



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

**Station Information**

<b>Station Number:</b> S-813	River Basin: Penobscot
Waterbody: Cove Brook - Station 813	HUC8 Name: Lower Penobscot
Town: Winterport	Latitude: 44 41 31.64 N
Directions: PARK ON COVE RD NEAR PIPELINE SWATH (YELLOW MARKER), HIKE DOWN TRAIL ALONG PIPELINE; SAMPLE SITE IS DOWNSTREAM OF	Longitude: 68 51 4.94 W
	Stream Order: 2

**Sample Information**

<b>Log Number:</b> 2558	Type of Sample: ROCK BAG	Date Deployed: 7/11/2017
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/8/2017

**Classification Attainment**

<b>Statutory Class:</b> AA	<b>Final Determination:</b> A	Date: 12/11/2017
Model Result with $P \geq 0.6$ : A	<b>Reason for Determination:</b> Model	
Date Last Calculated: 12/8/2017	Comments:	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.52	Class A, B, or C	1.00
Class B	0.47	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.99
Class A or B	1.00	Class B or C or Non-Attainment	0.01
Class C or Non-Attainment	0.00		

**Model Variables**

01 Total Mean Abundance	723.33	18 Relative Abundance Ephemeroptera	0.25
02 Generic Richness	50.00	19 EPT Generic Richness	24.00
03 Plecoptera Mean Abundance	7.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	179.00	23 Relative Generic Richness- Plecoptera	0.06
05 Shannon-Wiener Generic Diversity	3.46	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	6.33
06 Hilsenhoff Biotic Index	4.03	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	70.33
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	0.93
08 Relative Generic Richness Diptera	0.32	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	286.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.50		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	6.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	17.67		
17 Chironomini Abundance (Family Functional Group)	38.00		

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	39.54
2	<i>Maccaffertium</i>	9.72
3	<i>Rheotanytarsus</i>	8.66
4	<i>Baetis</i>	8.34
5	<i>Helicopsyche</i>	5.07



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**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT      Taxonomist: MICHAEL COLE

**Waterbody Information - Deployment**

Temperature: 18.8 deg C  
Dissolved Oxygen: 10.53 mg/l  
Dissolved Oxygen Saturation: 111.9 %  
Specific Conductance: 216.7 uS/cm  
Velocity: 21.3 cm/s  
pH: 8.19  
Wetted Width: 4.4 m  
Bankfull Width: 5.4 m  
Depth: 31 cm

**Waterbody Information - Retrieval**

Temperature: 17.5 deg C  
Dissolved Oxygen: 10.67 mg/l  
Dissolved Oxygen Saturation: 110.2 %  
Specific Conductance: 240.1 uS/cm  
Velocity: 15.2 cm/s  
pH: 8.33  
Wetted Width: 4 m  
Bankfull Width: 5.4 m  
Depth: 30 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Partly Open	Rolling
Upland Conifer		
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Above Road Crossing	Boulder      70 %
		Gravel      5 %
		Rubble/Cobble      20 %
		Sand      5 %

**Landcover Summary - 2004 Data**

Total Area (ac)	6558	High Int. Dev. %	0.1	Water %	0.2	Non-vegetated %	6.8
		Med Int. Dev. %	0.3	Wetland %	2.8	Tilled Agriculture %	4.2
		Low Int. Dev. %	4.2	Upland Woody %	73.9	Grassland %	7.4
		Development %	4.6	Natural %	76.6	Human Altered %	23.2
						Impervious %	3.4

**Sample Comments**

7/11/17: WATER A BIT CLOUDY, ROCKS COVERED IN SILT.  
8/8/17: SILTY STILL, RAINING AT TIME OF RETRIEVAL.



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Town: Winterport

Replicates: 3

Calculated: 12/8/2017

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
<i>Girardia</i>	03010102002	2.33	2.33		--	0.3	0.3
<i>Leuctra</i>	09020204020	0.67	0.67	0	SH	0.1	0.1
<i>Isoperla</i>	09020207026	0.33	0.33	2	PR	0.0	0.0
<i>Agnatina</i>	09020209050		6.00	2	PR		0.8
<i>Agnatina capitata</i>	09020209050152	6.00		2	PR	0.8	
<i>Boyeria</i>	09020301004	1.33	1.33	2	PR	0.2	0.2
<i>Calopteryx</i>	09020307043	0.33	0.33	5	PR	0.0	0.0
<i>Baetis</i>	09020401001	6.00	60.33	4	CG	0.8	8.3
<i>Baetis flavistriga</i>	09020401001004	37.33			--	5.2	
<i>Baetis intercalaris</i>	09020401001008	0.67			--	0.1	
<i>Baetis pluto</i>	09020401001009	0.33			--	0.0	
<i>Baetis tricaudatus</i>	09020401001012	16.00			--	2.2	
<i>Acerpenna</i>	09020401007		4.33	5	CG		0.6
<i>Acerpenna macdunnoughi</i>	09020401007001	4.33			--	0.6	
<i>Dipheter</i>	09020401013		2.67		--		0.4
<i>Dipheter hageni</i>	09020401013001	2.67			--	0.4	
<i>Leucrocota</i>	09020402011	22.67	22.67	1	SC	3.1	3.1
<i>Stenacron</i>	09020402014		0.33	7	SC		0.0
<i>Stenacron interpunctatum</i>	09020402014045	0.33			--	0.0	
<i>Maccaffertium</i>	09020402015	24.67	70.33	4	SC	3.4	9.7
<i>Maccaffertium vicarium</i>	09020402015055	45.67			--	6.3	
<i>Paraleptophlebia</i>	09020406026	0.67	1.00	1	CG	0.1	0.1
<i>Paraleptophlebia debilis</i>	09020406026079	0.33		1	CG	0.0	
<i>Ephemerella</i>	09020410035	5.33	5.33	1	CG	0.7	0.7
<i>Eurylophella</i>	09020410036	0.33	0.33	3	CG	0.0	0.0
<i>Serratella</i>	09020410037		11.67	2	CG		1.6
<i>Serratella serratoides</i>	09020410037124	11.67			--	1.6	
<i>Dolophilodes</i>	09020601001		4.00	0	CF		0.6
<i>Dolophilodes distinctus</i>	09020601001001	4.00			--	0.6	
<i>Chimarra</i>	09020601003		1.33	2	CF		0.2
<i>Chimarra aterrima</i>	09020601003002	1.33			--	0.2	
<i>Polycentropus</i>	09020603010	9.67	9.67	6	PR	1.3	1.3
<i>Hydropsyche</i>	09020604016	175.33	286.00	4	CF	24.2	39.5
<i>Hydropsyche slossonae</i>	09020604016031	106.33			--	14.7	
<i>Hydropsyche sparna</i>	09020604016032	4.33			--	0.6	
<i>Rhyacophila</i>	09020605019		3.67	2	PR		0.5
<i>Rhyacophila fuscula</i>	09020605019060	3.67			PR	0.5	



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
Glossosomatidae	09020606				--		
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.0	0.0
<i>Lepidostoma</i>	09020611064	7.33	7.33	1	SH	1.0	1.0
<i>Psilotreta</i>	09020614068		1.67	0	SC		0.2
<i>Psilotreta labida</i>	09020614068133	1.67			--	0.2	
<i>Helicopsyche</i>	09020616070	36.67	36.67	3	SC	5.1	5.1
<i>Ceraclea</i>	09020618072	0.33	0.33	3	CG	0.0	0.0
<i>Oecetis</i>	09020618078	2.33	2.33	8	PR	0.3	0.3
<i>Nigronia</i>	09020701003		3.00	0	PR		0.4
<i>Nigronia serricornis</i>	09020701003003	3.00			--	0.4	
<i>Tipula</i>	09021001002	0.67	0.67	4	SH	0.1	0.1
<i>Antocha</i>	09021001004	0.67	0.67	3	CG	0.1	0.1
Chironomidae	09021011				--		
<i>Labrundinia</i>	09021011008	0.33	0.33	7	PR	0.0	0.0
<i>Thienemannimyia</i>	09021011020		17.33	3	PR		2.4
<i>Thienemannimyia group</i>	09021011020041	17.33			--	2.4	
<i>Pagastia</i>	09021011025	2.67	2.67	1	--	0.4	0.4
<i>Cricotopus</i>	09021011037	1.33	5.33	7	SH	0.2	0.7
<i>Cricotopus bicinctus</i>	09021011037057	4.00			--	0.6	
<i>Parametriocnemus</i>	09021011053	1.00	1.00	5	CG	0.1	0.1
<i>Thienemanniella</i>	09021011062	0.67	0.67	6	CG	0.1	0.1
<i>Tvetenia</i>	09021011065			5	CG		
<i>Rheotanytarsus</i>	09021011072		62.67	6	CF		8.7
<i>Rheotanytarsus exiguus group</i>	09021011072127	61.33			CF	8.5	
<i>Rheotanytarsus pellucidus</i>	09021011072128	1.33			CF	0.2	
<i>Sublettea</i>	09021011075		6.00		--		0.8
<i>Sublettea coffmani</i>	09021011075131	6.00			--	0.8	
<i>Tanytarsus</i>	09021011076	1.00	1.00	6	CF	0.1	0.1
<i>Microtendipes</i>	09021011094		2.00	6	CF		0.3
<i>Microtendipes pedellus group</i>	09021011094166	0.67			--	0.1	
<i>Microtendipes rydalensis group</i>	09021011094168	1.33			--	0.2	
<i>Polypedilum</i>	09021011102		36.00	6	SH		5.0
<i>Polypedilum aviceps</i>	09021011102181	36.00			--	5.0	
<i>Simulium</i>	09021012047	1.00	1.00	4	CF	0.1	0.1
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.0	0.0
Empididae	09021016			6	--		
<i>Hemerodromia</i>	09021016057	1.00	1.00	3	PR	0.1	0.1
<i>Psephenus</i>	09021108058		14.00	4	SC		1.9



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<i>Psephenus herricki</i>	09021108058028	14.00			--	1.9	
<i>Ectopria</i>	09021109059		0.33	5	SC		0.0
<i>Ectopria nervosa</i>	09021109059029	0.33			--	0.0	
<i>Dubiraphia</i>	09021113064	10.67	10.67	6	--	1.5	1.5
<i>Promoresia</i>	09021113069		12.00		--		1.7
<i>Promoresia tardella</i>	09021113069052	12.00			--	1.7	
Physidae	10010202	1.00	1.00		SC	0.1	0.1
<i>Helisoma</i>	10010203030	0.33	0.33		SC	0.0	0.0