



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

Station Information

**Station Number: S-312**  
Waterbody: Birch Stream - Station 312  
Town: Bangor  
Directions: DOWNSTREAM OF OHIO STREET CROSSING

DEP Drainage: Penobscot  
HUC8: 01020005  
HUC8 Name: Lower Penobscot  
Latitude: 44 49 25.43 N  
Longitude: 68 48 27.7 W  
Stream Order: 1

Sample Information

**Log Number: 1923**  
Subsample Factor: X1  
Type of Sample: ROCK BAG  
Replicates: 3  
Date Deployed: 7/9/2010  
Date Retrieved: 8/12/2010

Classification Attainment

**Statutory Class: B**  
Model Result with P>.6: NA  
Date Last Calculated: 1/25/2011  
**Final Determination: NA**  
**Reason for Determination: Model**  
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.00	Class A, B, or C	0.00
Class B	0.01	Non-Attainment	1.00
B or Better Model		A Model	
Class A or B	0.00	Class A	0.01
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.99

Model Variables

01 Total Mean Abundance	808.33	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	30.00	19 EPT Generic Richness	5.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	13.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	1.35	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	1.89
06 Hilsenhoff Biotic Index	4.56	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.02	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.40	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	25.67		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.42		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.92		
17 Chironomini Abundance (Family Functional Group)	2.27		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Gyraulus</i>	79.96
2	Basommatophora	5.73
3	<i>Erpobdella</i>	4.78
4	<i>Hydropsyche</i>	3.18
5	<i>Baetis</i>	1.65



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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 25.7 deg C  
Dissolved Oxygen: 9.8 mg/l  
Specific Conductance: 540 uS/cm  
Velocity: 18 cm/s  
pH:  
Wetted Width: 6.85 m  
Bankfull Width: 9.3 m  
Depth: 30 cm

**Waterbody Information - Retrieval**

Temperature: 20.7 deg C  
Dissolved Oxygen: 8.6 mg/l  
Specific Conductance: 450 uS/cm  
Velocity: 22 cm/s  
pH: 7.96  
Wetted Width: 6.85 m  
Bankfull Width: 9.3 m  
Depth: 30 cm

**Water Chemistry - 8/12/2010**

Ammonia As Nitrogen	0.03 mg/l	Soluble Reactive Phosphorus	ug/l
Nitrate+nitrite As N	0.26 mg/l	Total Phosphorus	0.02 mg/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	2.2 mg/l
Dissolved Organic Carbon	2.5 mg/l	Total Dissolved Solids	270 mg/l

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Partly Open	Rolling
Urban		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Habitat	Below Airport	Bedrock 5 %
Altered Hydrology	Below Road Crossing	Boulder 65 %
Nps Pollution	Below Urban NPS	Gravel 5 %
		Rubble/Cobble 25 %

**Landcover Summary - 2004 Data**

Total Area (ac)	1880	High Int. Dev. %	31.2	Water %	0.0	Non-vegetated %	0.1
		Med Int. Dev. %	10.4	Wetland %	0.1	Tilled Agriculture %	0.1
		Low Int. Dev. %	11.3	Upland Woody %	12.3	Grassland %	0.3
		Development %	52.8	Natural %	12.4	Human Altered %	87.6
						Impervious %	45.9

**Sample Comments**

7/9/2010 WATER LOOKS MILKY.



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Replicates: 3

Calculated: 1/25/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	3.00	3.00		PR	0.4	0.4
Naididae	08020202	0.33	0.33		--	0.0	0.0
<i>Nais</i>	08020202009		1.33		CG		0.2
<i>Nais communis</i>	08020202009005	0.33			--	0.0	
<i>Nais simplex</i>	08020202009008	1.00			--	0.1	
Erpobdellidae	08030203	1.00	1.00		--	0.1	0.1
<i>Erpobdella</i>	08030203002		38.67		--		4.8
<i>Erpobdella obscura</i>	08030203002006	38.67			--	4.8	
Coenagrionidae	09020309	0.33	0.33		--	0.0	0.0
Baetidae	09020401	0.33	0.33		--	0.0	0.0
<i>Baetis</i>	09020401001		13.33	4	CG		1.6
<i>Baetis flavistriga</i>	09020401001004	13.33			--	1.6	
<i>Hydropsyche</i>	09020604016	4.33	25.67	4	CF	0.5	3.2
<i>Hydropsyche morosa</i>	09020604016030	18.33			--	2.3	
<i>Hydropsyche depravata complex</i>	09020604016041	3.00			CF	0.4	
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.2	0.2
<i>Helicopsyche</i>	09020616070		1.00	3	SC		0.1
<i>Helicopsyche borealis</i>	09020616070137	1.00			--	0.1	
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.0	0.0
Chironomidae	09021011	1.67			--	0.2	
<i>Conchapelopia</i>	09021011004	3.67	4.16	6	PR	0.5	0.5
<i>Pentaneura</i>	09021011014		0.38	6	PR		0.0
<i>Pentaneura inconspicua</i>	09021011014028	0.33			--	0.0	
<i>Procladius</i>	09021011015	0.33	0.38	9	PR	0.0	0.0
<i>Pagastia</i>	09021011025		0.38	1	--		0.0
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.0	
<i>Nanocladius</i>	09021011049		0.76	3	CG		0.1
<i>Nanocladius distinctus</i>	09021011049087	0.33			--	0.0	
<i>Nanocladius spinipennis</i>	09021011049090	0.33			--	0.0	
<i>Rheotanytarsus</i>	09021011072	3.33	3.78	6	CF	0.4	0.5
<i>Tanytarsus</i>	09021011076	1.67	1.89	6	CF	0.2	0.2
<i>Cryptochironomus</i>	09021011082	0.33	0.38	8	PR	0.0	0.0
<i>Paratendipes</i>	09021011100		0.76	8	CG		0.1
<i>Paratendipes albimanus group</i>	09021011100176	0.67			--	0.1	
<i>Phaenopsectra</i>	09021011101		1.14	7	SC		0.1
<i>Phaenopsectra obediens</i>	09021011101182	1.00			SC	0.1	
<i>Neoplasia</i>	09021016064	0.33	0.33		PR	0.0	0.0
<i>Dubiraphia</i>	09021113064	0.67	0.67	6	--	0.1	0.1



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		Actual	Adjusted			Actual	Adjusted
<i>Lebertia</i>	09030105001	1.33	1.33		--	0.2	0.2
Basommatophora	100102	46.33	46.33		--	5.7	5.7
Lymnaeidae	10010201	5.33			--	0.7	
<i>Fossaria</i>	10010201021	3.67	8.56		--	0.5	1.1
<i>Lymnaea</i>	10010201022	0.33	0.78		SC	0.0	0.1
<i>Physa</i>	10010202026	3.00	3.00		SC	0.4	0.4
<i>Gyraulus</i>	10010203029		646.33		SC		80.0
<i>Gyraulus parvus</i>	10010203029057	646.33			--	80.0	
Sphaeriidae	10020201	0.33	0.33		CF	0.0	0.0