



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

Station Information

Station Number: S-314
Waterbody: Penjajawoc Stream - Station 314
Town: Bangor
Directions: DOWNSTREAM OF I-95 CROSSING

DEP Drainage: Penobscot
HUC8: 01020005
HUC8 Name: Lower Penobscot
Latitude: 44 49 46.46 N
Longitude: 68 44 31.46 W
Stream Order: 2

Sample Information

Log Number: 2024
Subsample Factor: X4

Type of Sample: ROCK BAG
Replicates: 3

Date Deployed: 7/8/2011
Date Retrieved: 8/9/2011

Classification Attainment

Statutory Class: B
Model Result with P>.6: C
Date Last Calculated: 2/27/2012

Final Determination: C
Reason for Determination: Model
Comments:

Date: 3/1/2012

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.00	Class A, B, or C	1.00
Class B	0.04	Non-Attainment	0.00
Class C			
0.94			
0.02			
B or Better Model		A Model	
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	1066.67	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	60.00	19 EPT Generic Richness	13.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.48
04 Ephemeroptera Mean Abundance	20.00	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.07	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	118.85
06 Hilsenhoff Biotic Index	5.27	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.33
07 Relative Abundance - Chironomidae	0.39	28 EP Generic Richness/14	0.29
08 Relative Generic Richness Diptera	0.30	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	169.75		
11 <i>Cheumatopsyche</i> Abundance	86.25		
12 EPT Generic Richness/ Diptera Generic Richness	0.72		
13 Relative Abundance - Oligochaeta	0.01		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	1.48		
17 Chironomini Abundance (Family Functional Group)	32.60		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Rheotanytarsus</i>	28.48
2	<i>Hydropsyche</i>	15.91
3	<i>Cheumatopsyche</i>	8.09
4	<i>Psephenus</i>	5.75
5	<i>Hydroptila</i>	4.25
6	<i>Amnicola</i>	4.25



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	19.5 deg C
Dissolved Oxygen:	8.6 mg/l
Specific Conductance:	469 uS/cm
Velocity:	30 cm/s
pH:	7.35
Wetted Width:	2.5 m
Bankfull Width:	4 m
Depth:	25 cm

Waterbody Information - Retrieval

Temperature:	19.6 deg C
Dissolved Oxygen:	8.1 mg/l
Specific Conductance:	844 uS/cm
Velocity:	24 cm/s
pH:	7.61
Wetted Width:	2.65 m
Bankfull Width:	4 m
Depth:	26 cm

Water Chemistry - 8/9/2011

Ammonia As Nitrogen	0.13 mg/l	Soluble Reactive Phosphorus	5 ug/l
Nitrate+nitrite As N	0.28 mg/l	Total Phosphorus	0.028 mg/l
Total Kjeldahl Nitrogen	0.4 mg/l	Total Suspended Solids	3.3 mg/l
Dissolved Organic Carbon	4.3 mg/l	Total Dissolved Solids	570 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Urban	Open	Flat
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Urban Runoff	Below Urban NPS	Boulder 40 %
		Gravel 10 %
		Rubble/Cobble 25 %
		Sand 15 %
		Silt 10 %

Landcover Summary - 2004 Data

Total Area (ac)	3929	High Int. Dev. %	6.8	Water %	1.8	Non-vegetated %	0.1
		Med Int. Dev. %	2.8	Wetland %	10.0	Tilled Agriculture %	6.9
		Low Int. Dev. %	3.6	Upland Woody %	53.8	Grassland %	8.3
		Development %	13.2	Natural %	63.8	Human Altered %	34.4
						Impervious %	10.2

Sample Comments

7/8/11: LARGE AMOUNT OF ELODEA. URBAN RUNOFF: BELOW 95.
8/9/11: FISH OBSERVED.



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Replicates: 3

Calculated: 2/27/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Chaetogaster</i>	08020202002		1.33		--		0.1
<i>Chaetogaster diastrophus</i>	08020202002002	1.33			--	0.1	
<i>Pristina</i>	08020202004	2.67	2.67		--	0.3	0.3
<i>Nais</i>	08020202009		2.67		CG		0.3
<i>Nais communis</i>	08020202009005	1.33			--	0.1	
<i>Nais simplex</i>	08020202009008	1.33			--	0.1	
<i>Glossiphonia</i>	08030101004		1.33		--		0.1
<i>Glossiphonia complanata</i>	08030101004001	1.33			--	0.1	
<i>Placobdella</i>	08030101006		1.33		--		0.1
<i>Placobdella phalera</i>	08030101006006	1.33			--	0.1	
Hirudinidae	08030201	1.33	1.33		--	0.1	0.1
<i>Erpobdella</i>	08030203002		1.33		--		0.1
<i>Erpobdella microstoma</i>	08030203002005	1.33			--	0.1	
<i>Caecidotea</i>	09010101001	20.00	25.33	8	SH	1.9	2.4
<i>Caecidotea communis</i>	09010101001001	5.33			--	0.5	
<i>Hyaella</i>	09010203006		24.00	8	CG		2.3
<i>Hyaella azteca</i>	09010203006011	24.00			--	2.3	
<i>Boyeria</i>	09020301004		5.33	2	PR		0.5
<i>Boyeria vinosa</i>	09020301004012	5.33			--	0.5	
<i>Ischnura</i>	09020309052	1.33	1.33	9	PR	0.1	0.1
Baetidae	09020401	1.33			--	0.1	
<i>Baetis</i>	09020401001	2.67	10.05	4	CG	0.3	0.9
<i>Baetis flavistriga</i>	09020401001004	6.67			--	0.6	
<i>Acerpenna</i>	09020401007	5.33	7.18	5	CG	0.5	0.7
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.1	
<i>Proclleon</i>	09020401010	1.33	1.44		CG	0.1	0.1
<i>Maccaffertium</i>	09020402015		1.33	4	SC		0.1
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.1	
<i>Psychomyia</i>	09020602005		1.33	2	CG		0.1
<i>Psychomyia flavida</i>	09020602005006	1.33			--	0.1	
<i>Nyctiophylax</i>	09020603009		1.33	5	PR		0.1
<i>Nyctiophylax moestus</i>	09020603009013	1.33			--	0.1	
Hydropsychidae	09020604	6.67			--	0.6	
<i>Cheumatopsyche</i>	09020604015	84.00	86.25	5	CF	7.9	8.1
<i>Hydropsyche</i>	09020604016	80.00	169.75	4	CF	7.5	15.9
<i>Hydropsyche sparna</i>	09020604016032	1.33			--	0.1	
<i>Hydropsyche depravata complex</i>	09020604016041	84.00			CF	7.9	
<i>Hydroptila</i>	09020607026	45.33	45.33	6	P	4.3	4.3



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		Actual	Adjusted			Actual	Adjusted
<i>Micrasema</i>	09020609044		2.67	2	SH		0.3
<i>Micrasema wataga</i>	09020609044101	2.67			--	0.3	
<i>Pycnopsyche</i>	09020610049	6.67	6.67	4	SH	0.6	0.6
<i>Helicopsyche</i>	09020616070		17.33	3	SC		1.6
<i>Helicopsyche borealis</i>	09020616070137	17.33			--	1.6	
Leptoceridae	09020618				--		
<i>Mystacides</i>	09020618075		1.33	4	CG		0.1
<i>Mystacides sepulchralis</i>	09020618075147	1.33			--	0.1	
<i>Tipula</i>	09021001002	4.00	4.00	4	SH	0.4	0.4
Chironomidae	09021011	41.33			--	3.9	
<i>Labrundinia</i>	09021011008		1.48	7	PR		0.1
<i>Labrundinia pilosella</i>	09021011008022	1.33			--	0.1	
<i>Nilotanyus fimbriatus</i>	09021011012027				--		
<i>Pagastia</i>	09021011025		4.45	1	--		0.4
<i>Pagastia orthogonia</i>	09021011025001	4.00			--	0.4	
<i>Cricotopus</i>	09021011037	1.33	22.23	7	SH	0.1	2.1
<i>Cricotopus bicinctus</i>	09021011037057	5.33			--	0.5	
<i>Cricotopus trifascia</i>	09021011037070	1.33			--	0.1	
<i>Cricotopus patens</i>	09021011037075	1.33			--	0.1	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	10.67			SH	1.0	
<i>Nanocladius</i>	09021011049	6.67	7.41	3	CG	0.6	0.7
<i>Parametriocnemus</i>	09021011053	5.33	5.93	5	CG	0.5	0.6
<i>Thienemanniella</i>	09021011062		8.89	6	CG		0.8
<i>Thienemanniella xena</i>	09021011062110	8.00			--	0.8	
<i>Tvetenia</i>	09021011065		13.34	5	CG		1.3
<i>Tvetenia vitracies</i>	09021011065113	6.67			--	0.6	
<i>Tvetenia paucunca</i>	09021011065114	5.33			--	0.5	
<i>Micropsectra</i>	09021011070		1.48	7	CG		0.1
<i>Micropsectra polita</i>	09021011070124	1.33		7	--	0.1	
<i>Rheotanytarsus</i>	09021011072	273.33	303.81	6	CF	25.6	28.5
<i>Tanytarsus</i>	09021011076	9.33	10.37	6	CF	0.9	1.0
<i>Glyptotendipes</i>	09021011088	1.33	1.48	10	SH	0.1	0.1
<i>Microtendipes</i>	09021011094		4.45	6	CF		0.4
<i>Microtendipes pedellus group</i>	09021011094166	4.00			--	0.4	
<i>Paratendipes</i>	09021011100		1.48	8	CG		0.1
<i>Paratendipes albimanus group</i>	09021011100176	1.33			--	0.1	
<i>Phaenopsectra</i>	09021011101		4.45	7	SC		0.4
<i>Phaenopsectra obediens</i>	09021011101182	4.00			SC	0.4	



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<i>Polypedilum</i>	09021011102		20.75	6	SH		1.9
<i>Polypedilum flavum</i>	09021011102182	17.33			--	1.6	
<i>Polypedilum illinoense group</i>	09021011102185	1.33			--	0.1	
<i>Simulium</i>	09021012047	1.33	5.33	4	CF	0.1	0.5
<i>Simulium vittatum</i>	09021012047064	2.67			--	0.3	
<i>Simulium venustum/verecundum</i> <i>complex</i>	09021012047072	1.33			CF	0.1	
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.1	0.1
<i>Haliphus</i>	09021101001	1.33	1.33		P	0.1	0.1
<i>Peltodytes</i>	09021101002	1.33	1.33		P	0.1	0.1
<i>Agabus</i>	09021103016	1.33	1.33		PR	0.1	0.1
<i>Sperchopsis</i>	09021105050	5.33	5.33		--	0.5	0.5
<i>Psephenus</i>	09021108058		61.33	4	SC		5.8
<i>Psephenus herricki</i>	09021108058028	61.33			--	5.8	
<i>Dubiraphia</i>	09021113064	14.67	14.67	6	--	1.4	1.4
<i>Macronychus</i>	09021113065		6.67	4	--		0.6
<i>Macronychus glabratus</i>	09021113065040	6.67			--	0.6	
<i>Optioservus</i>	09021113067	6.67	8.00	3	SC	0.6	0.8
<i>Optioservus fastiditus</i>	09021113067044	1.33			--	0.1	
<i>Stenelmis</i>	09021113070	8.00	18.67	5	SC	0.8	1.8
<i>Stenelmis crenata</i>	09021113070055	10.67			--	1.0	
<i>Hydrozetes</i>	09030115001	1.33	1.33		--	0.1	0.1
<i>Amnicola</i>	10010104013		45.33		SC		4.3
<i>Amnicola limosa</i>	10010104013018	45.33			--	4.3	
<i>Basommatophora</i>	100102	2.67	2.67		--	0.3	0.3
<i>Lymnaea</i>	10010201022	4.00	5.33		SC	0.4	0.5
<i>Lymnaea columella</i>	10010201022038	1.33			--	0.1	
<i>Stagnicola</i>	10010201025	1.33	1.33		--	0.1	0.1
<i>Physa</i>	10010202026	2.67	2.67		SC	0.3	0.3
<i>Gyraulus</i>	10010203029		21.33		SC		2.0
<i>Gyraulus parvus</i>	10010203029057	21.33			--	2.0	
<i>Helisoma</i>	10010203030		1.33		SC		0.1
<i>Helisoma trivolvis</i>	10010203030061	1.33			--	0.1	
<i>Ferrissia</i>	10010204035	5.33	22.67		SC	0.5	2.1
<i>Ferrissia fragilis</i>	10010204035064	2.67			--	0.3	
<i>Ferrissia rivularis</i>	10010204035066	14.67			--	1.4	
<i>Sphaerium</i>	10020201003		1.33		CF		0.1
<i>Sphaerium striatinum</i>	10020201003024	1.33			--	0.1	