



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

Station Information

Station Number: S-728	River Basin:	St. John
Waterbody: Big Brook - Station 728	HUC8 Name:	Fish
Town: Madawaska	Latitude:	47 15 32.88 N
Directions: 22M DOWNSTREAM OF LAVERT ROAD	Longitude:	68 15 34.61 W
	Stream Order:	3

Sample Information

Log Number: 2746	Type of Sample: ROCK BAG	Date Deployed: 7/10/2019
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/6/2019

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 3/20/2020
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 2/21/2020	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.63	Class A, B, or C	1.00
Class B	0.35	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.99
Class A or B	1.00	Class B or C or Non-Attainment	0.01
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	288.33	18 Relative Abundance Ephemeroptera	0.29
02 Generic Richness	43.00	19 EPT Generic Richness	20.00
03 Plecoptera Mean Abundance	4.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	84.67	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	4.56	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	8.00
06 Hilsenhoff Biotic Index	4.51	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	5.00
07 Relative Abundance - Chironomidae	0.17	28 EP Generic Richness/14	0.79
08 Relative Generic Richness Diptera	0.26	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	16.33		
11 <i>Cheumatopsyche</i> Abundance	4.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.82		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	4.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.00		
17 Chironomini Abundance (Family Functional Group)	17.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Psephenus</i>	12.37
2	<i>Dubiraphia</i>	11.10
3	<i>Baetis</i>	9.36
4	<i>Hydropsyche</i>	5.66
5	<i>Acerpenna</i>	5.43



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Station Number: S-728 Town: Madawaska Date Deployed: 7/10/2019
Log Number: 2746 Waterbody: Big Brook - Station 728 Date Retrieved: 8/6/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 18.3 deg C
Dissolved Oxygen: 9.81 mg/l
Dissolved Oxygen Saturation: 104.3 %
Specific Conductance: 167.9 uS/cm
Velocity: 39 cm/s
pH: 7.8
Wetted Width: 4.4 m
Bankfull Width: 5.8 m
Depth: 20 cm

Waterbody Information - Retrieval

Temperature: 17.6 deg C
Dissolved Oxygen: 10.07 mg/l
Dissolved Oxygen Saturation: 106.1 %
Specific Conductance: 147.9 uS/cm
Velocity: 57.9 cm/s
pH: 7.96
Wetted Width: 4.3 m
Bankfull Width: 5.7 m
Depth: 28 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Open	Rolling	
Pasture			
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Below Agriculture NPS	Boulder	20 %
Nutrients		Gravel	20 %
Sedimentation		Rubble/Cobble	60 %

Landcover Summary - 2004 Data

Total Area (ac)	7578	High Int. Dev. %	0.0	Water %	0.8	Non-vegetated %	0.0
		Med Int. Dev. %	0.2	Wetland %	4.0	Tilled Agriculture %	26.5
		Low Int. Dev. %	1.4	Upland Woody %	58.5	Grassland %	8.5
		Development %	1.6	Natural %	62.5	Human Altered %	36.6
						Impervious %	1.1

Sample Comments

EASTERN KINGBIRD & GOLDFINCH PRESENT.



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

Station Number: S-728

Waterbody: Big Brook - Station 728

Town: Madawaska

Log Number: 2746

Subsample Factor: X1

Replicates: 3

Calculated: 2/21/2020

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Glossiphoniidae</i>	08030101	2.00	2.00		--	0.7	0.7
<i>Erpobdella</i>	08030203002		1.67		--		0.6
<i>Erpobdella obscura</i>	08030203002006	1.67			--	0.6	
<i>Orconectes</i>	09010301008		2.00		CG		0.7
<i>Orconectes obscurus</i>	09010301008014	2.00			--	0.7	
<i>Acroneuria</i>	09020209042		0.33	0	PR		0.1
<i>Acroneuria carolinensis</i>	09020209042123	0.33			--	0.1	
<i>Agneta</i>	09020209050		4.00	2	PR		1.4
<i>Agneta capitata</i>	09020209050152	4.00		2	PR	1.4	
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.1	
<i>Baetis</i>	09020401001		27.00	4	CG		9.4
<i>Baetis brunneicolor</i>	09020401001003	14.33			--	5.0	
<i>Baetis flavistriga</i>	09020401001004	10.67			--	3.7	
<i>Baetis intercalaris</i>	09020401001008	2.00			--	0.7	
<i>Acerpenna</i>	09020401007		15.67	5	CG		5.4
<i>Acerpenna macdunnoughi</i>	09020401007001	15.67			--	5.4	
<i>Plauditus</i>	09020401012	0.67	0.67		CG	0.2	0.2
<i>Leucrocuta</i>	09020402011	6.33	6.33	1	SC	2.2	2.2
<i>Stenacron</i>	09020402014		7.67	7	SC		2.7
<i>Stenacron interpunctatum</i>	09020402014045	7.67			--	2.7	
<i>Maccaffertium</i>	09020402015		4.67	4	SC		1.6
<i>Maccaffertium vicarium</i>	09020402015055	4.67			--	1.6	
<i>Eurylophella</i>	09020410036	9.00	9.00	3	CG	3.1	3.1
<i>Serratella</i>	09020410037		1.33	2	CG		0.5
<i>Serratella frisoni</i>	09020410037122	1.33			--	0.5	
<i>Tricorythodes</i>	09020411038		12.33	4	CG		4.3
<i>Tricorythodes stygiatus</i>	09020411038128	12.33			--	4.3	
<i>Lype</i>	09020602004		0.67	2	SC		0.2
<i>Lype diversa</i>	09020602004005	0.67			--	0.2	
<i>Polycentropus</i>	09020603010	2.00	2.00	6	PR	0.7	0.7
<i>Cheumatopsyche</i>	09020604015	4.00	4.00	5	CF	1.4	1.4
<i>Hydropsyche</i>	09020604016		16.33	4	CF		5.7
<i>Hydropsyche slossonae</i>	09020604016031	13.00			--	4.5	
<i>Hydropsyche sparna</i>	09020604016032	3.33			--	1.2	
<i>Rhyacophila</i>	09020605019	4.33	5.67	2	PR	1.5	2.0
<i>Rhyacophila fuscula</i>	09020605019060	1.33			PR	0.5	



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		Actual	Adjusted			Actual	Adjusted
<i>Glossosoma</i>	09020606020	1.67	1.67	0	SC	0.6	0.6
<i>Hydroptila</i>	09020607026	3.67	3.67	6	P	1.3	1.3
<i>Hydatophylax</i>	09020610048	4.00	4.00	2	SH	1.4	1.4
<i>Oecetis</i>	09020618078	1.00	1.00	8	PR	0.3	0.3
Lepidoptera	090209	1.00	1.00		--	0.3	0.3
Chironomidae	09021011				--		
<i>Pagastia</i>	09021011025	1.33	1.33	1	--	0.5	0.5
<i>Cricotopus</i>	09021011037		1.33	7	SH		0.5
<i>Cricotopus bicinctus</i>	09021011037057	1.33			--	0.5	
<i>Orthocladius</i>	09021011050	13.00	13.00	6	CG	4.5	4.5
<i>Parametriocnemus</i>	09021011053	6.67	6.67	5	CG	2.3	2.3
<i>Thienemanniella</i>	09021011062	0.33	0.33	6	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072	6.00	6.00	6	CF	2.1	2.1
<i>Tanytarsus</i>	09021011076	2.67	2.67	6	CF	0.9	0.9
<i>Microtendipes</i>	09021011094		0.67	6	CF		0.2
<i>Microtendipes pedellus group</i>	09021011094166	0.67			--	0.2	
<i>Polypedilum</i>	09021011102		11.67	6	SH		4.0
<i>Polypedilum aviceps</i>	09021011102181	11.67			--	4.0	
<i>Tribelos</i>	09021011107	5.00	5.00	5	CG	1.7	1.7
<i>Chrysops</i>	09021014052	0.33	0.33	6	CG	0.1	0.1
<i>Psephenus</i>	09021108058		35.67	4	SC		12.4
<i>Psephenus herricki</i>	09021108058028	35.67			--	12.4	
<i>Dubiraphia</i>	09021113064	32.00	32.00	6	--	11.1	11.1
<i>Optioservus</i>	09021113067	11.00	11.00	3	SC	3.8	3.8
<i>Promoresia</i>	09021113069		13.67		--		4.7
<i>Promoresia elegans</i>	09021113069051	13.67			--	4.7	
<i>Stenelmis</i>	09021113070	11.33	11.33	5	SC	3.9	3.9
<i>Lymnaea</i>	10010201022		0.33		SC		0.1
<i>Lymnaea columella</i>	10010201022038	0.33			--	0.1	
<i>Gyraulus</i>	10010203029	0.33	0.33		SC	0.1	0.1