



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

Station Information

Station Number: S-377	River Basin:	St. John
Waterbody: Salmon Brook - Station 377	HUC8 Name:	Aroostook
Town: Washburn	Latitude:	46 48 19.56 N
Directions: DOWNSTREAM WASHBURN POTW - JUST DOWNSTREAM OF WOODLAND RD AND RTE 228 - DOWNSTREAM DEADWATER BROOK	Longitude:	68 9 11.44 W
	Stream Order:	3

Sample Information

Log Number: 2741	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: A	Date: 11/12/2019
Model Result with $P \geq 0.6$: A	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	0.69	Class C	0.01
Class B	0.30	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	1.00
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	293.33	18 Relative Abundance Ephemeroptera	0.31
02 Generic Richness	55.00	19 EPT Generic Richness	28.00
03 Plecoptera Mean Abundance	4.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.34
04 Ephemeroptera Mean Abundance	90.67	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	4.57	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	20.16
06 Hilsenhoff Biotic Index	4.66	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	20.81
07 Relative Abundance - Chironomidae	0.35	28 EP Generic Richness/14	1.43
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	15.30		
11 <i>Cheumatopsyche</i> Abundance	0.36		
12 EPT Generic Richness/ Diptera Generic Richness	1.65		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	2.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	29.86		
17 Chironomini Abundance (Family Functional Group)	28.85		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Polycentropus</i>	17.73
2	<i>Thienemannimyia</i>	7.43
3	<i>Microtendipes</i>	7.43
4	<i>Leucrocuta</i>	7.21
5	<i>Maccaffertium</i>	6.64



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Station Number: S-377 Town: Washburn Date Deployed: 7/8/2019
Log Number: 2741 Waterbody: Salmon Brook - Station 377 Date Retrieved: 8/6/2019

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 22.5 deg C
Dissolved Oxygen: 9.03 mg/l
Dissolved Oxygen Saturation: 104.9 %
Specific Conductance: 195.9 uS/cm
Velocity: 48.8 cm/s
pH: 8.08
Wetted Width: 7 m
Bankfull Width: 7.8 m
Depth: 27 cm

Waterbody Information - Retrieval

Temperature: 22.9 deg C
Dissolved Oxygen: 9.63 mg/l
Dissolved Oxygen Saturation: 112.8 %
Specific Conductance: 270 uS/cm
Velocity: 18.3 cm/s
pH: 8.27
Wetted Width: 5.7 m
Bankfull Width: 8 m
Depth: 41 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Cultivated	Open	Rolling	
Upland Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Nps Pollution	Below Agriculture NPS	Boulder	25 %
		Gravel	25 %
		Rubble/Cobble	50 %

Landcover Summary - 2004 Data

Total Area (ac)	17982	High Int. Dev. %	0.0	Water %	0.3	Non-vegetated %	0.4
		Med Int. Dev. %	0.0	Wetland %	9.2	Tilled Agriculture %	23.8
		Low Int. Dev. %	1.7	Upland Woody %	55.3	Grassland %	9.0
		Development %	1.8	Natural %	64.9	Human Altered %	34.8
						Impervious %	1.1
Total Land (ac)	17922	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.0	Wetland %	9.2	Tilled Agriculture %	23.8
		Low Int. Dev. %	1.7	Upland Woody %	55.4	Grassland %	9.1
		Development %	1.8	Natural %	65.1	Human Altered %	34.9
						Impervious %	1.1

Sample Comments

HOBO TEMPERATURE LOGGER FLOATING



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-377

Waterbody: Salmon Brook - Station 377

Town: Washburn

Log Number: 2741

Subsample Factor: X1

Replicates: 3

Calculated: 11/5/2019

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Leuctra</i>	09020204020	1.67	1.67	0	SH	0.6	0.6
Perlodidae	09020207	0.33	0.33		--	0.1	0.1
<i>Acroneuria</i>	09020209042		1.33	0	PR		0.5
<i>Acroneuria abnormis</i>	09020209042121	1.33		0	PR	0.5	
<i>Agnatina</i>	09020209050		1.00	2	PR		0.3
<i>Agnatina capitata</i>	09020209050152	1.00		2	PR	0.3	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	0.33	0.33		--	0.1	0.1
<i>Baetis</i>	09020401001	0.67	11.67	4	CG	0.2	4.0
<i>Baetis flavistriga</i>	09020401001004	9.33			--	3.2	
<i>Baetis intercalaris</i>	09020401001008	1.67			--	0.6	
<i>Centroptilum</i>	09020401003	0.33	0.33	2	CG	0.1	0.1
<i>Acerpenna</i>	09020401007		16.33	5	CG		5.6
<i>Acerpenna macdunnoughi</i>	09020401007001	16.33			--	5.6	
<i>Procloeon</i>	09020401010	0.33	1.67		CG	0.1	0.6
<i>Procloeon rivulare</i>	09020401010004	1.33			--	0.5	
<i>Plauditus</i>	09020401012	3.67	3.67		CG	1.3	1.3
<i>Dipheter</i>	09020401013		1.00		--		0.3
<i>Dipheter hageni</i>	09020401013001	1.00			--	0.3	
Heptageniidae	09020402	0.33			--	0.1	
<i>Leucrocuta</i>	09020402011	21.00	21.16	1	SC	7.2	7.2
<i>Nixe</i>	09020402012	0.33	0.34	2	SC	0.1	0.1
<i>Stenacron</i>	09020402014		3.02	7	SC		1.0
<i>Stenacron interpunctatum</i>	09020402014045	3.00			--	1.0	
<i>Maccaffertium</i>	09020402015	19.33	19.48	4	SC	6.6	6.6
<i>Isonychia</i>	09020404018	1.00	1.00	2	CF	0.3	0.3
<i>Ephemerella</i>	09020410035	1.67	1.67	1	CG	0.6	0.6
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.1	0.1
<i>Serratella</i>	09020410037		2.33	2	CG		0.8
<i>Serratella serrata</i>	09020410037123	2.33			--	0.8	
<i>Tricorythodes</i>	09020411038	1.33	1.33	4	CG	0.5	0.5
<i>Caenis</i>	09020412040	5.33	5.33	7	CG	1.8	1.8
<i>Polycentropus</i>	09020603010	52.00	52.00	6	PR	17.7	17.7
Hydropsychidae	09020604	1.33			--	0.5	
<i>Cheumatopsyche</i>	09020604015	0.33	0.36	5	CF	0.1	0.1
<i>Hydropsyche</i>	09020604016	9.33	15.30	4	CF	3.2	5.2
<i>Hydropsyche bronta</i>	09020604016029	0.67			--	0.2	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche morosa</i>	09020604016030	0.67			--	0.2	
<i>Hydropsyche slossonae</i>	09020604016031	3.33			--	1.1	
<i>Rhyacophila</i>	09020605019		2.67	2	PR		0.9
<i>Rhyacophila mainensis</i>	09020605019069	2.67			--	0.9	
<i>Hydroptila</i>	09020607026	0.67	0.67	6	P	0.2	0.2
<i>Brachycentrus</i>	09020609043		2.67	0	CF		0.9
<i>Brachycentrus appalachia</i>	09020609043096	2.67			--	0.9	
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.1	0.1
<i>Nigronia</i>	09020701003		0.33	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	0.33			--	0.1	
<i>Antocha</i>	09021001004	0.33	0.33	3	CG	0.1	0.1
Chironomidae	09021011	0.67			--	0.2	
<i>Nilotanytus</i>	09021011012		0.34	6	PR		0.1
<i>Nilotanytus fimbriatus</i>	09021011012027	0.33			--	0.1	
<i>Thienemannimyia</i>	09021011020		21.81	3	PR		7.4
<i>Thienemannimyia group</i>	09021011020041	21.67			--	7.4	
<i>Trissopelopia</i>	09021011021	7.67	7.72		PR	2.6	2.6
<i>Pagastia</i>	09021011025	0.33	0.34	1	--	0.1	0.1
<i>Corynoneura</i>	09021011036	1.33	1.34	7	CG	0.5	0.5
<i>Cricotopus</i>	09021011037	3.67	11.74	7	SH	1.3	4.0
<i>Cricotopus bicinctus</i>	09021011037057	8.00			--	2.7	
<i>Orthocladius</i>	09021011050	1.00	2.35	6	CG	0.3	0.8
<i>Orthocladius lignicola</i>	09021011050100	1.33			--	0.5	
<i>Parametriocnemus</i>	09021011053	2.67	2.68	5	CG	0.9	0.9
<i>Synorthocladius</i>	09021011061	2.33	2.35	2	CG	0.8	0.8
<i>Thienemanniella</i>	09021011062	8.33	8.39	6	CG	2.8	2.9
<i>Micropsectra</i>	09021011070	1.33	1.34	7	CG	0.5	0.5
<i>Rheotanytarsus</i>	09021011072		6.37	6	CF		2.2
<i>Rheotanytarsus exiguus group</i>	09021011072127	3.33			CF	1.1	
<i>Rheotanytarsus pellucidus</i>	09021011072128	3.00			CF	1.0	
<i>Tanytarsus</i>	09021011076	8.00	8.05	6	CF	2.7	2.7
<i>Microtendipes</i>	09021011094		21.81	6	CF		7.4
<i>Microtendipes pedellus group</i>	09021011094166	8.00			--	2.7	
<i>Microtendipes rydalensis group</i>	09021011094168	13.67			--	4.7	
<i>Polypedilum</i>	09021011102		7.05	6	SH		2.4
<i>Polypedilum aviceps</i>	09021011102181	0.67			--	0.2	
<i>Polypedilum flavum</i>	09021011102182	6.33			--	2.2	



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		Actual	Adjusted			Actual	Adjusted
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	0.2	0.2
<i>Psephenus</i>	09021108058		3.67	4	SC		1.3
<i>Psephenus herricki</i>	09021108058028	3.67			--	1.3	
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.1	0.1
<i>Dubiraphia</i>	09021113064	6.33	6.33	6	--	2.2	2.2
<i>Macronychus</i>	09021113065		0.33	4	--		0.1
<i>Macronychus glabratus</i>	09021113065040	0.33			--	0.1	
<i>Optioservus</i>	09021113067	0.33	0.33	3	SC	0.1	0.1
<i>Promoresia</i>	09021113069		3.33		--		1.1
<i>Promoresia tardella</i>	09021113069052	3.33			--	1.1	
<i>Stenelmis</i>	09021113070	4.00	4.00	5	SC	1.4	1.4