



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

Station Information

**Station Number:** S-730 DEP Drainage: St. John  
**Waterbody:** Little Madawaska River - Station 730 HUC8: 01010004  
**Town:** Connor Twp HUC8 Name: Aroostook River  
**Directions:** BY OLD GRAVEL PIT IN AROOSTOOK NATIONAL Latitude: 46 58 9.56 N  
WILDLIFE REFUGE Longitude: 68 1 11.34 W  
Stream Order: 4

Sample Information

**Log Number:** 1864 Type of Sample: ROCK BAG Date Deployed: 7/22/2009  
**Subsample Factor:** X4 Replicates: 3 Date Retrieved: 8/19/2009

Classification Attainment

**Statutory Class:** A **Final Determination:** A Date: 4/22/2010  
**Model Result with P>.6:** A **Reason for Determination:** Model  
**Date Last Calculated:** 4/22/2010 **Comments:**

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.54	Class A, B, or C	1.00
Class B	0.45	Non-Attainment	0.00
Class C			
0.01			
0.00			
B or Better Model		A Model	
Class A or B	1.00	Class A	0.95
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.05

Model Variables

01 Total Mean Abundance	894.67	18 Relative Abundance Ephemeroptera	0.19
02 Generic Richness	38.00	19 EPT Generic Richness	21.00
03 Plecoptera Mean Abundance	32.00	21 Sum of Abundances: <i>Dicrotendipes</i> ,	0.00
04 Ephemeroptera Mean Abundance	169.33	<i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	
05 Shannon-Wiener Generic Diversity	3.40	23 Relative Generic Richness- Plecoptera	0.13
06 Hilsenhoff Biotic Index	3.58	25 Sum of Abundances: <i>Cheumatopsyche</i> ,	66.09
07 Relative Abundance - Chironomidae	0.15	<i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	
08 Relative Generic Richness Diptera	0.32	26 Sum of Abundances: <i>Acroneuria</i> ,	82.50
09 <i>Hydropsyche</i> Abundance	308.80	<i>Maccaffertium</i> , <i>Stenonema</i>	
11 <i>Cheumatopsyche</i> Abundance	63.20	28 EP Generic Richness/14	1.00
12 EPT Generic Richness/ Diptera	1.75	30 Presence of Class A Indicator Taxa/7	0.43
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	29.33		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	2.90		
(Family Functional Group)			
17 Chironomini Abundance (Family	72.40		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	34.52
2	<i>Chimarra</i>	16.39
3	<i>Polypedilum</i>	7.93
4	<i>Maccaffertium</i>	7.91
5	<i>Cheumatopsyche</i>	7.06



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Date Deployed: 7/22/2009

**Log Number: 1864**

Waterbody: Little Madawaska River - Station 730

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: 8.2 mg/l  
Specific Conductance: 76 uS/cm  
Velocity: 84 cm/s  
pH: 7.2  
Wetted Width: 15.9 m  
Bankfull Width: 15 m  
Depth: 60 cm

**Waterbody Information - Retrieval**

Temperature: 23.7 deg C  
Dissolved Oxygen: 7.4 mg/l  
Specific Conductance: 117 uS/cm  
Velocity: 34 cm/s  
pH: 7.34  
Wetted Width: 12.4 m  
Bankfull Width: 19.6 m  
Depth: 55 cm

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

Soluble Reactive Phosphorus	1 ug/l	Nitrate+nitrite As N	0.03 mg/l
Total Phosphorus	0.014 mg/l	Total Kjeldahl Nitrogen	0.4 mg/l
Dissolved Organic Carbon	8.5 mg/l	Total Alkalinity	44 mg/l

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Main Stem	Gravel 40 %
		Rubble/Cobble 40 %
		Sand 20 %

**Landcover Summary - 2004 Data**

Total Area (ac)	95683	High Int. Dev. %	0.0	Water %	1.8	Non-vegetated %	0.5
		Med Int. Dev. %	0.0	Wetland %	7.0	Tilled Agriculture %	4.2
		Low Int. Dev. %	1.5	Upland Woody %	82.5	Grassland %	2.4
		Development %	1.5	Natural %	89.9	Human Altered %	8.2
						Impervious %	0.4

**Sample Comments**



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Aquatic Life Taxonomic Inventory Report**

**Station Number: S-730**

Waterbody: Little Madawaska River - Station 730

Town: Connor Twp

**Log Number: 1864**

Subsample Factor: X4

Replicates: 3

Calculated: 4/22/2010

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		1.33		CG		0.1
<i>Nais variabilis</i>	08020202009009	1.33			--	0.1	
<i>Paracapnia</i>	09020203018	1.33	1.33	1	SH	0.1	0.1
<i>Pteronarcys</i>	09020205023		1.33	0	SH		0.1
<i>Pteronarcys biloba</i>	09020205023061	1.33			--	0.1	
Perlidae	09020209	2.67			--	0.3	
<i>Acroneuria</i>	09020209042	1.33	11.73	0	PR	0.1	1.3
<i>Acroneuria abnormis</i>	09020209042121	9.33		0	PR	1.0	
<i>Paragnetina</i>	09020209049	12.00	13.20	1	PR	1.3	1.5
<i>Agneta</i>	09020209050		4.40	2	PR		0.5
<i>Agneta capitata</i>	09020209050152	4.00		2	PR	0.4	
<i>Boyeria</i>	09020301004		2.67	2	PR		0.3
<i>Boyeria vinosa</i>	09020301004012	2.67			--	0.3	
<i>Ophiogomphus</i>	09020302015		2.67	1	PR		0.3
<i>Ophiogomphus carolus</i>	09020302015033	2.67			--	0.3	
Baetidae	09020401	2.67			--	0.3	
<i>Baetis</i>	09020401001	2.67	7.50	4	CG	0.3	0.8
<i>Baetis flavistriga</i>	09020401001004	2.67			--	0.3	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.1	
<i>Acerpenna</i>	09020401007		3.00	5	CG		0.3
<i>Acerpenna pygmaea</i>	09020401007011	2.67			--	0.3	
<i>Plauditus</i>	09020401012	4.00	6.00		CG	0.4	0.7
<i>Plauditus cingulatus</i>	09020401012003	1.33			--	0.1	
<i>Iswaeon</i>	09020401015		7.50		--		0.8
<i>Iswaeon anoka</i>	09020401015001	6.67			--	0.7	
Heptageniidae	09020402	22.67			--	2.5	
<i>Epeorus</i>	09020402009	16.00	21.23	0	SC	1.8	2.4
<i>Maccaffertium</i>	09020402015	50.67	70.77	4	SC	5.7	7.9
<i>Maccaffertium luteum</i>	09020402015049	2.67			--	0.3	
<i>Isonychia</i>	09020404018	46.67	46.67	2	CF	5.2	5.2
Leptophlebiidae	09020406	2.67	2.67		--	0.3	0.3
<i>Ephemerella</i>	09020410035	4.00	4.00	1	CG	0.4	0.4
<i>Chimarra</i>	09020601003	146.67	146.67	2	CF	16.4	16.4
Hydropsychidae	09020604	26.67			--	3.0	
<i>Cheumatopsyche</i>	09020604015	58.67	63.20	5	CF	6.6	7.1
<i>Hydropsyche</i>	09020604016	117.33	308.80	4	CF	13.1	34.5
<i>Hydropsyche morosa</i>	09020604016030	73.33			--	8.2	
<i>Hydropsyche slossonae</i>	09020604016031	48.00			--	5.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydropsyche sparna</i>	09020604016032	41.33			--	4.6	
<i>Hydropsyche depravata complex</i>	09020604016041	4.00			CF	0.4	
<i>Hydropsyche scalaris group</i>	09020604016048	2.67			--	0.3	
<i>Rhyacophila</i>	09020605019		2.67	2	PR		0.3
<i>Rhyacophila fuscula</i>	09020605019060	1.33			PR	0.1	
<i>Rhyacophila minor</i>	09020605019063	1.33			PR	0.1	
<i>Glossosoma</i>	09020606020	1.33	1.33	0	SC	0.1	0.1
<i>Brachycentrus</i>	09020609043		12.00	0	CF		1.3
<i>Brachycentrus appalachia</i>	09020609043096	12.00			--	1.3	
<i>Oecetis</i>	09020618078		1.33	8	PR		0.1
<i>Oecetis persimilis</i>	09020618078157	1.33			--	0.1	
Chironomidae	09021011	10.67			--	1.2	
<i>Rheopelopia</i>	09021011017		2.90		PR		0.3
<i>Rheopelopia acra group</i>	09021011017036	2.67			--	0.3	
<i>Nanocladius</i>	09021011049		1.45	3	CG		0.2
<i>Nanocladius branchiculus</i>	09021011049091	1.33			--	0.1	
<i>Parametriocnemus</i>	09021011053	1.33	1.45	5	CG	0.1	0.2
<i>Thienemanniella</i>	09021011062	1.33	1.45	6	CG	0.1	0.2
<i>Tvetenia</i>	09021011065		14.48	5	CG		1.6
<i>Tvetenia vitracies</i>	09021011065113	6.67			--	0.7	
<i>Tvetenia paucunca</i>	09021011065114	6.67			--	0.7	
<i>Rheotanytarsus</i>	09021011072	33.33	36.20	6	CF	3.7	4.0
<i>Stempellinella</i>	09021011074		1.45	2	--		0.2
<i>Stempellinella fimbriata</i>	09021011074002	1.33			--	0.1	
<i>Tanytarsus</i>	09021011076	2.67	2.90	6	CF	0.3	0.3
<i>Microtendipes</i>	09021011094		1.45	6	CF		0.2
<i>Microtendipes rydalensis group</i>	09021011094168	1.33			--	0.1	
<i>Polypedilum</i>	09021011102		70.95	6	SH		7.9
<i>Polypedilum aviceps</i>	09021011102181	64.00			--	7.2	
<i>Polypedilum flavum</i>	09021011102182	1.33			--	0.1	
<i>Simulium</i>	09021012047		2.67	4	CF		0.3
<i>Simulium jenningsi</i>	09021012047060	2.67			--	0.3	
<i>Atherix</i>	09021015055	6.67	6.67	2	PR	0.7	0.7
<i>Optioservus</i>	09021113067		4.00	3	SC		0.4
<i>Optioservus trivittatus</i>	09021113067048	4.00			--	0.4	
<i>Rhyncholimnochares</i>	09030110001	2.67	2.67		--	0.3	0.3