



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

**Station Information**

<b>Station Number: S-111</b>	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 21.4 N
	Longitude: 68 0 53.87 W
	Stream Order: 4

**Sample Information**

<b>Log Number: 1577</b>	Type of Sample: ROCK BAG	Date Deployed: 7/24/2006
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/21/2006

**Classification Attainment**

<b>Statutory Class: AA</b>	<b>Final Determination: A</b>	Date: 1/3/2008
Model Result with P>.6: A	<b>Reason for Determination: Model</b>	
Date Last Calculated: 3/13/2009	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.58	Class A, B, or C	1.00
Class B	0.41	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	623.67	18 Relative Abundance Ephemeroptera	0.17
02 Generic Richness	74.00	19 EPT Generic Richness	33.00
03 Plecoptera Mean Abundance	1.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	108.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	4.62	25 Sum of Abundances: <i>Cheumatopsyche</i> <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	87.65
06 Hilsenhoff Biotic Index	5.11	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	18.49
07 Relative Abundance - Chironomidae	0.57	28 EP Generic Richness/14	1.21
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	37.32		
11 <i>Cheumatopsyche</i> Abundance	1.01		
12 EPT Generic Richness/ Diptera Generic Richness	1.43		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	0.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	12.14		
17 Chironomini Abundance (Family Functional Group)	50.57		

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	20.54
2	<i>Cricotopus</i>	11.89
3	<i>Chimarra</i>	7.54
4	<i>Polypedilum</i>	6.54
5	<i>Hydropsyche</i>	5.98



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Waterbody: Narraguagus River - Station 111

Date Deployed: 7/24/2006  
Date Retrieved: 8/21/2006

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT  
Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 22.4 deg C  
Dissolved Oxygen: 8 mg/l  
Specific Conductance: 28 uS/cm  
Velocity: 108 cm/s  
pH:  
Wetted Width: 33 m  
Bankfull Width: 33 m  
Depth: 75 cm

**Waterbody Information - Retrieval**

Temperature: 20.3 deg C  
Dissolved Oxygen: 8.5 mg/l  
Specific Conductance: 27 uS/cm  
Velocity: 59 cm/s  
pH: 6.48  
Wetted Width: 33 m  
Bankfull Width: 33 m  
Depth: 30 cm

**Water Chemistry - Retrieval**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Canopy Open	Rolling Terrain
Upland Conifer		
Upland Hardwood		

<u>Stressor</u>	<u>Location</u>	<u>Substrate</u>	
	Pristine Landscape	Boulder	5 %
		Gravel	60 %
		Rubble/Cobble	25 %
		Sand	10 %

**Landcover Summary - 2004 Data**

Total Area (ac)	65294	High Int. Dev. %	0.1	Water %	3.6	Non-vegetated %	0.5
Total Land (ac)	63015	Med Int. Dev. %	0.2	Wetland %	6.7	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.8	Upland Woody %	91.7	Human Altered %	3.8
		Development %	1.0	Natural %	96.2	Impervious %	0.5

**Sample Comments**



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002		1.33		--		0.2
<i>Girardia tigrina</i>	03010102002001	1.33			--	0.2	
<i>Prostoma</i>	04010101001	0.33	0.33		--	0.1	0.1
Nematoda	05	0.33	0.33		--	0.1	0.1
<i>Chaetogaster</i>	08020202002		1.00		--		0.2
<i>Chaetogaster diastrophus</i>	08020202002002	1.00			--	0.2	
<i>Nais</i>	08020202009		3.00		CG		0.5
<i>Nais behningi</i>	08020202009003	1.33			--	0.2	
<i>Nais communis</i>	08020202009005	1.33			--	0.2	
<i>Nais variabilis</i>	08020202009009	0.33			--	0.1	
<i>Stylaria</i>	08020202014		2.00		CG		0.3
<i>Stylaria lacustris</i>	08020202014002	2.00			--	0.3	
Perlodidae	09020207	1.00	1.00		--	0.2	0.2
<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		1.67	2	PR		0.3
<i>Boyeria vinosa</i>	09020301004012	1.67			--	0.3	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	0.67	0.67		--	0.1	0.1
<i>Calopteryx</i>	09020307043		1.67	5	PR		0.3
<i>Calopteryx aequabilis</i>	09020307043085	1.00			--	0.2	
<i>Calopteryx maculata</i>	09020307043088	0.67			--	0.1	
<i>Argia</i>	09020309048	0.67	0.67	7	PR	0.1	0.1
Baetidae	09020401	9.00			--	1.4	
<i>Baetis</i>	09020401001	0.67	14.70	4	CG	0.1	2.4
<i>Baetis flavistriga</i>	09020401001004	3.67			--	0.6	
<i>Baetis intercalaris</i>	09020401001008	7.00			--	1.1	
<i>Baetis pluto</i>	09020401001009	0.67			--	0.1	
<i>Centroptilum</i>	09020401003	0.33	0.41	2	CG	0.1	0.1
<i>Pseudocloeon</i>	09020401006		0.41	4	SC		0.1
<i>Pseudocloeon propinquum</i>	09020401006028	0.33			--	0.1	
<i>Acerpenna</i>	09020401007		16.74	5	CG		2.7
<i>Acerpenna pygmaea</i>	09020401007011	13.67			--	2.2	
<i>Procloeon</i>	09020401010	0.67	0.82		CG	0.1	0.1
<i>Plauditus</i>	09020401012	11.33	15.93		CG	1.8	2.6
<i>Plauditus cestus</i>	09020401012004	1.67				0.3	
Heptageniidae	09020402	1.33			--	0.2	
<i>Epeorus</i>	09020402009	1.00	1.05	0	SC	0.2	0.2



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Leucrocuta</i>	09020402011	9.67	10.13	1	SC	1.5	1.6
<i>Maccaffertium</i>	09020402015	5.67	18.16	4	SC	0.9	2.9
<i>Maccaffertium luteum</i>	09020402015049	10.33			--	1.7	
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.2	
<i>Isonychia</i>	09020404018	11.33	11.33	2	CF	1.8	1.8
Leptophlebiidae	09020406	1.00	1.00		--	0.2	0.2
<i>Paraleptophlebia</i>	09020406026	2.00	2.00	1	CG	0.3	0.3
Ephemerellidae	09020410	0.33			--	0.1	
<i>Ephemerella</i>	09020410035	2.67	2.75	1	CG	0.4	0.4
<i>Serratella</i>	09020410037		8.25	2	CG		1.3
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	2.33			--	0.4	
<i>Serratella serratoides</i>	09020410037124	5.67			--	0.9	
<i>Tricorythodes</i>	09020411038	5.00	5.00	4	CG	0.8	0.8
Trichoptera	090206	0.33	0.33		--	0.1	0.1
<i>Dolophilodes</i>	09020601001	3.00	3.00	0	CF	0.5	0.5
<i>Chimarra</i>	09020601003	47.00	47.00	2	CF	7.5	7.5
<i>Neureclipsis</i>	09020603008	6.67	6.67	7	CF	1.1	1.1
<i>Nyctiophylax</i>	09020603009		0.33	5	PR		0.1
<i>Nyctiophylax moestus</i>	09020603009013	0.33			--	0.1	
<i>Polycentropus</i>	09020603010	2.67	2.67	6	PR	0.4	0.4
Hydropsychidae	09020604	0.33			--	0.1	
<i>Cheumatopsyche</i>	09020604015	1.00	1.01	5	CF	0.2	0.2
<i>Hydropsyche</i>	09020604016	7.67	37.32	4	CF	1.2	6.0
<i>Hydropsyche morosa</i>	09020604016030	9.00			--	1.4	
<i>Hydropsyche sparna</i>	09020604016032	19.33			--	3.1	
<i>Hydropsyche scalaris group</i>	09020604016048	1.00			--	0.2	
Hydroptilidae	09020607	0.67			--	0.1	
<i>Hydroptila</i>	09020607026	1.67	1.97	6	P	0.3	0.3
<i>Oxyethira</i>	09020607028	2.00	2.36	3	P	0.3	0.4
<i>Brachycentrus</i>	09020609043		3.00	0	CF		0.5
<i>Brachycentrus appalachia</i>	09020609043096	1.00			--	0.2	
<i>Brachycentrus numerosus</i>	09020609043098	2.00			--	0.3	
<i>Lepidostoma</i>	09020611064	2.33	2.33	1	SH	0.4	0.4
<i>Psilotreta</i>	09020614068	0.33	0.33	0	SC	0.1	0.1
<i>Helicopsyche</i>	09020616070		1.00	3	SC		0.2
<i>Helicopsyche borealis</i>	09020616070137	1.00			--	0.2	
<i>Nectopsyche</i>	09020618074	4.67	4.67	3	SH	0.7	0.7
<i>Triaenodes</i>	09020618077		0.67	6	SH		0.1



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<i>Triaenodes flavescens</i>	09020618077153	0.67			--	0.1	
<i>Oecetis</i>	09020618078	1.00	10.67	8	PR	0.2	1.7
<i>Oecetis avara</i>	09020618078153	1.33			--	0.2	
<i>Oecetis persimilis</i>	09020618078157	8.33			--	1.3	
<i>Bezzia/palpomyia</i>	09021010043	0.33	0.33	6	PR	0.1	0.1
Chironomidae	09021011	4.00			--	0.6	
<i>Ablabesmyia</i>	09021011001		2.36	8	PR		0.4
<i>Ablabesmyia mallochi</i>	09021011001004	2.33			--	0.4	
<i>Conchapelopia</i>	09021011004	1.33	1.35	6	PR	0.2	0.2
<i>Labrundinia</i>	09021011008		2.02	7	PR		0.3
<i>Labrundinia pilosella</i>	09021011008022	2.00			--	0.3	
<i>Nilotanypus</i>	09021011012		1.01	6	PR		0.2
<i>Nilotanypus fimbriatus</i>	09021011012027	1.00			--	0.2	
<i>Pentaneura</i>	09021011014		2.36	6	PR		0.4
<i>Pentaneura inconspicua</i>	09021011014028	2.33			--	0.4	
<i>Rheopelopia</i>	09021011017	0.33	3.03		PR	0.1	0.5
<i>Rheopelopia acra group</i>	09021011017036	2.67			--	0.4	
<i>Potthastia</i>	09021011026		1.01	2	CG		0.2
<i>Potthastia gaedii</i>	09021011026045	1.00			--	0.2	
<i>Corynoneura</i>	09021011036	4.67	4.72	7	CG	0.7	0.8
<i>Cricotopus</i>	09021011037	0.33	74.17	7	SH	0.1	11.9
<i>Cricotopus bicinctus</i>	09021011037057	57.33			--	9.2	
<i>Cricotopus vierriensis</i>	09021011037071	1.00			--	0.2	
<i>Cricotopus luciae</i>	09021011037073	0.67			--	0.1	
<i>Cricotopus patens</i>	09021011037075	14.00			--	2.2	
<i>Orthocladius</i>	09021011050	2.67	6.74	6	CG	0.4	1.1
<i>Orthocladius annectens</i>	09021011050092	4.00			--	0.6	
<i>Parametriocnemus</i>	09021011053	4.00	4.05	5	CG	0.6	0.6
<i>Psectrocladius</i>	09021011056		13.15	8	CG		2.1
<i>Psectrocladius psilopterus group</i>	09021011056103	13.00			--	2.1	
<i>Rheocricotopus</i>	09021011057		11.13	6	CG		1.8
<i>Rheocricotopus robacki</i>	09021011057105	11.00			--	1.8	
<i>Thienemanniella</i>	09021011062	0.33	19.89	6	CG	0.1	3.2
<i>Thienemanniella xena</i>	09021011062110	16.33			--	2.6	
<i>Thienemanniella lobapodema</i>	09021011062114	3.00			--	0.5	
<i>Tvetenia</i>	09021011065		18.54	5	CG		3.0
<i>Tvetenia vitracies</i>	09021011065113	18.33			--	2.9	
<i>Rheotanytarsus</i>	09021011072	126.67	128.11	6	CF	20.3	20.5



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<i>Tanytarsus</i>	09021011076	6.00	10.11	6	CF	1.0	1.6
<i>Tanytarsus glabrescens</i>	09021011076134	4.00			--	0.6	
<i>Microtendipes</i>	09021011094		9.78	6	CF		1.6
<i>Microtendipes rydalensis group</i>	09021011094168	9.67			--	1.5	
<i>Polypedilum</i>	09021011102		40.79	6	SH		6.5
<i>Polypedilum aviceps</i>	09021011102181	23.67			--	3.8	
<i>Polypedilum flavum</i>	09021011102182	16.67			--	2.7	
<i>Simulium</i>	09021012047	1.00	4.67	4	CF	0.2	0.7
<i>Simulium jenningsi</i>	09021012047060	3.67			--	0.6	
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	0.1	0.1
<i>Hemerodromia</i>	09021016057	4.00	4.00	3	PR	0.6	0.6
<i>Gyrinus</i>	09021104033	0.33	0.33	2	PR	0.1	0.1
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.1	0.1
<i>Optioservus</i>	09021113067	0.67	0.67	3	SC	0.1	0.1
<i>Promoresia</i>	09021113069		8.00		--		1.3
<i>Promoresia elegans</i>	09021113069051	4.00			--	0.6	
<i>Promoresia tardella</i>	09021113069052	4.00			--	0.6	
<i>Stenelmis</i>	09021113070		0.67	5	SC		0.1
<i>Stenelmis crenata</i>	09021113070055	0.33			--	0.1	
<i>Stenelmis mera</i>	09021113070058	0.33			--	0.1	
Acariformes	090301	0.67	0.67		--	0.1	0.1
<i>Amnicola</i>	10010104013		0.67		SC		0.1
<i>Amnicola limosa</i>	10010104013018	0.67			--	0.1	