



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

Station Information

**Station Number:** S-391  
**Waterbody:** Mousam River - Station 391  
**Town:** Sanford  
**Directions:** BELOW STP1 - JUST BELOW DISCHARGE  
**DEP Drainage:** Piscataqua - Presumpscot - Saco  
**HUC8:** 01060003  
**HUC8 Name:** Piscataqua-Salmon Falls  
**Latitude:** 43 24 22.57 N  
**Longitude:** 70 42 58.27 W  
**Stream Order:** 3

Sample Information

**Log Number:** 1955  
**Subsample Factor:** X4  
**Type of Sample:** ROCK BASKET  
**Replicates:** 3  
**Date Deployed:** 7/21/2010  
**Date Retrieved:** 8/23/2010

Classification Attainment

**Statutory Class:** C  
**Model Result with P>.6:** B  
**Date Last Calculated:** 3/28/2011  
**Final Determination:** B  
**Reason for Determination:** Model  
**Date:** 3/28/2011  
**Comments:**

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.34	Class A, B, or C	1.00
Class B	0.64	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	1.00	Class A	0.11
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.89

Model Variables

01 Total Mean Abundance	1593.33	18 Relative Abundance Ephemeroptera	0.04
02 Generic Richness	39.00	19 EPT Generic Richness	16.00
03 Plecoptera Mean Abundance	8.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	58.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	3.02	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	208.59
06 Hilsenhoff Biotic Index	3.77	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	25.33
07 Relative Abundance - Chironomidae	0.28	28 EP Generic Richness/14	0.57
08 Relative Generic Richness Diptera	0.36	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	146.16		
11 <i>Cheumatopsyche</i> Abundance	199.17		
12 EPT Generic Richness/ Diptera	1.14		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	8.00		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	5.38		
(Family Functional Group)			
17 Chironomini Abundance (Family	25.56		
Functional Group)			

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Chimarra</i>	39.16
2	<i>Rheotanytarsus</i>	17.14
3	<i>Cheumatopsyche</i>	12.50
4	<i>Hydropsyche</i>	9.17
5	<i>Tvetenia</i>	6.75



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Waterbody: Mousam River - Station 391

Date Retrieved: 8/23/2010

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 25.8 deg C  
Dissolved Oxygen: 7.6 mg/l  
Specific Conductance: 133 uS/cm  
Velocity: 62 cm/s  
pH:  
Wetted Width: 10.7 m  
Bankfull Width: 12 m  
Depth: 45 cm

**Waterbody Information - Retrieval**

Temperature: 20.2 deg C  
Dissolved Oxygen: 8.2 mg/l  
Specific Conductance: 106 uS/cm  
Velocity: 52 cm/s  
pH: 6.86  
Wetted Width: 10.75 m  
Bankfull Width: 12 m  
Depth: 42 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Partly Open	Rolling
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Below POTW	Gravel 10 %
		Rubble/Cobble 70 %
		Sand 20 %

**Landcover Summary - 2004 Data**

Total Area (ac)	29468	High Int. Dev. %	2.0	Water %	6.9	Non-vegetated %	0.1
		Med Int. Dev. %	2.1	Wetland %	4.3	Tilled Agriculture %	0.5
		Low Int. Dev. %	3.6	Upland Woody %	73.2	Grassland %	5.3
		Development %	7.7	Natural %	77.5	Human Altered %	15.6
						Impervious %	6.1

**Sample Comments**

7/21/2010 JUVENILE FISH, SUBMERGED AQUATIC VEGETATION.



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Replicates: 3

Calculated: 3/28/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Acroneuria</i>	09020209042		8.00	0	PR		0.5
<i>Acroneuria abnormis</i>	09020209042121	1.33		0	PR	0.1	
<i>Acroneuria lycorias</i>	09020209042125	6.67			--	0.4	
<i>Boyeria</i>	09020301004		10.67	2	PR		0.7
<i>Boyeria vinosa</i>	09020301004012	10.67			--	0.7	
Calopterygidae	09020307	1.33	1.33		--	0.1	0.1
<i>Calopteryx</i>	09020307043		1.33	5	PR		0.1
<i>Calopteryx maculata</i>	09020307043088	1.33			--	0.1	
Baetidae	09020401	1.33			--	0.1	
<i>Baetis</i>	09020401001	2.67	4.24	4	CG	0.2	0.3
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.1	
<i>Acerpenna</i>	09020401007	2.67	4.24	5	CG	0.2	0.3
<i>Acerpenna pygmaea</i>	09020401007011	1.33			--	0.1	
<i>Iswaeon</i>	09020401015		15.53		--		1.0
<i>Iswaeon anoka</i>	09020401015001	14.67			--	0.9	
Heptageniidae	09020402	1.33	1.33		--	0.1	0.1
<i>Maccaffertium</i>	09020402015	10.67	17.33	4	SC	0.7	1.1
<i>Maccaffertium modestum</i>	09020402015051	6.67			--	0.4	
<i>Isonychia</i>	09020404018	8.00	10.67	2	CF	0.5	0.7
<i>Isonychia bicolor</i>	09020404018059	2.67			--	0.2	
<i>Tricorythodes</i>	09020411038	5.33	5.33	4	CG	0.3	0.3
Philopotamidae	09020601	12.00	12.00		--	0.8	0.8
<i>Chimarra</i>	09020601003	624.00	624.00	2	CF	39.2	39.2
<i>Neureclipsis</i>	09020603008	14.67	14.67	7	CF	0.9	0.9
Hydropsychidae	09020604	58.67			--	3.7	
<i>Cheumatopsyche</i>	09020604015	165.33	199.17	5	CF	10.4	12.5
<i>Hydropsyche</i>	09020604016	74.67	146.16	4	CF	4.7	9.2
<i>Hydropsyche sparna</i>	09020604016032	29.33			--	1.8	
<i>Hydropsyche depravata complex</i>	09020604016041	17.33			CF	1.1	
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.1	0.1
<i>Brachycentrus</i>	09020609043		25.33	0	CF		1.6
<i>Brachycentrus numerosus</i>	09020609043098	25.33			--	1.6	
<i>Oecetis</i>	09020618078		2.67	8	PR		0.2
<i>Oecetis persimilis</i>	09020618078157	2.67			--	0.2	
Corydalidae	09020701	1.33	1.33		--	0.1	0.1
<i>Paraponyx</i>	09020901002	1.33	1.33	5	SH	0.1	0.1
Chironomidae	09021011	4.00			--	0.3	
<i>Nilotanyus</i>	09021011012		1.35	6	PR		0.1



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<i>Nilotanypus fimbriatus</i>	09021011012027	1.33			--	0.1	
<i>Pentaneura</i>	09021011014		4.04	6	PR		0.3
<i>Pentaneura inconspicua</i>	09021011014028	4.00			--	0.3	
<i>Corynoneura</i>	09021011036	1.33	1.35	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037		5.38	7	SH		0.3
<i>Cricotopus bicinctus</i>	09021011037057	2.67			--	0.2	
<i>Cricotopus vierriensis</i>	09021011037071	2.67			--	0.2	
<i>Orthocladius</i>	09021011050	2.67	2.69	6	CG	0.2	0.2
<i>Rheocricotopus</i>	09021011057		24.21	6	CG		1.5
<i>Rheocricotopus robacki</i>	09021011057105	24.00			--	1.5	
<i>Thienemanniella</i>	09021011062		1.35	6	CG		0.1
<i>Thienemanniella xena</i>	09021011062110	1.33			--	0.1	
<i>Tvetenia</i>	09021011065		107.62	5	CG		6.8
<i>Tvetenia vitracies</i>	09021011065113	106.67			--	6.7	
<i>Rheotanytarsus</i>	09021011072	270.67	273.09	6	CF	17.0	17.1
<i>Tanytarsus</i>	09021011076	4.00	4.04	6	CF	0.3	0.3
<i>Microtendipes</i>	09021011094		12.11	6	CF		0.8
<i>Microtendipes rydalensis group</i>	09021011094168	12.00			--	0.8	
<i>Polypedilum</i>	09021011102	2.67	13.45	6	SH	0.2	0.8
<i>Polypedilum aviceps</i>	09021011102181	6.67			--	0.4	
<i>Polypedilum flavum</i>	09021011102182	4.00			--	0.3	
<i>Simulium</i>	09021012047	1.33	21.33	4	CF	0.1	1.3
<i>Simulium fibrinflatum</i>	09021012047059	1.33			--	0.1	
<i>Simulium penobscotensis</i>	09021012047063	4.00			--	0.3	
<i>Simulium jenningsi complex</i>	09021012047070	10.67			CF	0.7	
<i>Simulium venustum/verecundum complex</i>	09021012047072	4.00			CF	0.3	
<i>Hemerodromia</i>	09021016057	2.67	2.67	3	PR	0.2	0.2
<i>Macronychus</i>	09021113065		4.00	4	--		0.3
<i>Macronychus glabratus</i>	09021113065040	4.00			--	0.3	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.1	0.1
Hydrobiidae	10010104	1.33	1.33		--	0.1	0.1
<i>Amnicola</i>	10010104013		4.00		SC		0.3
<i>Amnicola limosa</i>	10010104013018	4.00			--	0.3	