



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

Station Information

Station Number: S-646	River Basin:	St. John
Waterbody: Kennedy Brook - Station 646	HUC8 Name:	Aroostook
Town: Presque Isle	Latitude:	46 40 39.78 N
Directions: KB 4B - DOWNSTREAM OF RAILROAD TRACKS	Longitude:	68 1 10.23 W
	Stream Order:	2

Sample Information

Log Number: 2743	Type of Sample: ROCK BAG	Date Deployed: 7/8/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2019

Classification Attainment

Statutory Class: B	Final Determination: B	Date: 11/12/2019
Model Result with $P \geq 0.6$: B	Reason for Determination: Model	
Date Last Calculated: 11/5/2019	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.38	Class A, B, or C	1.00
Class B	0.51	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.83	Class A	0.11
Class C or Non-Attainment	0.17	Class B or C or Non-Attainment	0.89

Model Variables

01 Total Mean Abundance	432.00	18 Relative Abundance Ephemeroptera	0.11
02 Generic Richness	42.00	19 EPT Generic Richness	11.00
03 Plecoptera Mean Abundance	0.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	4.67
04 Ephemeroptera Mean Abundance	46.67	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.69	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	104.33
06 Hilsenhoff Biotic Index	4.35	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.18	28 EP Generic Richness/14	0.21
08 Relative Generic Richness Diptera	0.48	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	30.33		
11 <i>Cheumatopsyche</i> Abundance	104.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.55		

Five Most Dominant Taxa

13 Relative Abundance - Oligochaeta	0.04	Rank	Taxon Name	Percent
15 Perlidae Mean Abundance (Family Functional Group)	0.00	1	<i>Cheumatopsyche</i>	24.07
16 Tanypodinae Mean Abundance (Family Functional Group)	3.00	2	<i>Simulium</i>	20.06
17 Chironomini Abundance (Family Functional Group)	2.00	3	<i>Baetis</i>	10.73
		4	<i>Hydropsyche</i>	7.02
		5	<i>Physa</i>	6.25



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature:	19.4 deg C
Dissolved Oxygen:	9.52 mg/l
Dissolved Oxygen Saturation:	103.6 %
Specific Conductance:	552 uS/cm
Velocity:	30.5 cm/s
pH:	8.28
Wetted Width:	3.4 m
Bankfull Width:	3.6 m
Depth:	16 cm

Waterbody Information - Retrieval

Temperature:	19.7 deg C
Dissolved Oxygen:	8.71 mg/l
Dissolved Oxygen Saturation:	95.6 %
Specific Conductance:	569 uS/cm
Velocity:	33.5 cm/s
pH:	8.26
Wetted Width:	2 m
Bankfull Width:	3.3 m
Depth:	16 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Rolling
Upland Conifer		
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Chlorine	Below Agriculture NPS	Clay 10 %
Nps Pollution	Below Urban NPS	Gravel 20 %
Nutrients		Sand 50 %
		Silt 20 %

Landcover Summary - 2004 Data

Total Area (ac)	1997	High Int. Dev. %	8.9	Water %	0.2	Non-vegetated %	0.0
		Med Int. Dev. %	4.3	Wetland %	5.0	Tilled Agriculture %	56.3
		Low Int. Dev. %	11.2	Upland Woody %	8.7	Grassland %	0.4
		Development %	24.4	Natural %	13.7	Human Altered %	86.1
						Impervious %	14.8
Total Land (ac)	1993	High Int. Dev. %	8.9	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	4.3	Wetland %	5.0	Tilled Agriculture %	56.4
		Low Int. Dev. %	11.2	Upland Woody %	8.7	Grassland %	0.4
		Development %	24.4	Natural %	13.7	Human Altered %	86.3
						Impervious %	14.9

Sample Comments



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-646

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Town: Presque Isle

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Subsample Factor: X1

Replicates: 3

Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Prostoma</i>	04010101001	0.33	0.33		--	0.1	0.1
<i>Oligochaeta</i>	0802	14.00	14.00		--	3.2	3.2
<i>Ophidonais</i>	08020202010		2.00		CG		0.5
<i>Ophidonais serpentina</i>	08020202010001	2.00			--	0.5	
<i>Erpobdella</i>	08030203002	0.67	0.67		--	0.2	0.2
<i>Leuctra</i>	09020204020	0.67	0.67	0	SH	0.2	0.2
<i>Aeshnidae</i>	09020301	0.33	0.33		--	0.1	0.1
<i>Boyeria</i>	09020301004		0.67	2	PR		0.2
<i>Boyeria grafiana</i>	09020301004011	0.67			--	0.2	
<i>Baetis</i>	09020401001	0.67	46.33	4	CG	0.2	10.7
<i>Baetis flavistriga</i>	09020401001004	29.33			--	6.8	
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.1	
<i>Baetis tricaudatus</i>	09020401001012	16.00			--	3.7	
<i>Acerpenna</i>	09020401007		0.33	5	CG		0.1
<i>Acerpenna macdunnoughi</i>	09020401007001	0.33			--	0.1	
<i>Dolophilodes</i>	09020601001		2.67	0	CF		0.6
<i>Dolophilodes distincta</i>	09020601001001	2.67			--	0.6	
<i>Lype</i>	09020602004		0.33	2	SC		0.1
<i>Lype diversa</i>	09020602004005	0.33			--	0.1	
<i>Polycentropus</i>	09020603010	2.33	2.33	6	PR	0.5	0.5
<i>Hydropsychidae</i>	09020604				--		
<i>Diplectrona</i>	09020604014		0.67	0	CF		0.2
<i>Diplectrona modesta</i>	09020604014025	0.67			--	0.2	
<i>Cheumatopsyche</i>	09020604015	104.00	104.00	5	CF	24.1	24.1
<i>Hydropsyche</i>	09020604016	6.00	30.33	4	CF	1.4	7.0
<i>Hydropsyche slossonae</i>	09020604016031	8.67			--	2.0	
<i>Hydropsyche sparna</i>	09020604016032	7.33			--	1.7	
<i>Hydropsyche betteni</i>	09020604016037	8.33			--	1.9	
<i>Rhyacophila</i>	09020605019		11.00	2	PR		2.5
<i>Rhyacophila fuscula</i>	09020605019060	10.67			PR	2.5	
<i>Rhyacophila mainensis</i>	09020605019069	0.33			--	0.1	
<i>Glossosoma</i>	09020606020	1.00	1.00	0	SC	0.2	0.2
<i>Nilotanytus</i>	09021011012		1.00	6	PR		0.2
<i>Nilotanytus fimbriatus</i>	09021011012027	1.00			--	0.2	
<i>Thienemannimyia</i>	09021011020		1.67	3	PR		0.4
<i>Thienemannimyia group</i>	09021011020041	1.67			--	0.4	
<i>Trissopelopia</i>	09021011021	0.33	0.33		PR	0.1	0.1



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<i>Diamesa</i>	09021011024	0.33	0.33	5	CG	0.1	0.1
<i>Pagastia</i>	09021011025	14.33	14.33	1	--	3.3	3.3
<i>Brillia</i>	09021011033	6.67	6.67	5	SH	1.5	1.5
<i>Corynoneura</i>	09021011036	8.33	8.33	7	CG	1.9	1.9
<i>Cricotopus</i>	09021011037	0.33	0.33	7	SH	0.1	0.1
<i>Parametriocnemus</i>	09021011053	5.00	5.00	5	CG	1.2	1.2
<i>Rheocricotopus</i>	09021011057	3.00	3.00	6	CG	0.7	0.7
<i>Thienemanniella</i>	09021011062	1.33	1.33	6	CG	0.3	0.3
<i>Tvetenia</i>	09021011065		7.33	5	CG		1.7
<i>Tvetenia paucunca</i>	09021011065114	7.33			--	1.7	
<i>Micropsectra</i>	09021011070	4.67	4.67	7	CG	1.1	1.1
<i>Rheotanytarsus</i>	09021011072		19.33	6	CF		4.5
<i>Rheotanytarsus pellucidus</i>	09021011072128	19.33			CF	4.5	
<i>Stempellinella</i>	09021011074	0.33	0.33	2	--	0.1	0.1
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.1
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.1	
<i>Polypedilum</i>	09021011102		1.67	6	SH		0.4
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.2	
<i>Polypedilum illinoense group</i>	09021011102185	0.33			--	0.1	
<i>Polypedilum tritum</i>	09021011102191	0.33			--	0.1	
<i>Simulium</i>	09021012047	86.67	86.67	4	CF	20.1	20.1
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.1	0.1
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.3	0.3
<i>Optioservus</i>	09021113067	1.33	1.67	3	SC	0.3	0.4
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.1	
<i>Promoresia</i>	09021113069		16.67		--		3.9
<i>Promoresia tardella</i>	09021113069052	16.67			--	3.9	
<i>Hygrobates</i>	09030102001	1.00	1.00		--	0.2	0.2
<i>Fossaria</i>	10010201021	0.67	0.67		--	0.2	0.2
<i>Physa</i>	10010202027	27.00	27.00		SC	6.3	6.3
<i>Gyraulus</i>	10010203029	3.00	3.00		SC	0.7	0.7