



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

Station Information

Station Number: S-111	DEP Drainage: St. Croix - Coastal
Waterbody: Narraguagus River - Station 111	HUC8: 01050002
Town: Deblois	HUC8 Name: Maine Coastal
Directions: DWNSTRM OF RT. 193 BRIDGE CROSSING	Latitude: 44 44 28.84 N
	Longitude: 68 0 46.16 W
	Stream Order: 4

Sample Information

Log Number: 2057	Type of Sample: ROCK BAG	Date Deployed: 7/26/2011
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/24/2011

Classification Attainment

Statutory Class: AA	Final Determination: A	Date: 1/25/2012
Model Result with P>.6: A	Reason for Determination: Model	
Date Last Calculated: 1/23/2012	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.83	Class C	0.00
Class B	0.17	NA	0.00
<u>B or Better Model</u>		<u>A Model</u>	
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	261.00	18 Relative Abundance Ephemeroptera	0.36
02 Generic Richness	54.00	19 EPT Generic Richness	29.00
03 Plecoptera Mean Abundance	3.33	21 Sum of Abundances: <i>Dicrotendipes</i> ,	0.00
04 Ephemeroptera Mean Abundance	94.00	<i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	
05 Shannon-Wiener Generic Diversity	4.29	23 Relative Generic Richness- Plecoptera	0.06
06 Hilsenhoff Biotic Index	4.08	25 Sum of Abundances: <i>Cheumatopsyche</i> ,	3.68
07 Relative Abundance - Chironomidae	0.07	<i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	
08 Relative Generic Richness Diptera	0.20	26 Sum of Abundances: <i>Acroneuria</i> ,	51.51
09 <i>Hydropsyche</i> Abundance	58.98	<i>Maccaffertium</i> , <i>Stenonema</i>	
11 <i>Cheumatopsyche</i> Abundance	0.68	28 EP Generic Richness/14	1.07
12 EPT Generic Richness/ Diptera	2.64	30 Presence of Class A Indicator Taxa/7	0.57
Generic Richness		Five Most Dominant Taxa	
13 Relative Abundance - Oligochaeta	0.00	Rank	Taxon Name
15 Perlidae Mean Abundance	3.00	1	<i>Hydropsyche</i>
(Family Functional Group)		2	<i>Maccaffertium</i>
16 Tanypodinae Mean Abundance	1.00	3	<i>Promoresia</i>
(Family Functional Group)		4	<i>Simulium</i>
17 Chironomini Abundance (Family	4.00	5	<i>Baetis</i>
Functional Group)			Percent
			22.60
			18.71
			5.87
			5.11
			3.55



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Waterbody: Narraguagus River - Station 111

Date Retrieved: 8/24/2011

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 20.6 deg C
Dissolved Oxygen: 7.4 mg/l
Specific Conductance: 21 uS/cm
Velocity: 28 cm/s
pH: 6.44
Wetted Width: 29 m
Bankfull Width: 30 m
Depth: 45 cm

Waterbody Information - Retrieval

Temperature: 22.9 deg C
Dissolved Oxygen: 8.3 mg/l
Specific Conductance: 24 uS/cm
Velocity: 40 cm/s
pH: 7.12
Wetted Width: 30 m
Bankfull Width: 30 m
Depth: 70 cm

Water Chemistry

Summary of Habitat Characteristics

Landuse Name

Swamp Hardwood

Upland Conifer

Upland Hardwood

Potential Stressor

Pesticides

Canopy Cover

Open

Location

Above Road Crossing

Below Agriculture NPS

Main Stem

Terrain

Rolling

Substrate

Boulder 5 %

Gravel 45 %

Rubble/Cobble 40 %

Sand 10 %

Landcover Summary - 2004 Data

Total Area (ac)	65294	High Int. Dev. %	0.1	Water %	3.5	Non-vegetated %	0.5
		Med Int. Dev. %	0.2	Wetland %	6.5	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.8	Upland Woody %	88.5	Grassland %	0.4
		Development %	1.0	Natural %	92.9	Human Altered %	3.6
						Impervious %	0.5

Sample Comments

7/26/11: ALGAE AND MACROPHYTES OBSERVED.

8/24/11: FISH, ALGAE, AND FRESHWATER MUSSELS OBSERVED. HEAVY RAIN ON 8/21/11.



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-111

Waterbody: Narraguagus River - Station 111

Town: Deblois

Log Number: 2057

Subsample Factor: X1

Replicates: 3

Calculated: 1/23/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Stylaria</i>	08020202014		0.33		CG		0.1
<i>Stylaria lacustris</i>	08020202014002	0.33			--	0.1	
<i>Isoperla</i>	09020207026	0.33	0.33	2	PR	0.1	0.1
Perlidae	09020209	0.33	0.33		--	0.1	0.1
<i>Acroneuria</i>	09020209042	0.33	2.67	0	PR	0.1	1.0
<i>Acroneuria lycorias</i>	09020209042125	2.33			--	0.9	
<i>Boyeria</i>	09020301004		4.00	2	PR		1.5
<i>Boyeria vinosa</i>	09020301004012	4.00			--	1.5	
Gomphidae	09020302	1.00	1.00		--	0.4	0.4
<i>Gomphus</i>	09020302012	0.33	0.33	5	PR	0.1	0.1
<i>Macromia</i>	09020304021		0.33	2	PR		0.1
<i>Macromia illinoiensis</i>	09020304021045	0.33			--	0.1	
Corduliidae	09020305	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	1.67	1.67		--	0.6	0.6
<i>Calopteryx</i>	09020307043		0.33	5	PR		0.1
<i>Calopteryx maculata</i>	09020307043088	0.33			--	0.1	
Baetidae	09020401	0.67			--	0.3	
<i>Baetis</i>	09020401001	1.00	9.27	4	CG	0.4	3.6
<i>Baetis flavistriga</i>	09020401001004	3.33			--	1.3	
<i>Baetis intercalaris</i>	09020401001008	4.67			--	1.8	
<i>Acerpenna</i>	09020401007	1.00	8.24	5	CG	0.4	3.2
<i>Acerpenna pygmaea</i>	09020401007011	7.00			--	2.7	
<i>Plauditus</i>	09020401012	0.33	0.34		CG	0.1	0.1
<i>Iswaeon</i>	09020401015	4.67	4.81		--	1.8	1.8
Heptageniidae	09020402	2.33			--	0.9	
<i>Epeorus</i>	09020402009	0.33	0.35	0	SC	0.1	0.1
<i>Leucrocota</i>	09020402011	3.00	3.14	1	SC	1.1	1.2
<i>Maccaffertium</i>	09020402015	17.00	48.84	4	SC	6.5	18.7
<i>Maccaffertium luteum</i>	09020402015049	27.67			--	10.6	
<i>Maccaffertium modestum</i>	09020402015051	2.00			--	0.8	
<i>Isonychia</i>	09020404018	1.67	1.67	2	CF	0.6	0.6
Leptophlebiidae	09020406	2.67	2.67		--	1.0	1.0
<i>Ephemerella</i>	09020410035	6.67	6.67	1	CG	2.6	2.6
<i>Serratella</i>	09020410037		3.00	2	CG		1.1
<i>Serratella serratoidea</i>	09020410037124	3.00			--	1.1	
<i>Tricorythodes</i>	09020411038	5.00	5.00	4	CG	1.9	1.9
<i>Chimarra</i>	09020601003	2.00	2.00	2	CF	0.8	0.8
<i>Cernotina</i>	09020603006	0.33	0.33		PR	0.1	0.1



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		Actual	Adjusted			Actual	Adjusted
<i>Neureclipsis</i>	09020603008	9.00	9.00	7	CF	3.4	3.4
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.1	0.1
<i>Hydropsychidae</i>	09020604	1.33			--	0.5	
<i>Cheumatopsyche</i>	09020604015	0.67	0.68	5	CF	0.3	0.3
<i>Hydropsyche</i>	09020604016	33.67	58.98	4	CF	12.9	22.6
<i>Hydropsyche bronta</i>	09020604016029	0.33			--	0.1	
<i>Hydropsyche morosa</i>	09020604016030	8.00			--	3.1	
<i>Hydropsyche sparna</i>	09020604016032	10.67			--	4.1	
<i>Hydropsyche frisoni</i>	09020604016043	0.33			--	0.1	
<i>Hydropsyche placoda</i>	09020604016059	4.67			--	1.8	
<i>Oxyethira</i>	09020607028	1.00	1.00	3	P	0.4	0.4
<i>Brachycentrus</i>	09020609043		1.33	0	CF		0.5
<i>Brachycentrus appalachia</i>	09020609043096	0.67			--	0.3	
<i>Brachycentrus numerosus</i>	09020609043098	0.67			--	0.3	
<i>Lepidostoma</i>	09020611064	1.00	1.00	1	SH	0.4	0.4
<i>Psilotreta</i>	09020614068		2.33	0	SC		0.9
<i>Psilotreta indecisa</i>	09020614068132	2.33			--	0.9	
<i>Ceraclea</i>	09020618072	0.67	0.67	3	CG	0.3	0.3
<i>Nectopsyche</i>	09020618074	3.67	3.67	3	SH	1.4	1.4
<i>Mystacides</i>	09020618075		0.33	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	0.33			--	0.1	
<i>Oecetis</i>	09020618078	1.00	5.33	8	PR	0.4	2.0
<i>Oecetis avara</i>	09020618078153	2.33			--	0.9	
<i>Oecetis inconspicua complex</i>	09020618078156	0.33			--	0.1	
<i>Oecetis persimilis</i>	09020618078157	1.67			--	0.6	
<i>Bezzia/palpomyia</i>	09021010043	0.33	0.33	6	PR	0.1	0.1
<i>Pentaneura</i>	09021011014		1.00	6	PR		0.4
<i>Pentaneura inconspicua</i>	09021011014028	1.00			--	0.4	
<i>Cricotopus</i>	09021011037		2.33	7	SH		0.9
<i>Cricotopus bicinctus</i>	09021011037057	2.33			--	0.9	
<i>Rheocricotopus</i>	09021011057		2.33	6	CG		0.9
<i>Rheocricotopus robacki</i>	09021011057105	2.33			--	0.9	
<i>Tvetenia</i>	09021011065		3.00	5	CG		1.1
<i>Tvetenia vitracies</i>	09021011065113	2.67			--	1.0	
<i>Tvetenia paucunca</i>	09021011065114	0.33			--	0.1	
<i>Rheotanytarsus</i>	09021011072	6.00	6.00	6	CF	2.3	2.3
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	0.3	0.3
<i>Microtendipes</i>	09021011094		1.00	6	CF		0.4



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<i>Microtendipes rydalensis</i> group	09021011094168	1.00			--	0.4	
<i>Polypedilum</i>	09021011102		3.00	6	SH		1.1
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.4	
<i>Polypedilum flavum</i>	09021011102182	1.67			--	0.6	
<i>Polypedilum illinoense</i> group	09021011102185	0.33			--	0.1	
<i>Simulium</i>	09021012047		13.33	4	CF		5.1
<i>Simulium fibrinflatum</i>	09021012047059	1.33			--	0.5	
<i>Simulium jenningsi</i> complex	09021012047070	11.00			CF	4.2	
<i>Simulium venustum/verecundum</i> complex	09021012047072	1.00			CF	0.4	
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	0.3	0.3
<i>Dubiraphia</i>	09021113064	2.67	2.67	6	--	1.0	1.0
<i>Macronychus</i>	09021113065		0.67	4	--		0.3
<i>Macronychus glabratus</i>	09021113065040	0.67			--	0.3	
<i>Promoresia</i>	09021113069		15.33		--		5.9
<i>Promoresia elegans</i>	09021113069051	12.00			--	4.6	
<i>Promoresia tardella</i>	09021113069052	3.33			--	1.3	
<i>Stenelmis</i>	09021113070		4.33	5	SC		1.7
<i>Stenelmis crenata</i>	09021113070055	3.67			--	1.4	
<i>Stenelmis musgravei</i>	09021113070060	0.67			--	0.3	
<i>Amnicola</i>	10010104013		2.67		SC		1.0
<i>Amnicola limosa</i>	10010104013018	2.67			--	1.0	
<i>Helisoma</i>	10010203030		9.00		SC		3.4
<i>Helisoma anceps</i>	10010203030058	9.00			--	3.4	