97
4	<i>Parametrioconemus</i>	6.50
5	<i>Tvetenia</i>	5.94



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

Station Number: S-844
Log Number: 2585

Town: Lily Bay Twp
Waterbody: Lily Bay Brook - Station 844

Date Deployed: 7/26/2017
Date Retrieved: 8/23/2017

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 16.3 deg C
Dissolved Oxygen: 10.59 mg/l
Dissolved Oxygen Saturation: 109.9 %
Specific Conductance: 26.4 uS/cm
Velocity: 18.3 cm/s
pH: 7.36
Wetted Width: 5.2 m
Bankfull Width: 7.4 m
Depth: 32 cm

Waterbody Information - Retrieval

Temperature: 16.7 deg C
Dissolved Oxygen: 10.01 mg/l
Dissolved Oxygen Saturation: 106.5 %
Specific Conductance: 30.5 uS/cm
Velocity: 15.2 cm/s
pH: 6.23
Wetted Width: 5.6 m
Bankfull Width: 7.4 m
Depth: 31 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Partly Open	Rolling
Upland Conifer		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Logging	Above Road Crossing	Boulder 5 % Gravel 5 % Rubble/Cobble 60 % Sand 30 %

Landcover Summary - 2004 Data

Total Area (ac)	6216	High Int. Dev. %	0.0	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.0	Wetland %	1.0	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.4	Upland Woody %	98.6	Grassland %	0.0
		Development %	0.4	Natural %	99.6	Human Altered %	0.4
						Impervious %	0.4

Sample Comments

7/26/17: VERY SANDY AND SILTY, SOME BANK EROSION.

8/23/17: VERY SILTY, SCULPIN OBSERVED.



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-844 Waterbody: Lily Bay Brook - Station 844 Town: Lily Bay Twp
Log Number: 2585 Subsample Factor: X1 Replicates: 3 Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Lumbriculidae	08020101	0.33	0.33		--	0.1	0.1
<i>Stylodrilus</i>	08020101004		0.33		--		0.1
<i>Stylodrilus heringianus</i>	08020101004001	0.33			--	0.1	
<i>Leuctra</i>	09020204020	2.33	2.33	0	SH	0.7	0.7
<i>Pteronarcys</i>	09020205023		2.00	0	SH		0.6
<i>Pteronarcys biloba</i>	09020205023061	2.00			--	0.6	
Perlodidae	09020207	1.00	1.00		--	0.3	0.3
<i>Isoperla</i>	09020207026	16.00	16.00	2	PR	4.5	4.5
<i>Sweltsa</i>	09020208040	2.33	2.33		PR	0.7	0.7
<i>Agnatina</i>	09020209050		0.67	2	PR		0.2
<i>Agnatina capitata</i>	09020209050152	0.67		2	PR	0.2	
Aeshnidae	09020301	0.33	0.33		--	0.1	0.1
<i>Lanthus</i>	09020302014		0.33		PR		0.1
<i>Lanthus parvulus</i>	09020302014030	0.33			--	0.1	
<i>Cordulegaster</i>	09020303019	0.33	0.33	3	PR	0.1	0.1
<i>Acerpenna</i>	09020401007		1.00	5	CG		0.3
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.3	
<i>Plauditus</i>	09020401012	0.33	0.33		CG	0.1	0.1
<i>Heptagenia</i>	09020402010	0.67	0.67	2	SC	0.2	0.2
<i>Maccaffertium</i>	09020402015	1.67	1.67	4	SC	0.5	0.5
Leptophlebiidae	09020406	1.67			--	0.5	
<i>Habrophlebia</i>	09020406023		1.99		--		0.6
<i>Habrophlebia vibrans</i>	09020406023072	1.67			--	0.5	
<i>Paraleptophlebia</i>	09020406026	7.00	8.35	1	CG	2.0	2.4
<i>Ephemera</i>	09020410035	1.33	1.33	1	CG	0.4	0.4
<i>Eurylophella</i>	09020410036		4.33	3	CG		1.2
<i>Eurylophella funeralis</i>	09020410036115	4.33			SH	1.2	
<i>Chimarra</i>	09020601003		1.00	2	CF		0.3
<i>Chimarra aterrima</i>	09020601003002	0.67			--	0.2	
<i>Chimarra obscura</i>	09020601003003	0.33			--	0.1	
<i>Polycentropus</i>	09020603010	2.00	2.00	6	PR	0.6	0.6
<i>Cheumatopsyche</i>	09020604015	0.33	0.33	5	CF	0.1	0.1
<i>Hydropsyche</i>	09020604016	9.33	28.00	4	CF	2.6	7.9
<i>Hydropsyche sparna</i>	09020604016032	18.67			--	5.3	
<i>Rhyacophila</i>	09020605019	3.00	3.00	2	PR	0.8	0.8
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.1	0.1
<i>Oligostomis</i>	09020608039	1.00	1.00	2	PR	0.3	0.3



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-844 Waterbody: Lily Bay Brook - Station 844 Town: Lily Bay Twp
Log Number: 2585 Subsample Factor: X1 Replicates: 3 Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
		<i>Brachycentrus</i>	09020609043			1.33	4.00
<i>Brachycentrus americanus</i>	09020609043095	2.67			--	0.8	
<i>Pycnopsyche</i>	09020610049	0.67	0.67	4	SH	0.2	0.2
<i>Lepidostoma</i>	09020611064	14.00	14.00	1	SH	4.0	4.0
<i>Psilotreta</i>	09020614068	0.33	0.33	0	SC	0.1	0.1
<i>Oecetis</i>	09020618078	0.67	0.67	8	PR	0.2	0.2
<i>Apatania</i>	09020619061	1.00	1.00		SC	0.3	0.3
<i>Dicranota</i>	09021001005	0.67	0.67	3	PR	0.2	0.2
<i>Hexatoma</i>	09021001008	0.67	0.67	2	PR	0.2	0.2
<i>Dixa</i>	09021006023	0.33	0.33		CG	0.1	0.1
<i>Bezzia/palpomyia</i>	09021010043	8.00	8.00	6	PR	2.3	2.3
Chironomidae	09021011				--		
<i>Ablabesmyia</i>	09021011001	0.33	0.33	8	PR	0.1	0.1
<i>Paramerina</i>	09021011013	0.67	0.67		--	0.2	0.2
<i>Thienemannimyia</i>	09021011020		0.67	3	PR		0.2
<i>Thienemannimyia group</i>	09021011020041	0.67			--	0.2	
<i>Trissopelopia</i>	09021011021	0.33	0.33		PR	0.1	0.1
<i>Zavrelimyia</i>	09021011022	3.00	3.00	8	PR	0.8	0.8
<i>Brillia</i>	09021011033	0.33	0.33	5	SH	0.1	0.1
<i>Heterotrissocladius</i>	09021011044		2.67	0	CG		0.8
<i>Heterotrissocladius marcidus</i>	09021011044083	2.67			--	0.8	
<i>Orthocladius</i>	09021011050		0.67	6	CG		0.2
<i>Orthocladius annectens</i>	09021011050092	0.67			--	0.2	
<i>Parametriocnemus</i>	09021011053	23.00	23.00	5	CG	6.5	6.5
<i>Rheocricotopus</i>	09021011057	19.67	19.67	6	CG	5.6	5.6
<i>Synorthocladius</i>	09021011061	0.67	0.67	2	CG	0.2	0.2
<i>Thienemanniella</i>	09021011062	0.33	0.33	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		21.00	5	CG		5.9
<i>Tvetenia paucunca</i>	09021011065114	21.00			--	5.9	
<i>Micropsectra</i>	09021011070	113.33	113.33	7	CG	32.0	32.0
<i>Rheotanytarsus</i>	09021011072		24.67	6	CF		7.0
<i>Rheotanytarsus exiguus group</i>	09021011072127	0.67			CF	0.2	
<i>Rheotanytarsus pellucidus</i>	09021011072128	24.00			CF	6.8	
<i>Stempellinella</i>	09021011074	9.00	9.00	2	--	2.5	2.5
<i>Tanytarsus</i>	09021011076	1.00	1.00	6	CF	0.3	0.3
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.1
<i>Microtendipes rydalensis group</i>	09021011094168	0.33			--	0.1	
<i>Phaenopsectra</i>	09021011101	1.67	1.67	7	SC	0.5	0.5



**Maine Department of Environmental Protection
Biological Monitoring Program
Aquatic Life Taxonomic Inventory Report**

Station Number: S-844 Waterbody: Lily Bay Brook - Station 844 Town: Lily Bay Twp
Log Number: 2585 Subsample Factor: X1 Replicates: 3 Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Polypedilum</i>	09021011102		10.00	6	SH		2.8
<i>Polypedilum aviceps</i>	09021011102181	8.67			--	2.5	
<i>Polypedilum scalaenum group</i>	09021011102189	0.33			--	0.1	
<i>Polypedilum tritum</i>	09021011102191	1.00			--	0.3	
<i>Simulium</i>	09021012047	0.67	0.67	4	CF	0.2	0.2
<i>Atherix</i>	09021015055	2.33	2.33	2	PR	0.7	0.7
<i>Roederiodes</i>	09021016058	0.33	0.33	3	PR	0.1	0.1
<i>Neoplasta</i>	09021016064	0.33	0.33		PR	0.1	0.1
<i>Oulimnius</i>	09021113068		2.67		--		0.8
<i>Oulimnius latiusculus</i>	09021113068049	2.67			--	0.8	
<i>Promoesia</i>	09021113069		1.33		--		0.4
<i>Promoesia tardella</i>	09021113069052	1.33			--	0.4	
<i>Hygrobates</i>	09030102001	0.33	0.33		--	0.1	0.1
<i>Limnesia</i>	09030112001	0.33	0.33		--	0.1	0.1
Sphaeriidae	10020201	0.33	0.33		CF	0.1	0.1