



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

Station Information

Station Number: S-315	River Basin: Penobscot
Waterbody: Penjajawoc Stream - Station 315	HUC8 Name: Lower Penobscot
Town: Bangor	Latitude: 44 49 8.65 N
Directions: UPSTREAM OF RT. 2 CROSSING	Longitude: 68 43 52.45 W
	Stream Order: 3

Sample Information

Log Number: 2472	Type of Sample: ROCK BAG	Date Deployed: 7/11/2016
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/8/2016

Classification Attainment

Statutory Class: B	Final Determination: NA	Date: 8/3/2017
Model Result with $P \geq 0.6$ : NA	Reason for Determination: Model	
Date Last Calculated: 7/21/2017	Comments:	

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.00	Class C	0.29	Class A, B, or C	0.00
Class B	0.00	NA	0.71	Non-Attainment	1.00
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	474.33	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	47.00	19 EPT Generic Richness	11.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	9.33
04 Ephemeroptera Mean Abundance	0.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.91	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	91.67
06 Hilsenhoff Biotic Index	5.54	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.68	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.43	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.67		
11 <i>Cheumatopsyche</i> Abundance	10.33		
12 EPT Generic Richness/ Diptera Generic Richness	0.55		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	32.00		
17 Chironomini Abundance (Family Functional Group)	100.67		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Microtendipes</i>	17.57
2	<i>Parametriocnemus</i>	15.39
3	<i>Tanytarsus</i>	14.34
4	<i>Girardia</i>	9.07
5	<i>Dubiraphia</i>	7.52



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Town: Bangor

Date Deployed: 7/11/2016

**Log Number: 2472**

Waterbody: Penjajawoc Stream - Station 315

Date Retrieved: 8/8/2016

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

**Waterbody Information - Deployment**

Temperature: 19.9 deg C  
Dissolved Oxygen: 10.62 mg/l  
Dissolved Oxygen Saturation: 116.2 %  
Specific Conductance: 805 uS/cm  
Velocity: 12.2 cm/s  
pH: 8.17  
Wetted Width: 5.5 m  
Bankfull Width: 8.5 m  
Depth: 25 cm

**Waterbody Information - Retrieval**

Temperature: 22.1 deg C  
Dissolved Oxygen: 11.55 mg/l  
Dissolved Oxygen Saturation: 132.2 %  
Specific Conductance: 1168 uS/cm  
Velocity:  
pH: 8.26  
Wetted Width: 5.1 m  
Bankfull Width: 8.5 m  
Depth: 20 cm

**Water Chemistry - 8/8/2016**

Nitrate+nitrite As N	0.03 mg/l	Total Phosphorus	11 ug/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	4.6 mg/l	Total Dissolved Solids	620 mg/l
Orthophosphate As Phosphorus	2 ug/l		

**Summary of Habitat Characteristics**

Landuse Name

Canopy Cover

Terrain

Swamp Hardwood  
Upland Hardwood  
Urban

Partly Open

Rolling

Potential Stressor

Location

Substrate

Urban Runoff

Above Road Crossing  
Below Urban NPS

Boulder 25 %  
Gravel 10 %  
Rubble/Cobble 50 %  
Sand 15 %

**Landcover Summary - 2004 Data**

Total Area (ac)	5567	High Int. Dev. %	8.0	Water %	1.3	Non-vegetated %	0.1
		Med Int. Dev. %	3.8	Wetland %	7.4	Tilled Agriculture %	6.4
		Low Int. Dev. %	4.4	Upland Woody %	50.8	Grassland %	8.3
		Development %	16.2	Natural %	58.3	Human Altered %	40.4
						Impervious %	12.8

**Sample Comments**

7/11/2016: SILTY.

VISIBLE FLOW AT RETRIEVAL. 8/8/2016: SILTY.



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**Aquatic Life Taxonomic Inventory Report**

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Subsample Factor: X1

Replicates: 3

Calculated: 7/21/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Girardia</i>	03010102002	43.00	43.00		--	9.1	9.1
Naididae	08020202	1.67	1.67		--	0.4	0.4
<i>Nais</i>	08020202009	0.67	0.67		CG	0.1	0.1
Erpobdellidae	08030203	0.33	0.33		--	0.1	0.1
<i>Hyaella</i>	09010203006	8.00	8.00	8	CG	1.7	1.7
<i>Boyeria</i>	09020301004		1.33	2	PR		0.3
<i>Boyeria grafiana</i>	09020301004011	1.33			--	0.3	
<i>Calopteryx</i>	09020307043	0.67	0.67	5	PR	0.1	0.1
<i>Ischnura</i>	09020309052	0.33	0.33	9	PR	0.1	0.1
<i>Procloeon</i>	09020401010	0.33	0.33		CG	0.1	0.1
<i>Nyctiophylax</i>	09020603009	2.00	2.00	5	PR	0.4	0.4
<i>Polycentropus</i>	09020603010	26.00	26.00	6	PR	5.5	5.5
Hydropsychidae	09020604				--		
<i>Cheumatopsyche</i>	09020604015	10.33	10.33	5	CF	2.2	2.2
<i>Hydropsyche</i>	09020604016		0.67	4	CF		0.1
<i>Hydropsyche bronta</i>	09020604016029	0.33			--	0.1	
<i>Hydropsyche sparna</i>	09020604016032	0.33			--	0.1	
<i>Hydroptila</i>	09020607026	2.33	2.33	6	P	0.5	0.5
Phryganeidae	09020608	0.33	0.33		--	0.1	0.1
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.1	0.1
<i>Helicopsyche</i>	09020616070	1.33	1.33	3	SC	0.3	0.3
<i>Mystacides</i>	09020618075		1.67	4	CG		0.4
<i>Mystacides sepulchralis</i>	09020618075147	1.67			--	0.4	
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.1	0.1
<i>Nigronia</i>	09020701003		0.67	0	PR		0.1
<i>Nigronia serricornis</i>	09020701003003	0.67			--	0.1	
<i>Antocha</i>	09021001004	0.67	0.67	3	CG	0.1	0.1
Ceratopogonidae	09021010				--		
Chironomidae	09021011				--		
<i>Ablabesmyia</i>	09021011001	1.33	1.33	8	PR	0.3	0.3
<i>Nilotanytus</i>	09021011012		5.33	6	PR		1.1
<i>Nilotanytus fimbriatus</i>	09021011012027	5.33			--	1.1	
<i>Thienemannimyia</i>	09021011020		25.33	3	PR		5.3
<i>Thienemannimyia group</i>	09021011020041	25.33			--	5.3	
<i>Pagastia</i>	09021011025	5.33	5.33	1	--	1.1	1.1
<i>Potthastia</i>	09021011026		1.33	2	CG		0.3
<i>Potthastia gaedii</i>	09021011026045	1.33			--	0.3	



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<i>Cricotopus</i>	09021011037		12.00	7	SH		2.5
<i>Cricotopus bicinctus</i>	09021011037057	10.67			--	2.2	
<i>Cricotopus luciae</i>	09021011037073	1.33			--	0.3	
<i>Parakiefferiella</i>	09021011052	4.00	4.00		CG	0.8	0.8
<i>Parametriocnemus</i>	09021011053	73.00	73.00	5	CG	15.4	15.4
<i>Tvetenia</i>	09021011065		1.33	5	CG		0.3
<i>Tvetenia vitracies</i>	09021011065113	1.33			--	0.3	
<i>Paratanytarsus</i>	09021011071	24.00	24.00	6	--	5.1	5.1
<i>Rheotanytarsus</i>	09021011072		1.33	6	CF		0.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	1.33			CF	0.3	
<i>Tanytarsus</i>	09021011076	68.00	68.00	6	CF	14.3	14.3
<i>Pseudochironomus</i>	09021011078	1.33	1.33	5	CG	0.3	0.3
<i>Dicrotendipes</i>	09021011085	9.33	9.33	8	CG	2.0	2.0
<i>Microtendipes</i>	09021011094		83.33	6	CF		17.6
<i>Microtendipes pedellus group</i>	09021011094166	82.00			--	17.3	
<i>Microtendipes rydalensis group</i>	09021011094168	1.33			--	0.3	
<i>Nilothauma</i>	09021011095	1.33	1.33	2	--	0.3	0.3
<i>Phaenopsectra</i>	09021011101	1.33	1.33	7	SC	0.3	0.3
<i>Polypedilum</i>	09021011102		4.00	6	SH		0.8
<i>Polypedilum illinoense group</i>	09021011102185	1.33			--	0.3	
<i>Polypedilum halterale group</i>	09021011102193	2.67			--	0.6	
<i>Hemerodromia</i>	09021016057	1.33	1.33	3	PR	0.3	0.3
<i>Psephenus</i>	09021108058		1.00	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	1.00			--	0.2	
<i>Dubiraphia</i>	09021113064	35.67	35.67	6	--	7.5	7.5
<i>Macronychus</i>	09021113065		4.67	4	--		1.0
<i>Macronychus glabratus</i>	09021113065040	4.67			--	1.0	
<i>Optioservus</i>	09021113067	1.33	1.33	3	SC	0.3	0.3
<i>Promoresia</i>	09021113069		0.33		--		0.1
<i>Promoresia elegans</i>	09021113069051	0.33			--	0.1	
<i>Stenelmis</i>	09021113070	1.67	3.67	5	SC	0.4	0.8
<i>Stenelmis crenata</i>	09021113070055	2.00			--	0.4	
<i>Pisidium</i>	10020201002	0.33	0.33		CF	0.1	0.1