



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

Station Information

Station Number: S-482	DEP Drainage: Penobscot
Waterbody: Cold Stream - Station 482	HUC8: 01020005
Town: Enfield	HUC8 Name: Lower Penobscot
Directions: ABOVE HATCHERY PENS	Latitude: 45 14 53.08 N
	Longitude: 68 34 4.29 W
	Stream Order: 2

Sample Information

Log Number: 1574	Type of Sample: ROCK BAG	Date Deployed: 7/20/2006
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/17/2006

Classification Attainment

Statutory Class: A	Final Determination: A	Date: 9/10/2007
Model Result with P>.6: B	Reason for Determination: Best Professional Judgement	
Date Last Calculated: 3/13/2009	Comments: Lake Outlet Effect. Community comprised of 65% Hydropsyche but sensitive taxa present.	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.28	Class A, B, or C	1.00
Class B	0.64	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.98	Class A	0.10
Class C or Non-Attainment	0.02	Class B or C or Non-Attainment	0.90

Model Variables

01 Total Mean Abundance	391.00	18 Relative Abundance Ephemeroptera	0.14
02 Generic Richness	29.00	19 EPT Generic Richness	13.00
03 Plecoptera Mean Abundance	5.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	56.33	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	2.20	25 Sum of Abundances: <i>Cheumatopsyche</i> <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	32.45
06 Hilsenhoff Biotic Index	4.14	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	6.67
07 Relative Abundance - Chironomidae	0.09	28 EP Generic Richness/14	0.50
08 Relative Generic Richness Diptera	0.45	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	255.22		
11 <i>Cheumatopsyche</i> Abundance	25.78		
12 EPT Generic Richness/ Diptera Generic Richness	1.00		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	5.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	0.33		
17 Chironomini Abundance (Family Functional Group)	18.00		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	65.27
2	Ephemerellidae	6.73
3	<i>Cheumatopsyche</i>	6.59
4	<i>Polypedilum</i>	4.52
5	Baetidae	3.67



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Waterbody: Cold Stream - Station 482

Date Retrieved: 8/17/2006

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: LOTIC INC.

Waterbody Information - Deployment

Temperature: 22.5 deg C
Dissolved Oxygen: 8.6 mg/l
Specific Conductance: 28 uS/cm
Velocity: 60 cm/s
pH:
Wetted Width: 10.5 m
Bankfull Width: 10.5 m
Depth: 24 cm

Waterbody Information - Retrieval

Temperature: 20.1 deg C
Dissolved Oxygen: 8.2 mg/l
Specific Conductance: 27 uS/cm
Velocity: 87 cm/s
pH: 6.61
Wetted Width: 10.5 m
Bankfull Width: 10.5 m
Depth: 25 cm

Water Chemistry - Retrieval

Summary of Habitat Characteristics

Landuse Name

Canopy Cover

Terrain

Upland Conifer

Canopy Dense

Rolling Terrain

Upland Hardwood

Stressor

Location

Substrate

Above Fish Hatchery

Boulder 15 %

Gravel 10 %

Rubble/Cobble 75 %

Landcover Summary - 2004 Data

Total Area (ac)	17976	High Int. Dev. %	0.1	Water %	32.6	Non-vegetated %	0.0
Total Land (ac)	13556	Med Int. Dev. %	0.1	Wetland %	2.2	Tilled Agriculture %	0.4
		Low Int. Dev. %	2.3	Upland Woody %	94.6	Human Altered %	3.2
		Development %	2.5	Natural %	96.8	Impervious %	1.1

Sample Comments



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Aquatic Life Taxonomic Inventory Report**

Station Number: S-482

Waterbody: Cold Stream - Station 482

Town: Enfield

Log Number: 1574

Subsample Factor: X1

Replicates: 3

Calculated: 3/13/2009

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Acroneuria</i>	09020209042	2.00	4.33	0	PR	0.5	1.1
<i>Acroneuria abnormis</i>	09020209042121	2.33		0	PR	0.6	
<i>Paragnetina</i>	09020209049	1.00	1.00	1	PR	0.3	0.3
Baetidae	09020401	14.33	14.33		--	3.7	3.7
<i>Baetis</i>	09020401001	3.00	8.33	4	CG	0.8	2.1
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.3	
<i>Baetis intercalaris</i>	09020401001008	0.67			--	0.2	
<i>Baetis pluto</i>	09020401001009	3.33			--	0.9	
<i>Epeorus</i>	09020402009	5.00	5.00	0	SC	1.3	1.3
<i>Maccaffertium</i>	09020402015	2.33	2.33	4	SC	0.6	0.6
Ephemerellidae	09020410	26.33	26.33		--	6.7	6.7
<i>Chimarra</i>	09020601003	1.00	1.00	2	CF	0.3	0.3
<i>Neureclipsis</i>	09020603008	1.33	1.33	7	CF	0.3	0.3
Hydropsychidae	09020604	30.33			--	7.8	
<i>Cheumatopsyche</i>	09020604015	23.00	25.78	5	CF	5.9	6.6
<i>Hydropsyche</i>	09020604016	227.67	255.22	4	CF	58.2	65.3
<i>Rhyacophila</i>	09020605019	4.33	4.33	2	PR	1.1	1.1
<i>Oecetis</i>	09020618078	0.33	0.33	8	PR	0.1	0.1
<i>Ablabesmyia</i>	09021011001	0.33	0.33	8	PR	0.1	0.1
<i>Cardiocladius</i>	09021011034	0.67	0.67	5	PR	0.2	0.2
<i>Corynoneura</i>	09021011036	0.33	0.33	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037	4.00	6.33	7	SH	1.0	1.6
<i>Cricotopus bicinctus</i>	09021011037057	2.33			--	0.6	
<i>Eukiefferiella</i>	09021011041	0.33	0.33	8	CG	0.1	0.1
<i>Nanocladius</i>	09021011049	0.33	0.33	3	CG	0.1	0.1
<i>Orthocladius</i>	09021011050	1.67	1.67	6	CG	0.4	0.4
<i>Thienemanniella</i>	09021011062	0.67	0.67	6	CG	0.2	0.2
<i>Tvetenia</i>	09021011065		4.67	5	CG		1.2
<i>Tvetenia vitracies</i>	09021011065113	0.33			--	0.1	
<i>Tvetenia paucunca</i>	09021011065114	4.33			--	1.1	
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.1
<i>Microtendipes pedellus group</i>	09021011094166	0.33			--	0.1	
<i>Polypedilum</i>	09021011102	0.67	17.67	6	SH	0.2	4.5
<i>Polypedilum aviceps</i>	09021011102181	9.00			--	2.3	
<i>Polypedilum flavum</i>	09021011102182	8.00			--	2.0	
<i>Simulium</i>	09021012047	5.00	5.00	4	CF	1.3	1.3
Empididae	09021016	0.33	0.33	6	--	0.1	0.1
<i>Psephenus</i>	09021108058	1.33	1.33	4	SC	0.3	0.3



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		Actual	Adjusted			Actual	Adjusted
<i>Promoresia</i>	09021113069	0.33	0.33		--	0.1	0.1
Sphaeriidae	10020201	1.00	1.00		CF	0.3	0.3