



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

Station Information

Station Number:	S-376	DEP Drainage:	St. John
Waterbody:	Salmon Brook - Station 376	HUC8:	01010004
Town:	Perham	HUC8 Name:	Aroostook River
Directions:	ABOVE HIGH MEADOW RD - UPSTREAM OF WASHBURN POTW	Latitude:	46 52 42.04 N
		Longitude:	68 14 18.37 W
		Stream Order:	2

Sample Information

Log Number:	1862	Type of Sample:	ROCK BAG	Date Deployed:	7/22/2009
Subsample Factor:	X1	Replicates:	3	Date Retrieved:	8/19/2009

Classification Attainment

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

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.72	Class A, B, or C	1.00
Class B	0.27	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.99
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.01

Model Variables

01 Total Mean Abundance	313.67	18 Relative Abundance Ephemeroptera	0.27
02 Generic Richness	67.00	19 EPT Generic Richness	32.00
03 Plecoptera Mean Abundance	2.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.36
04 Ephemeroptera Mean Abundance	84.33	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	4.71	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	30.00
06 Hilsenhoff Biotic Index	4.90	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	33.94
07 Relative Abundance - Chironomidae	0.33	28 EP Generic Richness/14	1.21
08 Relative Generic Richness Diptera	0.30	30 Presence of Class A Indicator Taxa/7	0.43
09 <i>Hydropsyche</i> Abundance	34.70		
11 <i>Cheumatopsyche</i> Abundance	5.97		
12 EPT Generic Richness/ Diptera Generic Richness	1.60		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.43		
17 Chironomini Abundance (Family Functional Group)	26.19		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	13.38
2	<i>Hydropsyche</i>	11.06
3	<i>Maccaffertium</i>	10.71
4	<i>Microtendipes</i>	8.01
5	<i>Amnicola</i>	4.57



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Town: Perham

Date Deployed: 7/22/2009

**Log Number: 1862**

Waterbody: Salmon Brook - Station 376

Date Retrieved: 8/19/2009

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 19.6 deg C  
Dissolved Oxygen: 7.2 mg/l  
Specific Conductance: 98 uS/cm  
Velocity: 24 cm/s  
pH: 6.89  
Wetted Width: 5.1 m  
Bankfull Width: 5.1 m  
Depth: 38 cm

**Waterbody Information - Retrieval**

Temperature: 25.2 deg C  
Dissolved Oxygen: 8.6 mg/l  
Specific Conductance: 152 uS/cm  
Velocity: 9 cm/s  
pH: 7.03  
Wetted Width: 7.05 m  
Bankfull Width: 7.05 m  
Depth: 19 cm

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

Soluble Reactive Phosphorus	1 ug/l	Nitrate+nitrite As N	0.03 mg/l
Total Phosphorus	0.016 mg/l	Total Kjeldahl Nitrogen	0.5 mg/l
Dissolved Organic Carbon	11 mg/l	Total Alkalinity	51 mg/l

**Summary of Habitat Characteristics**

Landuse Name

Canopy Cover

Terrain

Cultivated

Open

Rolling

Upland Hardwood

Urban

Potential Stressor

Location

Substrate

Above Town

Boulder	20 %
Gravel	30 %
Rubble/Cobble	40 %
Sand	10 %

**Landcover Summary - 2004 Data**

Total Area (ac)	5030	High Int. Dev. %	0.0	Water %	1.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.0	Wetland %	17.0	Tilled Agriculture %	2.6
		Low Int. Dev. %	1.1	Upland Woody %	69.6	Grassland %	8.7
		Development %	1.1	Natural %	87.7	Human Altered %	11.3
						Impervious %	0.3

**Sample Comments**



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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>Hydra</i>	02010101001	2.33	2.33		PR	0.7	0.7
Hirudinea	0803	1.00	1.00		--	0.3	0.3
<i>Haemopsis</i>	08030201001		0.33		--		0.1
<i>Haemopsis grandis</i>	08030201001001	0.33			--	0.1	
<i>Hyaella</i>	09010203006		6.67	8	CG		2.1
<i>Hyaella azteca</i>	09010203006011	6.67			--	2.1	
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.1	0.1
Perlodidae	09020207	1.00	1.00		--	0.3	0.3
<i>Isoperla</i>	09020207026	0.33	0.33	2	PR	0.1	0.1
<i>Acroneuria</i>	09020209042		0.33	0	PR		0.1
<i>Acroneuria abnormis</i>	09020209042121	0.33		0	PR	0.1	
<i>Boyeria</i>	09020301004		6.33	2	PR		2.0
<i>Boyeria vinosa</i>	09020301004012	6.33			--	2.0	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	1.33	1.33		--	0.4	0.4
<i>Calopteryx</i>	09020307043		0.33	5	PR		0.1
<i>Calopteryx aequabilis</i>	09020307043085	0.33			--	0.1	
<i>Pseudocloeon</i>	09020401006		3.33	4	SC		1.1
<i>Pseudocloeon frondale</i>	09020401006029	3.33			--	1.1	
<i>Acerpenna</i>	09020401007	2.00	8.00	5	CG	0.6	2.6
<i>Acerpenna macdunnoughi</i>	09020401007001	6.00			--	1.9	
<i>Procloeon</i>	09020401010	1.33	1.33		CG	0.4	0.4
<i>Plauditus</i>	09020401012	0.33	0.33		CG	0.1	0.1
Heptageniidae	09020402	10.67			--	3.4	
<i>Stenacron</i>	09020402014		8.06	7	SC		2.6
<i>Stenacron interpunctatum</i>	09020402014045	6.00			--	1.9	
<i>Maccaffertium</i>	09020402015	14.00	33.60	4	SC	4.5	10.7
<i>Maccaffertium luteum</i>	09020402015049	11.00			--	3.5	
Leptophlebiidae	09020406	3.00	3.00		--	1.0	1.0
<i>Paraleptophlebia</i>	09020406026	2.00	2.00	1	CG	0.6	0.6
<i>Ephemera</i>	09020407027	0.33	0.33	1	CG	0.1	0.1
Ephemerellidae	09020410	0.33			--	0.1	
<i>Ephemerella</i>	09020410035	9.33	9.47	1	CG	3.0	3.0
<i>Eurylophella</i>	09020410036	13.67	13.86	3	CG	4.4	4.4
<i>Serratella</i>	09020410037		0.34	2	CG		0.1
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	0.33			--	0.1	
<i>Caenis</i>	09020412040	0.67	0.67	7	CG	0.2	0.2
<i>Psychomyia</i>	09020602005		0.33	2	CG		0.1



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		Actual	Adjusted			Actual	Adjusted
<i>Psychomyia flavida</i>	09020602005006	0.33			--	0.1	
Polycentropodidae	09020603	0.33			--	0.1	
<i>Cernotina</i>	09020603006	4.67	4.82		PR	1.5	1.5
<i>Nyctiophylax</i>	09020603009		1.38	5	PR		0.4
<i>Nyctiophylax moestus</i>	09020603009013	1.33			--	0.4	
<i>Polycentropus</i>	09020603010	4.00	4.13	6	PR	1.3	1.3
Hydropsychidae	09020604	4.33			--	1.4	
<i>Cheumatopsyche</i>	09020604015	5.33	5.97	5	CF	1.7	1.9
<i>Hydropsyche</i>	09020604016	17.67	34.70	4	CF	5.6	11.1
<i>Hydropsyche bronta</i>	09020604016029	0.33			--	0.1	
<i>Hydropsyche morosa</i>	09020604016030	0.33			--	0.1	
<i>Hydropsyche slossonae</i>	09020604016031	8.33			--	2.7	
<i>Hydropsyche sparna</i>	09020604016032	4.33			--	1.4	
<i>Rhyacophila</i>	09020605019		1.67	2	PR		0.5
<i>Rhyacophila minor</i>	09020605019063	1.67			PR	0.5	
Hydroptilidae	09020607	0.33	0.33		--	0.1	0.1
<i>Hydroptila</i>	09020607026	0.67	0.67	6	P	0.2	0.2
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.1	0.1
Limnephilidae	09020610				--		
<i>Apatania</i>	09020610061	0.67	0.67		SC	0.2	0.2
<i>Psilotreta</i>	09020614068		1.33	0	SC		0.4
<i>Psilotreta indecisa</i>	09020614068132	1.33			--	0.4	
<i>Molanna</i>	09020615069		0.33	6	SC		0.1
<i>Molanna blenda</i>	09020615069133	0.33			--	0.1	
Leptoceridae	09020618				--		
<i>Mystacides</i>	09020618075	2.33	2.33	4	CG	0.7	0.7
<i>Oecetis</i>	09020618078	2.00	12.00	8	PR	0.6	3.8
<i>Oecetis inconspicua complex</i>	09020618078156	0.33			--	0.1	
<i>Oecetis persimilis</i>	09020618078157	9.67			--	3.1	
<i>Nigronia</i>	09020701003		2.00	0	PR		0.6
<i>Nigronia serricornis</i>	09020701003003	2.00			--	0.6	
Chironomidae	09021011	7.33			--	2.3	
<i>Rheopelopia</i>	09021011017		1.08		PR		0.3
<i>Rheopelopia acra group</i>	09021011017036	1.00			--	0.3	
<i>Trissopelopia</i>	09021011021		0.36		PR		0.1
<i>Trissopelopia ogemawi</i>	09021011021042	0.33			--	0.1	
<i>Corynoneura</i>	09021011036	0.33	0.36	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037		13.27	7	SH		4.2



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<i>Cricotopus bicinctus</i>	09021011037057	11.67			--	3.7	
<i>Cricotopus vierriensis</i>	09021011037071	0.33			--	0.1	
<i>Cricotopus patens</i>	09021011037075	0.33			--	0.1	
<i>Nanocladius</i>	09021011049		0.72	3	CG		0.2
<i>Nanocladius downesi</i>	09021011049092	0.67			--	0.2	
<i>Orthocladius</i>	09021011050		1.43	6	CG		0.5
<i>Orthocladius annectens</i>	09021011050092	1.33			--	0.4	
<i>Synorthocladius</i>	09021011061	0.33	0.36	2	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		3.23	5	CG		1.0
<i>Tvetenia vitracies</i>	09021011065113	1.67			--	0.5	
<i>Tvetenia paucunca</i>	09021011065114	1.33			--	0.4	
<i>Micropsectra</i>	09021011070	0.33	0.36	7	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072	39.00	41.97	6	CF	12.4	13.4
<i>Stempellina</i>	09021011073	0.33	0.36	2	CG	0.1	0.1
<i>Stempellinella</i>	09021011074		1.08	2	--		0.3
<i>Stempellinella fimbriata</i>	09021011074002	1.00			--	0.3	
<i>Tanytarsus</i>	09021011076	10.00	10.76	6	CF	3.2	3.4
<i>Microtendipes</i>	09021011094		25.11	6	CF		8.0
<i>Microtendipes pedellus group</i>	09021011094166	1.33			--	0.4	
<i>Microtendipes rydalensis group</i>	09021011094168	22.00			--	7.0	
<i>Polypedilum</i>	09021011102	0.33	1.08	6	SH	0.1	0.3
<i>Polypedilum aviceps</i>	09021011102181	0.67			--	0.2	
<i>Helopelopia</i>	09021011114	2.00	2.15	6	PR	0.6	0.7
<i>Simulium</i>	09021012047		0.33	4	CF		0.1
<i>Simulium tuberosum</i>	09021012047067	0.33			--	0.1	
<i>Chrysops</i>	09021014052	0.33	0.33	6	CG	0.1	0.1
<i>Atherix</i>	09021015055	1.00	1.00	2	PR	0.3	0.3
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.2	0.2
<i>Nebrioporus</i>	09021103034		0.67		PR		0.2
<i>Nebrioporus rotundatus</i>	09021103034001	0.67			--	0.2	
<i>Psephenus</i>	09021108058		5.00	4	SC		1.6
<i>Psephenus herricki</i>	09021108058028	5.00			--	1.6	
<i>Dubiraphia</i>	09021113064	3.67	3.67	6	--	1.2	1.2
<i>Optioservus</i>	09021113067	3.33	4.33	3	SC	1.1	1.4
<i>Optioservus ovalis</i>	09021113067046	0.67			--	0.2	
<i>Optioservus trivittatus</i>	09021113067048	0.33			--	0.1	
<i>Stenelmis</i>	09021113070	0.33	1.33	5	SC	0.1	0.4
<i>Stenelmis crenata</i>	09021113070055	1.00			--	0.3	



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		Actual	Adjusted			Actual	Adjusted
<i>Amnicola</i>	10010104013		14.33		SC		4.6
<i>Amnicola limosa</i>	10010104013018	14.33			--	4.6	
Basommatophora	100102	0.33	0.33		--	0.1	0.1