



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

Station Information

Station Number: S-754	River Basin:	St. John
Waterbody: Little Machias River - Station 754	HUC8 Name:	Aroostook
Town: Nashville Plt	Latitude:	46 42 8.02 N
Directions: 50M DOWNSTREAM OF ROAD, NEAR LARGE LUMBER MILL.	Longitude:	68 29 31.79 W
	Stream Order:	4

Sample Information

Log Number: 2727	Type of Sample:	ROCK BAG	Date Deployed:	7/8/2019
Subsample Factor: X1	Replicates:	3	Date Retrieved:	8/5/2019

Classification Attainment

Statutory Class: A	Final Determination: A	Date:	1/4/2021
Model Result with $P \geq 0.6$: A	Reason for Determination: Model		
Date Last Calculated: 12/23/2020	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	0.36	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.96
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.04

Model Variables

01 Total Mean Abundance	263.67	18 Relative Abundance Ephemeroptera	0.46
02 Generic Richness	42.00	19 EPT Generic Richness	18.00
03 Plecoptera Mean Abundance	10.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	121.00	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.71	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	19.50
06 Hilsenhoff Biotic Index	4.41	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	64.00
07 Relative Abundance - Chironomidae	0.20	28 EP Generic Richness/14	0.64
08 Relative Generic Richness Diptera	0.29	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	24.17		
11 <i>Cheumatopsyche</i> Abundance	14.50		
12 EPT Generic Richness/ Diptera Generic Richness	1.50		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	10.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.33		
17 Chironomini Abundance (Family Functional Group)	8.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tricorythodes</i>	21.49
2	<i>Maccaffertium</i>	20.23
3	<i>Rheotanytarsus</i>	12.26
4	<i>Hydropsyche</i>	9.17
5	<i>Neureclipsis</i>	6.45



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Station Number: S-754 Town: Nashville Plt Date Deployed: 7/8/2019
Log Number: 2727 Waterbody: Little Machias River - Station 754 Date Retrieved: 8/5/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 25 deg C
Dissolved Oxygen: 8.3 mg/l
Dissolved Oxygen Saturation: 101.6 %
Specific Conductance: 49.7 uS/cm
Velocity: 36.6 cm/s
pH: 7.5
Wetted Width: 6.1 m
Bankfull Width: 6.6 m
Depth: 48 cm

Waterbody Information - Retrieval

Temperature: 21.2 deg C
Dissolved Oxygen: 8.55 mg/l
Dissolved Oxygen Saturation: 96.9 %
Specific Conductance: 61.5 uS/cm
Velocity: 30.5 cm/s
pH: 7.5
Wetted Width: 5.8 m
Bankfull Width: 6.6 m
Depth: 37 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Conifer	Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Logging	Below Road Crossing	Bedrock	10 %
		Boulder	10 %
		Gravel	35 %
		Rubble/Cobble	40 %
		Sand	5 %

Landcover Summary - 2004 Data

Total Area (ac)	20847	High Int. Dev. %	0.0	Water %	1.3	Non-vegetated %	0.1
		Med Int. Dev. %	0.0	Wetland %	4.9	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.7	Upland Woody %	92.9	Grassland %	0.1
		Development %	0.7	Natural %	97.9	Human Altered %	0.8
						Impervious %	0.0

Sample Comments

FISH PRESENT.



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

Station Number: S-754

Waterbody: Little Machias River - Station 754

Town: Nashville Plt

Log Number: 2727

Subsample Factor: X1

Replicates: 3

Calculated: 12/23/2020

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Acroneuria</i>	09020209042	3.33	10.67	0	PR	1.3	4.0
<i>Acroneuria abnormis</i>	09020209042121	2.67		0	PR	1.0	
<i>Acroneuria lycorias</i>	09020209042125	4.67			--	1.8	
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria grafiana</i>	09020301004011	0.33			--	0.1	
Gomphidae	09020302	1.33	1.33		--	0.5	0.5
<i>Macromia</i>	09020304021	0.33	0.33	2	PR	0.1	0.1
<i>Calopteryx</i>	09020307043	1.00	1.00	5	PR	0.4	0.4
<i>Argia</i>	09020309048	1.33	1.33	7	PR	0.5	0.5
<i>Acerpenna</i>	09020401007		5.33	5	CG		2.0
<i>Acerpenna macdunnoughi</i>	09020401007001	5.33			--	2.0	
<i>Leucrocuta</i>	09020402011	0.67	0.67	1	SC	0.3	0.3
<i>Stenacron</i>	09020402014	0.33	0.33	7	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	53.33	53.33	4	SC	20.2	20.2
<i>Isonychia</i>	09020404018	2.00	2.00	2	CF	0.8	0.8
<i>Paraleptophlebia</i>	09020406026	2.33	2.33	1	CG	0.9	0.9
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.1	0.1
<i>Tricorythodes</i>	09020411038	56.67	56.67	4	CG	21.5	21.5
Trichoptera	090206				--		
<i>Neureclipsis</i>	09020603008	17.00	17.00	7	CF	6.4	6.4
Hydropsychidae	09020604	22.67			--	8.6	
<i>Cheumatopsyche</i>	09020604015	6.00	14.50	5	CF	2.3	5.5
<i>Hydropsyche</i>	09020604016	10.00	24.17	4	CF	3.8	9.2
<i>Rhyacophila</i>	09020605019	0.33	0.33	2	PR	0.1	0.1
<i>Brachycentrus</i>	09020609043		0.33	0	CF		0.1
<i>Brachycentrus appalachia</i>	09020609043096	0.33			--	0.1	
<i>Pycnopsyche</i>	09020610049	3.33	3.33	4	SH	1.3	1.3
<i>Lepidostoma</i>	09020611064	4.00	4.00	1	SH	1.5	1.5
<i>Mystacides</i>	09020618075	0.33	0.33	4	CG	0.1	0.1
<i>Oecetis</i>	09020618078	1.00	1.00	8	PR	0.4	0.4
<i>Nigronia</i>	09020701003	0.33	0.33	0	PR	0.1	0.1
Chironomidae	09021011				--		
<i>Thienemannimyia</i>	09021011020		2.33	3	PR		0.9
<i>Thienemannimyia group</i>	09021011020041	2.33			--	0.9	
<i>Cricotopus</i>	09021011037		1.00	7	SH		0.4
<i>Cricotopus bicinctus</i>	09021011037057	0.33			--	0.1	
<i>Cricotopus sylvestris group</i>	09021011037079	0.67			SH	0.3	



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		Actual	Adjusted			Actual	Adjusted
<i>Rheocricotopus</i>	09021011057		2.00	6	CG		0.8
<i>Rheocricotopus robacki</i>	09021011057105	2.00			--	0.8	
<i>Thienemanniella</i>	09021011062	0.33	0.33	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		1.00	5	CG		0.4
<i>Tvetenia vitracies</i>	09021011065113	1.00			--	0.4	
<i>Paratanytarsus</i>	09021011071	0.67	0.67	6	--	0.3	0.3
<i>Rheotanytarsus</i>	09021011072	32.33	32.33	6	CF	12.3	12.3
<i>Tanytarsus</i>	09021011076	4.00	4.00	6	CF	1.5	1.5
<i>Microtendipes</i>	09021011094		5.00	6	CF		1.9
<i>Microtendipes rydalensis group</i>	09021011094168	5.00			--	1.9	
<i>Polypedilum</i>	09021011102		3.00	6	SH		1.1
<i>Polypedilum aviceps</i>	09021011102181	3.00			--	1.1	
<i>Simulium</i>	09021012047	0.67	0.67	4	CF	0.3	0.3
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	0.3	0.3
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.1	0.1
<i>Optioservus</i>	09021113067	2.67	2.67	3	SC	1.0	1.0
<i>Stenelmis</i>	09021113070	5.33	5.33	5	SC	2.0	2.0
<i>Sperchon</i>	09030107001	0.33	0.33		--	0.1	0.1
<i>Amnicola</i>	10010104013	0.33	0.33		SC	0.1	0.1
<i>Ferrissia</i>	10010204035	0.33	0.33		SC	0.1	0.1