



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

Station Information

<b>Station Number:</b> S-480	DEP Drainage: Penobscot
Waterbody: Shaw Brook - Station 480	HUC8: 01020005
Town: Hermon	HUC8 Name: Lower Penobscot
Directions: DWNSTRM OF ODLIN RD	Latitude: 44 46 46.56 N
	Longitude: 68 50 57.28 W
	Stream Order: 2

Sample Information

<b>Log Number:</b> 2036	Type of Sample: ROCK BAG	Date Deployed: 7/13/2011
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/15/2011

Classification Attainment

<b>Statutory Class:</b> B	<b>Final Determination:</b> NA	Date: 2/13/2012
Model Result with P>.6: I	<b>Reason for Determination:</b> Best Professional Judgement	
Date Last Calculated: 2/10/2012	Comments: Minimum Provision not met for Total Mean Abundance (Variable 1). Highly Altered System.	

Model Probabilities

First Stage Model				C or Better Model	
Class A	0.00	Class C	0.17	Class A, B, or C	0.00
Class B	0.00	NA	0.83	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	38.00	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	25.00	19 EPT Generic Richness	7.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.35
04 Ephemeroptera Mean Abundance	0.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	3.81	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	6.04
06 Hilsenhoff Biotic Index	5.56	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.50	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.36	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	0.33		
11 <i>Cheumatopsyche</i> Abundance	5.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.78		
13 Relative Abundance - Oligochaeta	0.02		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.35		
17 Chironomini Abundance (Family Functional Group)	12.09		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Microtendipes</i>	20.91
2	<i>Rheotanytarsus</i>	13.64
3	<i>Cheumatopsyche</i>	13.16
4	<i>Ferrissia</i>	10.53
5	<i>Stenelmis</i>	6.14



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**Station Number: S-480**

Town: Hermon

Date Deployed: 7/13/2011

**Log Number: 2036**

Waterbody: Shaw Brook - Station 480

Date Retrieved: 8/15/2011

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 22.1 deg C  
Dissolved Oxygen: 5 mg/l  
Specific Conductance: 297 uS/cm  
Velocity: 8 cm/s  
pH: 7.17  
Wetted Width: 3.1 m  
Bankfull Width: 8.8 m  
Depth: 40 cm

**Waterbody Information - Retrieval**

Temperature: 20.7 deg C  
Dissolved Oxygen: 6.2 mg/l  
Specific Conductance: 365 uS/cm  
Velocity: 4 cm/s  
pH: 7.57  
Wetted Width: 1.2 m  
Bankfull Width: 8.8 m  
Depth: 50 cm

**Water Chemistry**

**Summary of Habitat Characteristics**

Landuse Name

Swamp Hardwood  
Upland Hardwood  
Urban

Canopy Cover

Partly Open

Terrain

Rolling

Potential Stressor

Altered Hydrology  
Urban Runoff

Location

Below Road Crossing  
Below Urban NPS

Substrate

Boulder 10 %  
Gravel 15 %  
Rubble/Cobble 60 %  
Silt 15 %

**Landcover Summary - 2004 Data**

Total Area (ac)	1592	High Int. Dev. %	16.7	Water %	0.0	Non-vegetated %	4.2
		Med Int. Dev. %	6.6	Wetland %	6.2	Tilled Agriculture %	1.1
		Low Int. Dev. %	4.3	Upland Woody %	42.1	Grassland %	5.4
		Development %	27.5	Natural %	48.3	Human Altered %	51.6
						Impervious %	22.7

**Sample Comments**

8/15/11: SILTATION AND CLOUDY WATER OBSERVED.

CANOPY COVER: APPROXIMATELY 75% SHADED. 7/13/11: SILTATION AND CLOUDY WATER OBSERVED.



**Maine Department of Environmental Protection  
Biological Monitoring Program  
Aquatic Life Taxonomic Inventory Report**

**Station Number: S-480**

Waterbody: Shaw Brook - Station 480

Town: Hermon

**Log Number: 2036**

Subsample Factor: X1

Replicates: 3

Calculated: 2/10/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009		0.67		CG		1.8
<i>Nais variabilis</i>	08020202009009	0.67			--	1.8	
<i>Placobdella</i>	08030101006		0.33		--		0.9
<i>Placobdella papillifera</i>	08030101006003	0.33			--	0.9	
<i>Orconectes</i>	09010301008	0.67	0.67		CG	1.8	1.8
<i>Boyeria</i>	09020301004		0.33	2	PR		0.9
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.9	
Baetidae	09020401	0.33	0.33		--	0.9	0.9
<i>Paraleptophlebia</i>	09020406026	0.33	0.33	1	CG	0.9	0.9
<i>Chimarra</i>	09020601003	0.67	0.67	2	CF	1.8	1.8
Polycentropodidae	09020603	0.33	0.33		--	0.9	0.9
<i>Cheumatopsyche</i>	09020604015	5.00	5.00	5	CF	13.2	13.2
<i>Hydropsyche</i>	09020604016	0.33	0.33	4	CF	0.9	0.9
<i>Pycnopsyche</i>	09020610049	1.00	1.00	4	SH	2.6	2.6
<i>Nigronia</i>	09020701003		1.00	0	PR		2.6
<i>Nigronia serricornis</i>	09020701003003	1.00			--	2.6	
Chironomidae	09021011	0.67			--	1.8	
<i>Nilotanytus</i>	09021011012		0.35	6	PR		0.9
<i>Nilotanytus fimbriatus</i>	09021011012027	0.33			--	0.9	
<i>Micropsectra</i>	09021011070	0.33	0.35	7	CG	0.9	0.9
<i>Rheotanytarsus</i>	09021011072	5.00	5.18	6	CF	13.2	13.6
<i>Tanytarsus</i>	09021011076	1.00	1.04	6	CF	2.6	2.7
<i>Chironomus</i>	09021011080	1.00	1.04	10	CG	2.6	2.7
<i>Glyptotendipes</i>	09021011088	0.33	0.35	10	SH	0.9	0.9
<i>Microtendipes</i>	09021011094		7.95	6	CF		20.9
<i>Microtendipes pedellus group</i>	09021011094166	7.67			--	20.2	
<i>Polypedilum</i>	09021011102		2.07	6	SH		5.5
<i>Polypedilum flavum</i>	09021011102182	2.00			--	5.3	
<i>Stictochironomus</i>	09021011106	0.67	0.69	9	CG	1.8	1.8
<i>Hemerodromia</i>	09021016057			3	PR		
<i>Dubiraphia</i>	09021113064	1.33	1.33	6	--	3.5	3.5
<i>Promoresia</i>	09021113069		0.33		--		0.9
<i>Promoresia elegans</i>	09021113069051	0.33			--	0.9	
<i>Stenelmis</i>	09021113070		2.33	5	SC		6.1
<i>Stenelmis crenata</i>	09021113070055	2.33			--	6.1	
<i>Ferrissia</i>	10010204035		4.00		SC		10.5
<i>Ferrissia rivularis</i>	10010204035066	4.00			--	10.5	