



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: 2268 Type of Sample: ROCK BAG Date Deployed: 7/21/2014  
Subsample Factor: X4 Replicates: 3 Date Retrieved: 8/18/2014

Classification Attainment

Statutory Class: B Final Determination: B Date: 1/22/2015  
Model Result with  $P \geq 0.6$ : B Reason for Determination: Model  
Date Last Calculated: 1/21/2015 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.18	Class A, B, or C	1.00
Class B	0.72	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.95	Class A	0.11
Class C or Non-Attainment	0.05	Class B or C or Non-Attainment	0.89

Model Variables

01 Total Mean Abundance	1088.00	18 Relative Abundance Ephemeroptera	0.09
02 Generic Richness	48.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	10.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	71.71
04 Ephemeroptera Mean Abundance	96.00	23 Relative Generic Richness- Plecoptera	0.08
05 Shannon-Wiener Generic Diversity	3.05	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	76.24
06 Hilsenhoff Biotic Index	4.56	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	26.43
07 Relative Abundance - Chironomidae	0.25	28 EP Generic Richness/14	0.93
08 Relative Generic Richness Diptera	0.40	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	586.02		
11 <i>Cheumatopsyche</i> Abundance	12.65		
12 EPT Generic Richness/ Diptera Generic Richness	1.00		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	5.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.71		
17 Chironomini Abundance (Family Functional Group)	32.47		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	53.86
2	<i>Micropsectra</i>	6.59
3	<i>Rheotanytarsus</i>	6.47
4	<i>Cricotopus</i>	5.84
5	<i>Polypedilum</i>	2.36



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**Log Number: 2268**

Waterbody: Big Brook - Station 728

Date Retrieved: 8/18/2014

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 21.6 deg C  
Dissolved Oxygen: 9 mg/l  
Specific Conductance: 149 uS/cm  
Velocity: 39 cm/s  
pH: 7.13  
Wetted Width: 4 m  
Bankfull Width: 4.3 m  
Depth: 30 cm

**Waterbody Information - Retrieval**

Temperature: 17.6 deg C  
Dissolved Oxygen: 9.36 mg/l  
Specific Conductance: 153 uS/cm  
Velocity: 35 cm/s  
pH: 7.56  
Wetted Width: 4.3 m  
Bankfull Width: 4.3 m  
Depth: 31 cm

**Water Chemistry - 7/9/2014**

Nitrate+nitrite As N 0.45 mg/l  
Total Kjeldahl Nitrogen 0.5 mg/l  
Total Alkalinity 44 mg/l

Total Phosphorus 25 ug/l  
Orthophosphate As Phosphorus 4 ug/l

**Summary of Habitat Characteristics**

Landuse Name

Cultivated

Canopy Cover

Open

Terrain

Rolling

Potential Stressor

Agricultural Runoff

Location

Below Road Crossing

Substrate

Boulder 5 %  
Gravel 25 %  
Rubble/Cobble 70 %

**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**

7/21 - VERY SILTY AND SLIMY.

8/18 - STILL VERY SILTY AND SLIMY. NMRO METER USED FOR DO, TEMP AND SPC.



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Waterbody: Big Brook - Station 728

Town: Madawaska

**Log Number: 2268**

Subsample Factor: X4

Replicates: 3

Calculated: 1/21/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Paracapnia</i>	09020203018	1.33	1.33	1	SH	0.1	0.1
<i>Sweltsa</i>	09020208040	4.00	4.00		PR	0.4	0.4
<i>Acroneuria</i>	09020209042		1.33	0	PR		0.1
<i>Acroneuria carolinensis</i>	09020209042123	1.33			--	0.1	
<i>Agnetina</i>	09020209050		4.00	2	PR		0.4
<i>Agnetina capitata</i>	09020209050152	4.00		2	PR	0.4	
Baetidae	09020401	1.33			--	0.1	
<i>Baetis</i>	09020401001	2.67	11.01	4	CG	0.2	1.0
<i>Baetis flavistriga</i>	09020401001004	4.00			--	0.4	
<i>Baetis intercalaris</i>	09020401001008	4.00			--	0.4	
<i>Acerpenna</i>	09020401007	13.33	15.14	5	CG	1.2	1.4
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.1	
<i>Acentrella</i>	09020401008		1.38	3	CG		0.1
<i>Acentrella turbida</i>	09020401008021	1.33			--	0.1	
<i>Dipheter</i>	09020401013		15.14		--		1.4
<i>Dipheter hageni</i>	09020401013001	14.67			--	1.3	
Heptageniidae	09020402	4.00			--	0.4	
<i>Epeorus</i>	09020402009	1.33	1.57	0	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	18.67	25.10	4	SC	1.7	2.3
<i>Maccaffertium luteum</i>	09020402015049	2.67			--	0.2	
Leptophlebiidae	09020406	16.00	16.00		--	1.5	1.5
<i>Ephemera</i>	09020410035	6.67	6.67	1	CG	0.6	0.6
<i>Eurylophella</i>	09020410036	4.00	4.00	3	CG	0.4	0.4
<i>Dolophilodes</i>	09020601001	1.33	1.33	0	CF	0.1	0.1
<i>Psychomyia</i>	09020602005		1.33	2	CG		0.1
<i>Psychomyia flavida</i>	09020602005006	1.33			--	0.1	
<i>Polycentropus</i>	09020603010	1.33	1.33	6	PR	0.1	0.1
Hydropsychidae	09020604	30.67			--	2.8	
<i>Cheumatopsyche</i>	09020604015	12.00	12.65	5	CF	1.1	1.2
<i>Hydropsyche</i>	09020604016	356.00	586.02	4	CF	32.7	53.9
<i>Hydropsyche slossonae</i>	09020604016031	136.00			--	12.5	
<i>Hydropsyche sparna</i>	09020604016032	64.00			--	5.9	
<i>Rhyacophila</i>	09020605019	20.00	24.00	2	PR	1.8	2.2
<i>Rhyacophila fuscula</i>	09020605019060	4.00			PR	0.4	
Lepidoptera	090209	1.33	1.33		--	0.1	0.1
<i>Antocha</i>	09021001004	2.67	2.67	3	CG	0.2	0.2
<i>Dicranota</i>	09021001005	8.00	8.00	3	PR	0.7	0.7
Chironomidae	09021011	4.00			--	0.4	



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<b>Log Number: 2268</b>	Subsample Factor: X4	Replicates: 3
		Calculated: 1/21/2015

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Conchapelopia</i>	09021011004	1.33	1.35	6	PR	0.1	0.1
<i>Nilotanyus</i>	09021011012		1.35	6	PR		0.1
<i>Nilotanyus fimbriatus</i>	09021011012027	1.33			--	0.1	
<i>Potthastia</i>	09021011026		2.71	2	CG		0.2
<i>Potthastia gaedii</i>	09021011026045	2.67			--	0.2	
<i>Cricotopus</i>	09021011037	2.67	63.59	7	SH	0.2	5.8
<i>Cricotopus bicinctus</i>	09021011037057	34.67			--	3.2	
<i>Cricotopus vierriensis</i>	09021011037071	6.67			--	0.6	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	18.67			SH	1.7	
<i>Eukiefferiella</i>	09021011041	1.33	5.41	8	CG	0.1	0.5
<i>Eukiefferiella brehmi group</i>	09021011041073	1.33			--	0.1	
<i>Eukiefferiella brevicar group</i>	09021011041074	1.33			--	0.1	
<i>Eukiefferiella claripennis group</i>	09021011041075	1.33			--	0.1	
<i>Parakiefferiella</i>	09021011052		1.35		CG		0.1
<i>Parakiefferiella coronata</i>	09021011052002	1.33			--	0.1	
<i>Parametriochnemus</i>	09021011053	5.33	5.41	5	CG	0.5	0.5
<i>Synorthocladius</i>	09021011061	1.33	1.35	2	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	1.33	8.12	6	CG	0.1	0.7
<i>Thienemanniella xena</i>	09021011062110	1.33			--	0.1	
<i>Thienemanniella sp. B</i>	09021011062116	5.33			--	0.5	
<i>Tvetenia</i>	09021011065		8.12	5	CG		0.7
<i>Tvetenia paucunca</i>	09021011065114	8.00			--	0.7	
<i>Micropsectra</i>	09021011070	70.67	71.71	7	CG	6.5	6.6
<i>Rheotanytarsus</i>	09021011072	36.00	70.36	6	CF	3.3	6.5
<i>Rheotanytarsus pellucidus</i>	09021011072128	33.33			CF	3.1	
<i>Stempellinella</i>	09021011074		1.35	2	--		0.1
<i>Stempellinella fimbriata</i>	09021011074002	1.33			--	0.1	
<i>Microtendipes</i>	09021011094		6.77	6	CF		0.6
<i>Microtendipes pedellus group</i>	09021011094166	5.33			--	0.5	
<i>Microtendipes rydalensis group</i>	09021011094168	1.33			--	0.1	
<i>Polypedilum</i>	09021011102		25.71	6	SH		2.4
<i>Polypedilum aviceps</i>	09021011102181	25.33			--	2.3	
<i>Saetheria</i>	09021011132				--		
<i>Simulium</i>	09021012047		1.33	4	CF		0.1
<i>Simulium tuberosum</i>	09021012047067	1.33			--	0.1	
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.1	0.1
<i>Psephenus</i>	09021108058		12.00	4	SC		1.1
<i>Psephenus herricki</i>	09021108058028	12.00			--	1.1	



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<i>Dubiraphia</i>	09021113064		1.33	6	--		0.1
<i>Dubiraphia quadrinotata</i>	09021113064037	1.33			--	0.1	
<i>Optioservus</i>	09021113067	8.00	14.67	3	SC	0.7	1.3
<i>Optioservus ovalis</i>	09021113067046	6.67			--	0.6	
<i>Oulimnius</i>	09021113068		2.67		--		0.2
<i>Oulimnius latiusculus</i>	09021113068049	2.67			--	0.2	
<i>Promoresia</i>	09021113069		20.00		--		1.8
<i>Promoresia tardella</i>	09021113069052	20.00			--	1.8	
<i>Stenelmis</i>	09021113070		9.33	5	SC		0.9
<i>Stenelmis crenata</i>	09021113070055	9.33			--	0.9	
<i>Hygrobates</i>	09030102001	2.67	2.67		--	0.2	0.2
<i>Ferrissia</i>	10010204035		1.33		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	1.33			--	0.1	
<i>Pisidium</i>	10020201002	1.33	1.33		CF	0.1	0.1