



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

Station Information

Station Number: S-742
Waterbody: Merritt Brook - Station 742
Town: Presque Isle
Directions: ABOVE CONFLUENCE WITH AROOSTOOK RIVER,
FORT ROAD, PARK AT ATV TRAIL

DEP Drainage: St. John
HUC8: 01010004
HUC8 Name: Aroostook River
Latitude: 46 41 58.08 N
Longitude: 67 58 1.32 W
Stream Order: 2

Sample Information

Log Number: 1866 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: NA** Date: 4/27/2010
Model Result with P>.6: NA **Reason for Determination: Model**
Date Last Calculated: 4/27/2010 Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.00	Class A, B, or C	0.02
Class B	0.02	Non-Attainment	0.98
Class C			
0.62			
NA			
0.35			
B or Better Model		A Model	
Class A or B	0.00	Class A	0.01
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	434.67	18 Relative Abundance Ephemeroptera	0.03
02 Generic Richness	40.00	19 EPT Generic Richness	11.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.36
04 Ephemeroptera Mean Abundance	11.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	2.52	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	18.99
06 Hilsenhoff Biotic Index	4.37	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.67
07 Relative Abundance - Chironomidae	0.17	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.40	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	265.18		
11 <i>Cheumatopsyche</i> Abundance	9.82		
12 EPT Generic Richness/ Diptera	0.69		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.03		
15 Perlidae Mean Abundance	0.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	5.09		
(Family Functional Group)			
17 Chironomini Abundance (Family	1.36		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	61.01
2	<i>Eukiefferiella</i>	10.00
3	<i>Simulium</i>	6.21
4	<i>Glossosoma</i>	2.30
5	<i>Cheumatopsyche</i>	2.26



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 17.1 deg C
Dissolved Oxygen: 9.1 mg/l
Specific Conductance: 289 uS/cm
Velocity: 57 cm/s
pH: 7.99
Wetted Width: 4.2 m
Bankfull Width: 5.8 m
Depth: 23 cm

Waterbody Information - Retrieval

Temperature: 19.6 deg C
Dissolved Oxygen: 9.2 mg/l
Specific Conductance: 362 uS/cm
Velocity: 34 cm/s
pH: 8.22
Wetted Width: 3.8 m
Bankfull Width: 4.9 m
Depth: 18 cm

Water Chemistry - 7/22/2009

Soluble Reactive Phosphorus	18 ug/l	Nitrate+nitrite As N	1.3 mg/l
Total Phosphorus	0.053 mg/l	Total Kjeldahl Nitrogen	0.3 mg/l
Dissolved Organic Carbon	5 mg/l	Total Alkalinity	138 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Dense	Rolling
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Below Agriculture NPS	Boulder 35 %
Urban Runoff	Below Urban NPS	Gravel 15 %
		Rubble/Cobble 45 %
		Sand 5 %

Landcover Summary - 2004 Data

Total Area (ac)	2680	High Int. Dev. %	0.1	Water %	0.3	Non-vegetated %	0.0
		Med Int. Dev. %	0.0	Wetland %	10.3	Tilled Agriculture %	61.3
		Low Int. Dev. %	2.0	Upland Woody %	23.2	Grassland %	2.8
		Development %	2.1	Natural %	33.5	Human Altered %	66.2
						Impervious %	1.4

Sample Comments



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Aquatic Life Taxonomic Inventory Report

Station Number: S-742	Waterbody: Merritt Brook - Station 742	Town: Presque Isle
Log Number: 1866	Subsample Factor: X1	Replicates: 3
		Calculated: 4/27/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Stylodrilus</i>	08020101004		6.33		--		1.5
<i>Stylodrilus heringianus</i>	08020101004001	6.33			--	1.5	
Enchytraeidae	08020201	0.33	0.33		--	0.1	0.1
Naididae	08020202	1.00			--	0.2	
<i>Chaetogaster</i>	08020202002		0.87		--		0.2
<i>Chaetogaster limnaei</i>	08020202002004	0.67			--	0.2	
<i>Nais</i>	08020202009		2.60		CG		0.6
<i>Nais variabilis</i>	08020202009009	2.00			--	0.5	
<i>Limnodrilus</i>	08020202022		0.87		CG		0.2
<i>Limnodrilus hoffmeisteri</i>	08020202022003	0.67			--	0.2	
<i>Nephelopsis</i>	08030301004		0.33		--		0.1
<i>Nephelopsis obscura</i>	08030301004001	0.33			--	0.1	
Baetidae	09020401	0.33	0.33		--	0.1	0.1
<i>Baetis</i>	09020401001	1.00	9.33	4	CG	0.2	2.1
<i>Baetis flavistriga</i>	09020401001004	1.00			--	0.2	
<i>Baetis tricaudatus</i>	09020401001012	7.33			--	1.7	
<i>Maccaffertium</i>	09020402015	0.67	0.67	4	SC	0.2	0.2
Ephemerellidae	09020410	0.67	0.67		--	0.2	0.2
Philopotamidae	09020601	0.33			--	0.1	
<i>Dolophilodes</i>	09020601001	1.33	1.56	0	CF	0.3	0.4
<i>Chimarra</i>	09020601003	0.67	0.78	2	CF	0.2	0.2
Hydropsychidae	09020604	4.33			--	1.0	
<i>Cheumatopsyche</i>	09020604015	9.67	9.82	5	CF	2.2	2.3
<i>Hydropsyche</i>	09020604016	133.00	265.18	4	CF	30.6	61.0
<i>Hydropsyche bronta</i>	09020604016029	1.33			--	0.3	
<i>Hydropsyche morosa</i>	09020604016030	3.00			--	0.7	
<i>Hydropsyche slossonae</i>	09020604016031	4.33			--	1.0	
<i>Hydropsyche sparna</i>	09020604016032	95.33			--	21.9	
<i>Hydropsyche depravata complex</i>	09020604016041	22.67			CF	5.2	
<i>Hydropsyche scalaris group</i>	09020604016048	1.33			--	0.3	
<i>Rhyacophila</i>	09020605019	0.67	5.33	2	PR	0.2	1.2
<i>Rhyacophila fuscula</i>	09020605019060	4.67			PR	1.1	
<i>Glossosoma</i>	09020606020	10.00	10.00	0	SC	2.3	2.3
Limnephilidae	09020610				--		
<i>Lepidostoma</i>	09020611064	5.67	5.67	1	SH	1.3	1.3
<i>Tipula</i>	09021001002	5.67	5.67	4	SH	1.3	1.3
Chironomidae	09021011	1.33			--	0.3	
<i>Conchapelopia</i>	09021011004	5.00	5.09	6	PR	1.2	1.2



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		Actual	Adjusted			Actual	Adjusted
<i>Brillia</i>	09021011033	0.33	0.34	5	SH	0.1	0.1
<i>Corynoneura</i>	09021011036	1.33	1.36	7	CG	0.3	0.3
<i>Cricotopus</i>	09021011037	2.00	9.17	7	SH	0.5	2.1
<i>Cricotopus bicinctus</i>	09021011037057	6.67			--	1.5	
<i>Cricotopus patens</i>	09021011037075	0.33			--	0.1	
<i>Eukiefferiella</i>	09021011041		43.47	8	CG		10.0
<i>Eukiefferiella claripennis group</i>	09021011041075	42.00			--	9.7	
<i>Eukiefferiella devonica group</i>	09021011041083	0.67			CG	0.2	
<i>Parametriocnemus</i>	09021011053	0.67	0.68	5	CG	0.2	0.2
<i>Synorthocladius</i>	09021011061	4.00	4.08	2	CG	0.9	0.9
<i>Thienemanniella</i>	09021011062	0.67	0.68	6	CG	0.2	0.2
<i>Tvetenia</i>	09021011065		3.74	5	CG		0.9
<i>Tvetenia vitracies</i>	09021011065113	0.33			--	0.1	
<i>Tvetenia paucunca</i>	09021011065114	3.33			--	0.8	
<i>Micropsectra</i>	09021011070	1.33	1.36	7	CG	0.3	0.3
<i>Rheotanytarsus</i>	09021011072	1.00	1.02	6	CF	0.2	0.2
<i>Polypedilum</i>	09021011102		1.36	6	SH		0.3
<i>Polypedilum aviceps</i>	09021011102181	0.67			--	0.2	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.1	
<i>Polypedilum angulum</i>	09021011102198	0.33			--	0.1	
<i>Simulium</i>	09021012047	1.67	27.00	4	CF	0.4	6.2
<i>Simulium vittatum</i>	09021012047064	23.33			--	5.4	
<i>Simulium tuberosum</i>	09021012047067	1.67			--	0.4	
<i>Simulium venustum/verecundum complex</i>	09021012047072	0.33			CF	0.1	
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.1	0.1
Empididae	09021016			6	--		
<i>Hemerodromia</i>	09021016057	1.00	1.00	3	PR	0.2	0.2
<i>Promoresia</i>	09021113069		0.67		--		0.2
<i>Promoresia elegans</i>	09021113069051	0.67			--	0.2	
Curculionidae	09021115	0.33	0.33		--	0.1	0.1
<i>Sperchon</i>	09030107001	0.67	0.67		--	0.2	0.2
Basommatophora	100102	1.00	1.00		--	0.2	0.2
<i>Physa</i>	10010202026	1.00	1.00		SC	0.2	0.2
<i>Gyraulus</i>	10010203029	2.33	2.33		SC	0.5	0.5
Sphaeriidae	10020201	1.00	1.00		CF	0.2	0.2
<i>Pisidium</i>	10020201002		0.67		CF		0.2
<i>Pisidium walkeri</i>	10020201002017	0.67			CF	0.2	