



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

**Station Information**

<b>Station Number: W-209</b>	Trip ID: 2009-209	River Basin: St. John
Waterbody: LITTLE MADAWASKA RIVER		HUC8 Name: Aroostook
Town: New Sweden		Latitude: 47 0 43.06 N
Mitigation Monitoring Site: No		Longitude: 68 6 51.86 W

**Sample Information**

<b>Sample ID: DN-2009-209</b>	Type of Sample: DIPNET	Sampling Organization: BIOMONITORING UNIT
Date Sampled: 7/8/2009	Replicates: 3	Taxonomist: LOTIC INC.
Subsample Factor: X1		

**Classification Attainment**

<b>Statutory Class: A</b>	<b>Final Determination: C</b>	Date: 7/23/2019
Model Result with $P \geq 0.6$ : C	<b>Reason for Determination: Model</b>	
Date Last Calculated: 12/20/2018	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A: 0.00	Class C: 0.77	Class A, B, or C	1.00
Class B: 0.23	NA: 0.00	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.23	Class A	0.00
Class C or Non-Attainment	0.77	Class B or C or Non-Attainment	1.00

**Model Variables**

		Reference Range (10th or 90th percentile value)
Abundance of Taxa in the Order Ephemeroptera	2.667	$\geq 0.000$
Relative Richness of Taxa in the Orders Ephemeroptera, Odonata and Tricoptera	0.077	$\geq 0.140$
Shannon-Wiener Diversity Index	3.597	$\geq 2.497$
Relative Abundance of Collector-Gatherer Taxa	0.149	$\geq 0.131$
Abundance of Sensitive Taxa	25.000	$\geq 3.424$
Richness of Sensitive Taxa	2.000	$\geq 3.000$
Maine Tolerance Index Score For Wetland Macroinvertebrates	28.650	$\leq 29.776$
Ratio of MTI Sensitive to Eurytopic Taxa Abundance	3.571	$\geq 0.334$

**Other Variables**

Total Mean Abundance	67
Generic Richness:	26
Hilsenhoff Biotic Index:	7.29

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Amnicola</i>	33.33
2	<i>Gyraulius</i>	10.45
3	<i>Microtendipes pedellus group</i>	6.47
4	<i>Corixidae</i>	5.97
5	<i>Limnodrilus</i>	4.98



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**Surface Water Chemistry**

**Sample Date:** 7/8/2009 2:45:00 AM

Collection Method	Parameter	Value	Units	Qualifier
Grab Sample	Chloride	1	mg/l	
Grab Sample	Chlorophyll A	0.0078	mg/l	
Grab Sample	Chlorophyll A - Pheophytin	0.0077	mg/l	
Grab Sample	Dissolved Organic Carbon	9.8	mg/l	
Grab Sample	Nitrate + Nitrite As Nitrogen	0.01	mg/l	
Grab Sample	Orthophosphate As Phosphorus	2	ug/l	
Grab Sample	pH	7.4		
Grab Sample	Silica	2.9	mg/l	
Grab Sample	Silicon	1.3	mg/l	
Grab Sample	Specific Conductance	72.7	umhos/cm	
Grab Sample	Total Alkalinity	34	mg/l	
Grab Sample	Total Kjeldahl Nitrogen (organic And Nh3) As Nitrogen	0.5	mg/l	
Grab Sample	Total Phosphorus	0.023	mg/l	
Grab Sample	True Color	60	unit	
In-situ	Dissolved Oxygen	10	mg/l	
In-situ	pH	7.03		
In-situ	Specific Conductance	68	us/cm	
In-situ	Temperature	20.6	deg c	

**Landcover Summary - 2004 Data**

Total Area (ac)	79092	High Int. Dev. %	0.0	Water %	2.1	Non-vegetated %	0.6
		Med Int. Dev. %	0.0	Wetland %	7.1	Tilled Agriculture %	1.8
		Low Int. Dev. %	1.3	Upland Woody %	84.8	Grassland %	2.2
		Development %	1.3	Natural %	92.3	Human Altered %	5.5
						Impervious %	0.3
Total Land (ac)	77400	High Int. Dev. %	0.0	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.0	Wetland %	7.2	Tilled Agriculture %	1.9
		Low Int. Dev. %	1.3	Upland Woody %	86.6	Grassland %	2.2
		Development %	1.4	Natural %	94.4	Human Altered %	5.6
						Impervious %	0.3



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**Summary of Habitat Characteristics**

<u>Human Disturbance</u>	<u>Landscape-level Cowardin Classification</u>	<u>Hydrogeomorphic Setting</u>
Total Score: 5	System: RIVERINE	Landscape Position: LOTIC RIVER
Hydrologic Modifications: 2	Subsystem: LOWER PERENNIAL	Lotic Gradient: LOW GRADIENT
Vegetative Modifications: 0	Class 1: UNCONSOLIDATED	Flow Path: THROUGHFLOW
Chemical Contaminants: 0	BOTTOM	
Impervious Surface: 2	Subclass 1: MUD	Land Form: FLOODPLAIN
Non-point Sources: 1	Class 2:	Land Form Type:
	Subclass 2:	Waterbody Type: RIVER
	Class 3:	Waterbody Subtype:
	Subclass 3:	

Comments:

Dominant Plant Species: SEDGES, ELODEA, POTOMOGETON, SPARGANIUM

Additional Plant Community Observations:

Habitat Classification:  
AQUATIC MACROPHYTE BED

Substrate Classification:  
CLAY SUBSTRATE

Average Depth: 44 cm

Sample Comments:



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**Additional Summary Variables**

<b>Station Number: W-209</b>	Waterbody: LITTLE MADAWASKA RIVER	Town: New Sweden
<b>Log Number: DN-2009-209</b>	Subsample Factor: X1	Replicates: 3
		Calculated: 12/20/2018

	Abundance	Relative Abundance	Richness	Relative Richness
EOT Taxa:	3.00	0.045	2	0.08
EPT Taxa:	2.67	0.040	1	0.04
Insects:	27.00	0.403	16	0.62
Non-Insects:	40.00	0.597	10	0.38
Leeches:	0.33	0.005	1	0.04
Oligochaetes:	3.67	0.055	2	0.08
Snails:	31.00	0.463	4	0.15
Bivalves:	2.33	0.035	2	0.08
Isopods:	0.00	0.000	0	0.00
Amphipods:	2.67	0.040	1	0.04
Mites:	0.00	0.000	0	0.00
Stoneflies:	0.00	0.000	0	0.00
Mayflies:	2.67	0.040	1	0.04
Odonates:	0.33	0.005	1	0.04
Caddisflies:	0.00	0.000	0	0.00
Diptera:	19.67	0.294	12	0.46
Hemiptera:	4.00	0.060	1	0.04
Beetles:	0.33	0.005	1	0.04
Chironomids:	19.67	0.294	12	0.46
Tanypodinae Tribe:	4.67	0.070	2	0.08
Chironomiinae Tribe:	14.67	0.219	9	0.35
Orthocloidiinae Tribe:	0.33	0.005	1	0.04
Collector-Filterers:	7.00	0.104	4	0.15
Collector-Gatherers:	10.00	0.149	6	0.23
Predators:	5.33	0.080	3	0.12
Piercers:	0.33	0.005	1	0.04
Shredders:	7.33	0.109	3	0.12
Scrapers:	31.00	0.463	4	0.15
Maine Tolerance:				
Sensitive:	25.00	0.419	2	0.11
Intermediate:	27.67	0.464	11	0.61
Eurytopic:	7.00	0.117	5	0.28
Ratio of MTI Sensitive to Eurytopic	3.57	3.571	0.40	0.40



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**Aquatic Life Taxonomic Inventory Report**

**Station Number: W-209**      Waterbody: LITTLE MADAWASKA RIVER      Town: New Sweden  
**Log Number: DN-2009-209**      Subsample Factor: X1      Replicates: 3      Calculated: 12/20/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samples)		Hilsen-hoff Biotic Index	Functional Feeding Group	Maine Tolerance Index	Tribe	Taxa Group
		Actual	Adjusted					
Naididae	08020202	0.33	0.33	--	--	--	--	Worm
Limnodrilus	08020202022	3.33	3.33	--	CG	83.9-E	--	Tubificid Worm
Erpobdellidae	08030203	0.33	0.33	--	--	--	--	Leech
Hyalella	09010203006	0.00	2.67	8	CG	24.5-I	--	Amphipod
<i>Hyalella azteca</i>	09010203006011	2.67	0.00	--	--	--	--	Amphipod
Coenagrionidae	09020309	0.33	0.33	--	--	--	--	Dragonfly/damselfly
Siphonurus	09020405021	2.67	2.67	7	CG	17-S	--	Mayfly
Corixidae	09020501	4.00	4.00	--	--	--	--	True Bug
Ablabesmyia	09021011001	1.33	1.67	8	PR	23.6-I	T	Fly: Midge
<i>Ablabesmyia aspera</i>	09021011001012	0.33	0.00	--	--	--	T	Fly: Midge
Procladius	09021011015	3.00	3.00	9	PR	25.1-I	T	Fly: Midge
Heterotrissocladius	09021011044	0.33	0.33	0	CG	--	--	Fly: Midge
Paratanytarsus	09021011071	1.00	1.00	6	--	43-E	Y	Fly: Midge
Tanytarsus	09021011076	0.33	0.33	6	CF	25.7-I	Y	Fly: Midge
Chironomus	09021011080	0.33	0.33	10	CG	27.4-I	C	Fly: Midge
Cryptochironomus	09021011082	0.67	0.67	8	PR	31.3-I	C	Fly: Midge
Endochironomus	09021011087	2.00	2.00	10	SH	50.2-E	C	Fly: Midge
Glyptotendipes	09021011088	0.33	0.33	10	SH	43-E	C	Fly: Midge
Microtendipes	09021011094	0.00	4.33	6	CF	22.3-I	C	Fly: Midge
<i>Microtendipes pedellus group</i>	09021011094166	4.33	0.00	--	--	--	C	Fly: Midge
Polypedilum	09021011102	2.33	5.00	6	SH	24.2-I	C	Fly: Midge
<i>Polypedilum illinoense group</i>	09021011102185	0.33	0.00	--	--	--	C	Fly: Midge
<i>Polypedilum halterale group</i>	09021011102193	1.67	0.00	--	--	--	C	Fly: Midge
<i>Polypedilum bergi</i>	09021011102199	0.67	0.00	--	--	--	C	Fly: Midge
Stictochironomus	09021011106	0.67	0.67	9	CG	--	C	Fly: Midge
Haliphus	09021101001	0.33	0.33	--	P	67.1-E	--	Beetle
Amnicola	10010104013	22.33	22.33	--	SC	18.7-S	--	Snail
Gyraulus	10010203029	7.00	7.00	--	SC	37.2-I	--	Snail
Helisoma	10010203030	1.33	1.33	--	SC	42.8-I	--	Snail
Ancylidae	10010204	0.33	0.33	--	SC	--	--	Snail
Sphaeriidae	10020201	1.00	1.00	--	CF	--	--	Clam
Sphaerium	10020201003	1.33	1.33	--	CF	24.8-I	--	Clam