



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

Station Information

**Station Number:** S-377  
**Waterbody:** Salmon Brook - Station 377  
**Town:** Washburn  
**Directions:** DOWNSTREAM WASHBURN POTW - JUST  
DOWNSTREAM OF WOODLAND RD AND RTE 228 -  
DOWNSTREAM DEADWATER BROOK  
**DEP Drainage:** St. John  
**HUC8:** 01010004  
**HUC8 Name:** Aroostook River  
**Latitude:** 46 48 19.56 N  
**Longitude:** 68 9 11.44 W  
**Stream Order:** 3

Sample Information

**Log Number:** 1863  
**Subsample Factor:** X1  
**Type of Sample:** ROCK BASKET  
**Replicates:** 3  
**Date Deployed:** 7/22/2009  
**Date Retrieved:** 8/19/2009

Classification Attainment

**Statutory Class:** B  
**Model Result with P>.6:** A  
**Date Last Calculated:** 4/15/2010  
**Final Determination:** A  
**Reason for Determination:** Model  
**Date:** 4/16/2010  
**Comments:**

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.77	Class A, B, or C	1.00
Class B	0.23	Non-Attainment	0.00
B or Better Model		A Model	
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	386.00	18 Relative Abundance Ephemeroptera	0.18
02 Generic Richness	66.00	19 EPT Generic Richness	30.00
03 Plecoptera Mean Abundance	12.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	71.33	23 Relative Generic Richness- Plecoptera	0.09
05 Shannon-Wiener Generic Diversity	3.98	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	25.42
06 Hilsenhoff Biotic Index	4.50	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	42.81
07 Relative Abundance - Chironomidae	0.37	28 EP Generic Richness/14	1.29
08 Relative Generic Richness Diptera	0.29	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	108.52		
11 <i>Cheumatopsyche</i> Abundance	6.48		
12 EPT Generic Richness/ Diptera Generic Richness	1.58		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	9.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.75		
17 Chironomini Abundance (Family Functional Group)	18.24		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	28.11
2	<i>Rheotanytarsus</i>	16.63
3	<i>Maccaffertium</i>	10.44
4	<i>Tvetenia</i>	6.72
5	<i>Microtendipes</i>	3.54



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

**Station Number: S-377**

Town: Washburn

Date Deployed: 7/22/2009

**Log Number: 1863**

Waterbody: Salmon Brook - Station 377

Date Retrieved: 8/19/2009

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 18.5 deg C  
Dissolved Oxygen: 8 mg/l  
Specific Conductance: 202 uS/cm  
Velocity: 88 cm/s  
pH: 7.75  
Wetted Width: 7.5 m  
Bankfull Width: 8.9 m  
Depth: 49 cm

**Waterbody Information - Retrieval**

Temperature: 22.4 deg C  
Dissolved Oxygen: 7.3 mg/l  
Specific Conductance: 280 uS/cm  
Velocity: 17 cm/s  
pH: 7.74  
Wetted Width: 6.5 m  
Bankfull Width: 7.4 m  
Depth: 34 cm

**Water Chemistry - 7/22/2009**

Soluble Reactive Phosphorus	2 ug/l	Nitrate+nitrite As N	0.18 mg/l
Total Phosphorus	0.016 mg/l	Total Kjeldahl Nitrogen	0.3 mg/l
Dissolved Organic Carbon	7.1 mg/l	Total Alkalinity	93 mg/l

**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>
Agricultural Runoff	Below Agriculture NPS	Boulder 60 %
	Below Point Source	Gravel 5 %
		Rubble/Cobble 35 %

**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

**Sample Comments**



**Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Taxonomic Inventory Report**

**Station Number: S-377**

Waterbody: Salmon Brook - Station 377

Town: Washburn

**Log Number: 1863**

Subsample Factor: X1

Replicates: 3

Calculated: 4/15/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Stylodrilus</i>	08020101004		0.33		--		0.1
<i>Stylodrilus heringianus</i>	08020101004001	0.33			--	0.1	
<i>Placobdella</i>	08030101006		0.67		--		0.2
<i>Placobdella papillifera</i>	08030101006003	0.67			--	0.2	
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.1	0.1
<i>Pteronarcys</i>	09020205023		2.33	0	SH		0.6
<i>Pteronarcys biloba</i>	09020205023061	2.33			--	0.6	
Perlodidae	09020207	0.33	0.33		--	0.1	0.1
Perlidae	09020209	0.67			--	0.2	
<i>Acroneuria</i>	09020209042		2.51	0	PR		0.7
<i>Acroneuria abnormis</i>	09020209042121	2.33		0	PR	0.6	
<i>Paragnetina</i>	09020209049		0.36	1	PR		0.1
<i>Paragnetina media</i>	09020209049151	0.33			--	0.1	
<i>Agnetina</i>	09020209050		6.46	2	PR		1.7
<i>Agnetina capitata</i>	09020209050152	6.00		2	PR	1.6	
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.1	
<i>Cordulegaster</i>	09020303019		0.33	3	PR		0.1
<i>Cordulegaster maculata</i>	09020303019042	0.33			--	0.1	
Calopterygidae	09020307	1.33	1.33		--	0.3	0.3
<i>Baetis</i>	09020401001	0.67	2.00	4	CG	0.2	0.5
<i>Baetis flavistriga</i>	09020401001004	1.00			--	0.3	
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.1	
<i>Acerpenna</i>	09020401007	4.33	12.67	5	CG	1.1	3.3
<i>Acerpenna macdunnoughi</i>	09020401007001	8.33			--	2.2	
<i>Procloeon</i>	09020401010	1.00	1.00		CG	0.3	0.3
<i>Diphetor</i>	09020401013		2.00		--		0.5
<i>Diphetor hageni</i>	09020401013001	2.00			--	0.5	
Heptageniidae	09020402	21.00			--	5.4	
<i>Epeorus</i>	09020402009	2.67	4.74	0	SC	0.7	1.2
<i>Leucrocuta</i>	09020402011	1.67	2.96	1	SC	0.4	0.8
<i>Maccaffertium</i>	09020402015	17.67	40.30	4	SC	4.6	10.4
<i>Maccaffertium luteum</i>	09020402015049	4.33			--	1.1	
<i>Maccaffertium mediopunctatum</i>	09020402015050	0.33			--	0.1	
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.1	
Leptophlebiidae	09020406	1.00	1.00		--	0.3	0.3
<i>Ephemerella</i>	09020410035	3.33	3.33	1	CG	0.9	0.9
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.1	0.1



**Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Taxonomic Inventory Report**

**Station Number: S-377**

Waterbody: Salmon Brook - Station 377

Town: Washburn

**Log Number: 1863**

Subsample Factor: X1

Replicates: 3

Calculated: 4/15/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Tricorythodes</i>	09020411038	0.33	0.33	4	CG	0.1	0.1
<i>Caenis</i>	09020412040	0.67	0.67	7	CG	0.2	0.2
<i>Psychomyia</i>	09020602005		0.67	2	CG		0.2
<i>Psychomyia flava</i>	09020602005006	0.67			--	0.2	
<i>Polycentropus</i>	09020603010	0.67	0.67	6	PR	0.2	0.2
Hydropsychidae	09020604	2.67			--	0.7	
<i>Cheumatopsyche</i>	09020604015	6.33	6.48	5	CF	1.6	1.7
<i>Hydropsyche</i>	09020604016	32.67	108.52	4	CF	8.5	28.1
<i>Hydropsyche morosa</i>	09020604016030	2.33			--	0.6	
<i>Hydropsyche slossonae</i>	09020604016031	48.33			--	12.5	
<i>Hydropsyche sparna</i>	09020604016032	22.67			--	5.9	
<i>Rhyacophila</i>	09020605019	6.33	8.33	2	PR	1.6	2.2
<i>Rhyacophila acutiloba</i>	09020605019056	0.67			PR	0.2	
<i>Rhyacophila fuscica</i>	09020605019060	0.67			PR	0.2	
<i>Rhyacophila minor</i>	09020605019063	0.67			PR	0.2	
<i>Glossosoma</i>	09020606020	0.67	0.67	0	SC	0.2	0.2
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.1	0.1
<i>Ochrotrichia</i>	09020607027	0.33	0.33	4	P	0.1	0.1
<i>Oxyethira</i>	09020607028			3	P		
Limnephilidae	09020610				--		
<i>Apatania</i>	09020610061	1.00	1.00		SC	0.3	0.3
<i>Lepidostoma</i>	09020611064	1.33	1.33	1	SH	0.3	0.3
<i>Mystacides</i>	09020618075	2.33	2.33	4	CG	0.6	0.6
<i>Oecetis</i>	09020618078		7.33	8	PR		1.9
<i>Oecetis persimilis</i>	09020618078157	7.33			--	1.9	
<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
Psychodidae	09021002	0.33	0.33		--	0.1	0.1
Chironomidae	09021011	7.00			--	1.8	
<i>Paramerina</i>	09021011013				--		
<i>Rheopelopia</i>	09021011017		1.40		PR		0.4
<i>Rheopelopia acra group</i>	09021011017036	1.33			--	0.3	
<i>Trissopelopia</i>	09021011021		0.35		PR		0.1
<i>Trissopelopia ogemawi</i>	09021011021042	0.33			--	0.1	
<i>Brillia</i>	09021011033		0.35	5	SH		0.1
<i>Brillia flavifrons</i>	09021011033049	0.33			--	0.1	
<i>Cricotopus</i>	09021011037		7.72	7	SH		2.0



**Maine Department of Environmental Protection**  
**Biological Monitoring Program**  
**Aquatic Life Taxonomic Inventory Report**

<b>Station Number: S-377</b>	Waterbody: Salmon Brook - Station 377	Town: Washburn
<b>Log Number: 1863</b>	Subsample Factor: X1	Replicates: 3
		Calculated: 4/15/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Cricotopus bicinctus</i>	09021011037057	4.67			--	1.2	
<i>Cricotopus vierriensis</i>	09021011037071	0.33			--	0.1	
<i>Cricotopus patens</i>	09021011037075	0.33			--	0.1	
<i>Cricotopus politus</i>	09021011037077	0.33			--	0.1	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	1.67			SH	0.4	
<i>Eukiefferiella</i>	09021011041	0.67	1.05	8	CG	0.2	0.3
<i>Eukiefferiella devonica group</i>	09021011041083	0.33			CG	0.1	
<i>Parametriocnemus</i>	09021011053	7.67	8.07	5	CG	2.0	2.1
<i>Rheocricotopus</i>	09021011057		0.35	6	CG		0.1
<i>Rheocricotopus robacki</i>	09021011057105	0.33			--	0.1	
<i>Synorthocladius</i>	09021011061	1.00	1.05	2	CG	0.3	0.3
<i>Thienemanniella</i>	09021011062	0.33	0.35	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		25.96	5	CG		6.7
<i>Tvetenia paucunca</i>	09021011065114	24.67			--	6.4	
<i>Rheotanytarsus</i>	09021011072	61.00	64.19	6	CF	15.8	16.6
<i>Stempellinella</i>	09021011074		0.70	2	--		0.2
<i>Stempellinella leptocelloides</i>	09021011074001	0.33			--	0.1	
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.1	
<i>Tanytarsus</i>	09021011076	10.67	11.22	6	CF	2.8	2.9
<i>Microtendipes</i>	09021011094		13.68	6	CF		3.5
<i>Microtendipes pedellus group</i>	09021011094166	7.33			--	1.9	
<i>Microtendipes rydalensis group</i>	09021011094168	5.67			--	1.5	
<i>Polypedilum</i>	09021011102		4.56	6	SH		1.2
<i>Polypedilum aviceps</i>	09021011102181	3.67			--	0.9	
<i>Polypedilum flavum</i>	09021011102182	0.67			--	0.2	
<i>Simulium tuberosum</i>	09021012047067				--		
<i>Simulium venustum/verecundum complex</i>	09021012047072				CF		
<i>Atherix</i>	09021015055	6.00	6.00	2	PR	1.6	1.6
<i>Roederiodes</i>	09021016058	0.67	0.67	3	PR	0.2	0.2
<i>Psephenus</i>	09021108058		3.67	4	SC		0.9
<i>Psephenus herricki</i>	09021108058028	3.67			--	0.9	
<i>Ectopria</i>	09021109059	0.67	0.67	5	SC	0.2	0.2
<i>Dubiraphia</i>	09021113064	0.67	0.67	6	--	0.2	0.2
<i>Optioservus</i>	09021113067	1.67	2.00	3	SC	0.4	0.5
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.1	
<i>Promoresia</i>	09021113069		0.33		--		0.1
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.1	



**Maine Department of Environmental Protection**  
**Biological Monitoring Program**  
**Aquatic Life Taxonomic Inventory Report**

<b>Station Number: S-377</b>	Waterbody: Salmon Brook - Station 377	Town: Washburn
<b>Log Number: 1863</b>	Subsample Factor: X1	Replicates: 3
		Calculated: 4/15/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Stenelmis</i>	09021113070	1.00	1.00	5	SC	0.3	0.3
<i>Amnicola</i>	10010104013		0.33		SC		0.1
<i>Amnicola limosa</i>	10010104013018	0.33			--	0.1	
<i>Physa</i>	10010202026	1.33	1.33		SC	0.3	0.3
<i>Gyraulus</i>	10010203029	0.33	0.33		SC	0.1	0.1
<i>Ferrissia</i>	10010204035		0.67		SC		0.2
<i>Ferrissia rivularis</i>	10010204035066	0.67			--	0.2	
<i>Pisidium</i>	10020201002	1.00	1.67		CF	0.3	0.4
<i>Pisidium walkeri</i>	10020201002017	0.67			CF	0.2	