



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

**Station Information**

<b>Station Number:</b> S-439	DEP Drainage: Piscataqua - Presumpscot - Saco
Waterbody: Great Works River - Station 439	HUC8: 01060003
Town: North Berwick	HUC8 Name: Piscataqua-Salmon Falls
Directions: UPSTREAM RTE 4 (LOWER END OF USGS SITE)	Latitude: 43 19 0.91 N
	Longitude: 70 44 23.57 W
	Stream Order: 3

**Sample Information**

<b>Log Number:</b> 1934	Type of Sample: ROCK BASKET	Date Deployed: 7/14/2010
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/17/2010

**Classification Attainment**

<b>Statutory Class:</b> B	<b>Final Determination:</b> B	Date: 1/24/2011
Model Result with P>.6: B	<b>Reason for Determination:</b> Model	
Date Last Calculated: 1/21/2011	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.34	Class A, B, or C	1.00
Class B	0.55	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.96	Class A	0.07
Class C or Non-Attainment	0.04	Class B or C or Non-Attainment	0.93

**Model Variables**

01 Total Mean Abundance	166.67	18 Relative Abundance Ephemeroptera	0.17
02 Generic Richness	41.00	19 EPT Generic Richness	16.00
03 Plecoptera Mean Abundance	2.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.35
04 Ephemeroptera Mean Abundance	29.00	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.68	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	4.89
06 Hilsenhoff Biotic Index	5.37	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	26.60
07 Relative Abundance - Chironomidae	0.26	28 EP Generic Richness/14	0.43
08 Relative Generic Richness Diptera	0.34	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	0.67		
12 EPT Generic Richness/ Diptera	1.14		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance	2.67		
(Family Functional Group)			
16 Tanypodinae Mean Abundance	2.82		
(Family Functional Group)			
17 Chironomini Abundance (Family	36.29		
Functional Group)			

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Microtendipes</i>	19.66
2	<i>Neureclipsis</i>	17.39
3	<i>Maccaffertium</i>	14.36
4	<i>Amnicola</i>	12.60
5	<i>Helicopsyche</i>	8.80



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**Log Number: 1934**

Waterbody: Great Works River - Station 439

Date Retrieved: 8/17/2010

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 22 deg C  
Dissolved Oxygen: 8.1 mg/l  
Specific Conductance: 81 uS/cm  
Velocity: 29 cm/s  
pH:  
Wetted Width: 13 m  
Bankfull Width: 13 m  
Depth: 57 cm

**Waterbody Information - Retrieval**

Temperature: 21.7 deg C  
Dissolved Oxygen: 8.3 mg/l  
Specific Conductance: 101 uS/cm  
Velocity: 23 cm/s  
pH: 6.95  
Wetted Width: 8 m  
Bankfull Width: 13 m  
Depth: 35 cm

**Water Chemistry - 8/17/2010**

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	1 ug/l
Nitrate+nitrite As N	0.04 mg/l	Total Phosphorus	0.016 mg/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	2.7 mg/l	Total Dissolved Solids	83 mg/l

**Summary of Habitat Characteristics**

Landuse Name

Canopy Cover

Terrain

Upland Conifer

Partly Open

Rolling

Upland Hardwood

Potential Stressor

Location

Substrate

Above Road Crossing

Boulder	15 %
Gravel	20 %
Rubble/Cobble	35 %
Sand	30 %

**Landcover Summary - 2004 Data**

Total Area (ac)	3467	High Int. Dev. %	0.7	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	0.5	Wetland %	6.0	Tilled Agriculture %	3.1
		Low Int. Dev. %	4.5	Upland Woody %	71.8	Grassland %	12.9
		Development %	5.7	Natural %	77.8	Human Altered %	22.2
						Impervious %	5.5

**Sample Comments**

8/17/2010 FISH.

7/14/2010 WATER HIGHER THAN NORMAL, BOTTOM NOT VISIBLE, 5" OF RAIN.



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**Aquatic Life Taxonomic Inventory Report**

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Subsample Factor: X1

Replicates: 3

Calculated: 1/21/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002		0.33		--		0.2
<i>Girardia tigrina</i>	03010102002001	0.33			--	0.2	
<i>Chaetogaster</i>	08020202002		0.33		--		0.2
<i>Chaetogaster limnaei</i>	08020202002004	0.33			--	0.2	
<i>Acroneuria</i>	09020209042	1.33	2.67	0	PR	0.8	1.6
<i>Acroneuria abnormis</i>	09020209042121	0.33		0	PR	0.2	
<i>Acroneuria lycorias</i>	09020209042125	1.00			--	0.6	
<i>Boyeria</i>	09020301004		2.33	2	PR		1.4
<i>Boyeria vinosa</i>	09020301004012	2.33			--	1.4	
Calopterygidae	09020307	0.67	0.67		--	0.4	0.4
<i>Argia</i>	09020309048	0.67	0.67	7	PR	0.4	0.4
<i>Baetis</i>	09020401001		1.33	4	CG		0.8
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.8	
<i>Acerpenna</i>	09020401007	1.00	2.00	5	CG	0.6	1.2
<i>Acerpenna macdunnoughi</i>	09020401007001	1.00			--	0.6	
<i>Proclleon</i>	09020401010	0.67	0.67		CG	0.4	0.4
Heptageniidae	09020402	1.67			--	1.0	
<i>Stenacron</i>	09020402014	1.00	1.07	7	SC	0.6	0.6
<i>Maccaffertium</i>	09020402015	4.33	23.93	4	SC	2.6	14.4
<i>Maccaffertium luteum</i>	09020402015049	15.33			--	9.2	
<i>Maccaffertium modestum</i>	09020402015051	2.67			--	1.6	
<i>Chimarra</i>	09020601003	0.33	0.33	2	CF	0.2	0.2
Polycentropodidae	09020603	0.33			--	0.2	
<i>Neureclipsis</i>	09020603008	28.67	28.99	7	CF	17.2	17.4
<i>Polycentropus</i>	09020603010	1.33	1.35	6	PR	0.8	0.8
<i>Cheumatopsyche</i>	09020604015	0.67	0.67	5	CF	0.4	0.4
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.2	0.2
<i>Protoptila</i>	09020606022	1.67	1.67	1	SC	1.0	1.0
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.2	0.2
<i>Lepidostoma</i>	09020611064	0.67	0.67	1	SH	0.4	0.4
<i>Helicopsyche</i>	09020616070		14.67	3	SC		8.8
<i>Helicopsyche borealis</i>	09020616070137	14.67			--	8.8	
<i>Oecetis</i>	09020618078	4.00	11.67	8	PR	2.4	7.0
<i>Oecetis persimilis</i>	09020618078157	7.67			--	4.6	
<i>Nigronia</i>	09020701003		1.00	0	PR		0.6
<i>Nigronia serricornis</i>	09020701003003	1.00			--	0.6	
Chironomidae	09021011	2.33			--	1.4	
<i>Ablabesmyia</i>	09021011001		2.47	8	PR		1.5



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<i>Ablabesmyia mallochii</i>	09021011001004	2.33			--	1.4	
<i>Labrundinia</i>	09021011008		0.35	7	PR		0.2
<i>Labrundinia pilosella</i>	09021011008022	0.33			--	0.2	
<i>Cricotopus</i>	09021011037		1.06	7	SH		0.6
<i>Cricotopus bicinctus</i>	09021011037057	1.00			--	0.6	
<i>Rheocricotopus</i>	09021011057		0.35	6	CG		0.2
<i>Rheocricotopus robacki</i>	09021011057105	0.33			--	0.2	
<i>Thienemanniella</i>	09021011062		0.35	6	CG		0.2
<i>Thienemanniella lobapodema</i>	09021011062114	0.33			--	0.2	
<i>Rheotanytarsus</i>	09021011072	0.67	0.70	6	CF	0.4	0.4
<i>Tanytarsus</i>	09021011076	0.67	0.70	6	CF	0.4	0.4
<i>Dicrotendipes</i>	09021011085		0.35	8	CG		0.2
<i>Dicrotendipes modestus</i>	09021011085151	0.33			--	0.2	
<i>Microtendipes</i>	09021011094		32.76	6	CF		19.7
<i>Microtendipes rydalsensis group</i>	09021011094168	31.00			--	18.6	
<i>Nilothauma</i>	09021011095	1.00	1.06	2	--	0.6	0.6
<i>Phaenopsectra</i>	09021011101		0.35	7	SC		0.2
<i>Phaenopsectra obediens</i>	09021011101182	0.33			SC	0.2	
<i>Polypedilum</i>	09021011102		1.76	6	SH		1.1
<i>Polypedilum aviceps</i>	09021011102181	0.33			--	0.2	
<i>Polypedilum flavum</i>	09021011102182	1.00			--	0.6	
<i>Polypedilum illinoense group</i>	09021011102185	0.33			--	0.2	
<i>Helopelopia</i>	09021011114	1.00	1.06	6	PR	0.6	0.6
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.4	0.4
<i>Psephenus</i>	09021108058		0.33	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.2	
<i>Macronychus</i>	09021113065		0.33	4	--		0.2
<i>Macronychus glabratus</i>	09021113065040	0.33			--	0.2	
<i>Amnicola</i>	10010104013		21.00		SC		12.6
<i>Amnicola limosa</i>	10010104013018	11.67			--	7.0	
<i>Amnicola grana</i>	10010104013019	9.33			--	5.6	
<i>Physa</i>	10010202026	3.00	3.00		SC	1.8	1.8
<i>Musculium</i>	10020201001		0.33		CF		0.2
<i>Musculium securis</i>	10020201001003	0.33			CF	0.2	