



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

Station Information

Station Number: S-312	DEP Drainage: Penobscot
Waterbody: Birch Stream - Station 312	HUC8: 01020005
Town: Bangor	HUC8 Name: Lower Penobscot
Directions: DOWNSTREAM OF OHIO STREET CROSSING	Latitude: 44 49 25.43 N
	Longitude: 68 48 27.7 W
	Stream Order: 1

Sample Information

Log Number: 1646	Type of Sample: ROCK BAG	Date Deployed: 7/16/2007
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/13/2007

Classification Attainment

Statutory Class: B	Final Determination: C	Date: 4/7/2008
Model Result with P>.6: C	Reason for Determination: Model	
Date Last Calculated: 3/18/2009	Comments:	

Model Probabilities

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

Model Variables

01 Total Mean Abundance	277.33	18 Relative Abundance Ephemeroptera	0.06
02 Generic Richness	32.00	19 EPT Generic Richness	4.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	30.80
04 Ephemeroptera Mean Abundance	16.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.72	25 Sum of Abundances: <i>Cheumatopsyche</i> <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	30.07
06 Hilsenhoff Biotic Index	5.85	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.58	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.59	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	2.67		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.21		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	52.07		
17 Chironomini Abundance (Family Functional Group)	12.47		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Conchapelopia</i>	18.77
2	<i>Nephelopsis</i>	16.11
3	<i>Gyraulus</i>	11.30
4	<i>Micropsectra</i>	11.11
5	<i>Rheotanytarsus</i>	7.14



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Date Retrieved: 8/13/2007

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT
Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 22.1 deg C
Dissolved Oxygen: 6.8 mg/l
Specific Conductance: 594 uS/cm
Velocity: 22 cm/s
pH: 7.63
Wetted Width: 4.2 m
Bankfull Width: 9.7 m
Depth: 20 cm

Waterbody Information - Retrieval

Temperature: 20.7 deg C
Dissolved Oxygen: 7.7 mg/l
Specific Conductance: 606 uS/cm
Velocity: 12 cm/s
pH: 7.09
Wetted Width: 5.1 m
Bankfull Width: 9.8 m
Depth: 26 cm

Water Chemistry - Retrieval

Ammonia As Nitrogen	0.04 mg/l	Soluble Reactive Phosphorus	2 ug/l
Nitrate+nitrite As N	0.26 mg/l	Total Phosphorus	0.042 mg/l
Total Kjeldahl Nitrogen	0.7 mg/l	Total Suspended Solids	6.8 mg/l
Dissolved Organic Carbon	6.9 mg/l	Total Dissolved Solids	330 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Hardwood	Canopy Partly Open	Rolling Terrain
Urban		
<u>Stressor</u>	<u>Location</u>	<u>Substrate</u>
Altered Hydrology Stressor	Below Airport	Boulder 65 %
Toxic Organics Stressor	Below Urban NPS	Gravel 10 %
Urban Runoff Stressor		Rubble/Cobble 20 %
		Sand 5 %

Landcover Summary - 2004 Data

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

Sample Comments

STREAM BANK EROSION



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Aquatic Life Taxonomic Inventory Report

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Subsample Factor: X1

Replicates: 3

Calculated: 3/18/2009

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	0.67	0.67		PR	0.2	0.2
<i>Nais</i>	08020202009		1.00		CG		0.4
<i>Nais communis</i>	08020202009005	1.00			--	0.4	
Tubificidae	08020203	0.67	0.67		--	0.2	0.2
Lumbricidae	08020205	2.33	2.33		--	0.8	0.8
Hirudinea	0803	0.67	0.67		--	0.2	0.2
<i>Nepheleopsis</i>	08030301004		44.67		--		16.1
<i>Nepheleopsis obscura</i>	08030301004001	44.67			--	16.1	
<i>Baetis</i>	09020401001		16.67	4	CG		6.0
<i>Baetis flavistriga</i>	09020401001004	16.67			--	6.0	
<i>Hydropsyche</i>	09020604016		2.67	4	CF		1.0
<i>Hydropsyche depravata complex</i>	09020604016041	2.67			CF	1.0	
<i>Hydroptila</i>	09020607026	1.67	1.67	6	P	0.6	0.6
<i>Oecetis</i>	09020618078		0.33	8	PR		0.1
<i>Oecetis persimilis</i>	09020618078157	0.33			--	0.1	
<i>Antocha</i>	09021001004	0.33	0.33	3	CG	0.1	0.1
<i>Limonia</i>	09021001010	0.33	0.33	6	SH	0.1	0.1
Chironomidae	09021011	14.67			--	5.3	
<i>Conchapelopia</i>	09021011004	47.33	52.07	6	PR	17.1	18.8
<i>Pagastia</i>	09021011025		0.37	1	--		0.1
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.1	
<i>Cricotopus</i>	09021011037	3.33	14.67	7	SH	1.2	5.3
<i>Cricotopus bicinctus</i>	09021011037057	8.67			--	3.1	
<i>Cricotopus sylvestris</i>	09021011037067	1.33			--	0.5	
<i>Eukiefferiella</i>	09021011041		0.37	8	CG		0.1
<i>Eukiefferiella claripennis group</i>	09021011041075	0.33			--	0.1	
<i>Nanocladius</i>	09021011049	2.67	4.03	3	CG	1.0	1.5
<i>Nanocladius distinctus</i>	09021011049087	1.00			--	0.4	
<i>Parametrioctenus</i>	09021011053	2.33	2.57	5	CG	0.8	0.9
<i>Tvetenia</i>	09021011065		1.47	5	CG		0.5
<i>Tvetenia paucunca</i>	09021011065114	1.33			--	0.5	
<i>Micropsectra</i>	09021011070	28.00	30.80	7	CG	10.1	11.1
<i>Paratanytarsus</i>	09021011071	6.67	7.33	6	--	2.4	2.6
<i>Rheotanytarsus</i>	09021011072	18.00	19.80	6	CF	6.5	7.1
<i>Tanytarsus</i>	09021011076	14.00	15.40	6	CF	5.0	5.6
<i>Phaenopsectra</i>	09021011101		4.77	7	SC		1.7
<i>Phaenopsectra flavipes</i>	09021011101179	4.33			SC	1.6	
<i>Polypedilum</i>	09021011102		7.70	6	SH		2.8



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<i>Polypedilum flavum</i>	09021011102182	4.33			--	1.6	
<i>Polypedilum illinoense group</i>	09021011102185	2.67			--	1.0	
<i>Simulium</i>	09021012047		9.00	4	CF		3.2
<i>Simulium vittatum</i>	09021012047064	9.00			--	3.2	
Empididae	09021016			6	--		
<i>Hemerodromia</i>	09021016057	1.67	1.67	3	PR	0.6	0.6
<i>Neoplasta</i>	09021016064	0.33	0.33		PR	0.1	0.1
Dolichopodidae	09021017	0.33	0.33	4	--	0.1	0.1
<i>Dubiraphia</i>	09021113064	0.33	0.33	6	--	0.1	0.1
<i>Hydrozetes</i>	09030115001	0.33	0.33		--	0.1	0.1
<i>Gyraulus</i>	10010203029	31.33	31.33		SC	11.3	11.3
<i>Helisoma</i>	10010203030	0.67	0.67		SC	0.2	0.2