



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

Station Information

Station Number: S-735	River Basin:	St. John
Waterbody: Little Machias River - Station 735	HUC8 Name:	Aroostook
Town: Ashland	Latitude:	46 39 6.75 N
Directions: DOWNSTREAM OF RT 11 BRIDGE	Longitude:	68 25 19.05 W
	Stream Order:	

Sample Information

Log Number: 2726	Type of Sample: ROCK BAG	Date Deployed: 7/8/2019
Subsample Factor: X4	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	0.19	Class A, B, or C	1.00
Class B	0.75	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.75
Class A or B	1.00	Class B or C or Non-Attainment	0.25
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	1432.00	18 Relative Abundance Ephemeroptera	0.15
02 Generic Richness	48.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	18.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.36
04 Ephemeroptera Mean Abundance	213.33	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	3.63	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	311.41
06 Hilsenhoff Biotic Index	4.77	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	44.97
07 Relative Abundance - Chironomidae	0.34	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	434.35		
11 <i>Cheumatopsyche</i> Abundance	201.61		
12 EPT Generic Richness/ Diptera Generic Richness	1.67		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	18.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	13.56		
17 Chironomini Abundance (Family Functional Group)	196.56		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	30.33
2	<i>Cheumatopsyche</i>	14.08
3	<i>Polypedilum</i>	13.44
4	<i>Cricotopus</i>	7.67
5	<i>Rheotanytarsus</i>	5.87



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Station Number: S-735 Town: Ashland Date Deployed: 7/8/2019
Log Number: 2726 Waterbody: Little Machias River - Station 735 Date Retrieved: 8/5/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 23.9 deg C
Dissolved Oxygen: 8.87 mg/l
Dissolved Oxygen Saturation: 106 %
Specific Conductance: 30.3 uS/cm
Velocity: 76.2 cm/s
pH: 6.7
Wetted Width: 9.7 m
Bankfull Width: 10.8 m
Depth: 44 cm

Waterbody Information - Retrieval

Temperature: 26 deg C
Dissolved Oxygen: 9.29 mg/l
Dissolved Oxygen Saturation: 115.1 %
Specific Conductance: 85.5 uS/cm
Velocity: 33.5 cm/s
pH: 8.27
Wetted Width: 10.6 m
Bankfull Width: 10.8 m
Depth: 30 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>	
Nps Pollution	Above Road Crossing	Boulder	20 %
Nutrients	Below Point Source	Gravel	10 %
		Rubble/Cobble	60 %
		Sand	10 %

Landcover Summary - 2004 Data

Total Area (ac)	40968	High Int. Dev. %	0.0	Water %	0.7	Non-vegetated %	0.2
		Med Int. Dev. %	0.0	Wetland %	6.2	Tilled Agriculture %	0.4
		Low Int. Dev. %	1.3	Upland Woody %	91.1	Grassland %	0.1
		Development %	1.4	Natural %	97.3	Human Altered %	2.0
						Impervious %	0.1

Sample Comments



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Aquatic Life Taxonomic Inventory Report

Station Number: S-735

Waterbody: Little Machias River - Station 735

Town: Ashland

Log Number: 2726

Subsample Factor: X4

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>Nais</i>	08020202009	1.33	5.33		CG	0.1	0.4
<i>Nais bretscheri</i>	08020202009004	4.00			--	0.3	
<i>Slavina</i>	08020202012		1.33		--		0.1
<i>Slavina appendiculata</i>	08020202012001	1.33			--	0.1	
<i>Acroneuria</i>	09020209042	8.00	16.00	0	PR	0.6	1.1
<i>Acroneuria abnormis</i>	09020209042121	8.00		0	PR	0.6	
<i>Paragnetina</i>	09020209049	2.67	2.67	1	PR	0.2	0.2
<i>Calopteryx</i>	09020307043	1.33	1.33	5	PR	0.1	0.1
<i>Baetis</i>	09020401001		65.33	4	CG		4.6
<i>Baetis flavistriga</i>	09020401001004	5.33			--	0.4	
<i>Baetis intercalaris</i>	09020401001008	60.00			--	4.2	
<i>Acerpenna</i>	09020401007	8.00	18.67	5	CG	0.6	1.3
<i>Acerpenna macdunnoughi</i>	09020401007001	4.00			--	0.3	
<i>Acerpenna pygmaea</i>	09020401007011	6.67			--	0.5	
<i>Procloeon</i>	09020401010	1.33	1.33		CG	0.1	0.1
<i>Plauditus</i>	09020401012	29.33	29.33		CG	2.0	2.0
<i>Iswaeon</i>	09020401015		5.33		--		0.4
<i>Iswaeon anoka</i>	09020401015001	5.33			--	0.4	
Heptageniidae	09020402	1.33			--	0.1	
<i>Epeorus</i>	09020402009	2.67	2.76	0	SC	0.2	0.2
<i>Leucrocota</i>	09020402011	8.00	8.28	1	SC	0.6	0.6
<i>Maccaffertium</i>	09020402015	16.00	28.97	4	SC	1.1	2.0
<i>Maccaffertium vicarium</i>	09020402015055	12.00			--	0.8	
<i>Isonychia</i>	09020404018	8.00	13.33	2	CF	0.6	0.9
<i>Isonychia bicolor</i>	09020404018059	5.33			--	0.4	
<i>Ephemerella</i>	09020410035	2.67	2.67	1	CG	0.2	0.2
<i>Serratella</i>	09020410037		1.33	2	CG		0.1
<i>Serratella serrata</i>	09020410037123	1.33			--	0.1	
<i>Tricorythodes</i>	09020411038	36.00	36.00	4	CG	2.5	2.5
<i>Chimarra</i>	09020601003	1.33	4.00	2	CF	0.1	0.3
<i>Chimarra socia</i>	09020601003004	2.67			--	0.2	
Polycentropodidae	09020603	1.33			--	0.1	
<i>Neureclipsis</i>	09020603008	5.33	6.22	7	CF	0.4	0.4
<i>Polycentropus</i>	09020603010	2.67	3.11	6	PR	0.2	0.2
Hydropsychidae	09020604	9.33			--	0.7	
<i>Cheumatopsyche</i>	09020604015	198.67	201.61	5	CF	13.9	14.1
<i>Hydropsyche</i>	09020604016	188.00	434.35	4	CF	13.1	30.3



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		Actual	Adjusted			Actual	Adjusted
		<i>Hydropsyche bronta</i>	09020604016029			8.00	
<i>Hydropsyche morosa</i>	09020604016030	201.33			--	14.1	
<i>Hydropsyche sparna</i>	09020604016032	8.00			--	0.6	
<i>Hydropsyche betteni</i>	09020604016037	2.67			--	0.2	
<i>Hydropsyche scalaris species group</i>	09020604016048	20.00			--	1.4	
<i>Macrostemum</i>	09020604018	2.67	2.71	3	CF	0.2	0.2
<i>Rhyacophila</i>	09020605019		4.00	2	PR		0.3
<i>Rhyacophila minora</i>	09020605019063	1.33			PR	0.1	
<i>Rhyacophila mainensis</i>	09020605019069	2.67			--	0.2	
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.1	0.1
<i>Brachycentrus</i>	09020609043		16.00	0	CF		1.1
<i>Brachycentrus appalachia</i>	09020609043096	16.00			--	1.1	
<i>Pycnopsyche</i>	09020610049	1.33	1.33	4	SH	0.1	0.1
<i>Oecetis</i>	09020618078	1.33	5.33	8	PR	0.1	0.4
<i>Oecetis avara</i>	09020618078153	4.00			--	0.3	
Chironomidae	09021011	8.00			--	0.6	
<i>Thienemannimyia</i>	09021011020		13.56	3	PR		0.9
<i>Thienemannimyia group</i>	09021011020041	13.33			--	0.9	
<i>Cricotopus</i>	09021011037	29.33	109.80	7	SH	2.0	7.7
<i>Cricotopus bicinctus</i>	09021011037057	77.33			--	5.4	
<i>Cricotopus fugax</i>	09021011037062	1.33			--	0.1	
<i>Eukiefferiella</i>	09021011041		5.42	8	CG		0.4
<i>Eukiefferiella gracei group</i>	09021011041079	5.33			--	0.4	
<i>Nanocladius</i>	09021011049	1.33	1.36	3	CG	0.1	0.1
<i>Orthocladius</i>	09021011050	2.67	13.56	6	CG	0.2	0.9
<i>Orthocladius annectens</i>	09021011050092	10.67			--	0.7	
<i>Rheocricotopus</i>	09021011057	13.33	13.56	6	CG	0.9	0.9
<i>Thienemanniella</i>	09021011062	6.67	6.78	6	CG	0.5	0.5
<i>Tvetenia</i>	09021011065		43.38	5	CG		3.0
<i>Tvetenia vitracies</i>	09021011065113	42.67			--	3.0	
<i>Rheotanytarsus</i>	09021011072		84.04	6	CF		5.9
<i>Rheotanytarsus exiguus group</i>	09021011072127	61.33			CF	4.3	
<i>Rheotanytarsus pellucidus</i>	09021011072128	21.33			CF	1.5	
<i>Dicrotendipes</i>	09021011085		1.36	8	CG		0.1
<i>Dicrotendipes neomodestus</i>	09021011085152	1.33			--	0.1	
<i>Microtendipes</i>	09021011094		2.71	6	CF		0.2
<i>Microtendipes rydalensis group</i>	09021011094168	2.67			--	0.2	
<i>Polypedilum</i>	09021011102		192.49	6	SH		13.4



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<i>Polypedilum aviceps</i>	09021011102181	186.67			--	13.0	
<i>Polypedilum flavum</i>	09021011102182	2.67			--	0.2	
<i>Simulium</i>	09021012047	1.33	1.33	4	CF	0.1	0.1
<i>Atherix</i>	09021015055	1.33	1.33	2	PR	0.1	0.1
<i>Hemerodromia</i>	09021016057	4.00	4.00	3	PR	0.3	0.3
<i>Psephenus</i>	09021108058		2.67	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	2.67			--	0.2	
<i>Ectopria</i>	09021109059	1.33	1.33	5	SC	0.1	0.1
<i>Dubiraphia</i>	09021113064	10.67	10.67	6	--	0.7	0.7
<i>Promoesia</i>	09021113069		1.33		--		0.1
<i>Promoesia tardella</i>	09021113069052	1.33			--	0.1	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.1	0.1