



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

Station Information

Station Number: S-482

Waterbody: Cold Stream - Station 482

Town: Enfield

Directions: ABOVE HATCHERY PENS

River Basin: Penobscot

HUC8 Name: Lower Penobscot

Latitude: 45° 14' 53.118" N

Longitude: 68° 34' 04.294" W

Stream Order: 2

Sample Information

Log Number: 2488

Type of Sample: ROCK BAG

Date Deployed: 7/19/2016

Subsample Factor: X1

Replicates: 3

Date Retrieved: 8/16/2016

Classification Attainment

Statutory Class: A

Final Determination: A

Date: 8/31/2017

Model Result with $P \geq 0.6$: A

Reason for Determination: Model

Date Last Calculated: 8/30/2017

Comments:

Model Probabilities

First Stage Model

Class A	0.55	Class C	0.02
Class B	0.44	NA	0.00

B or Better Model

Class A or B	1.00
Class C or Non-Attainment	0.00

C or Better Model

Class A, B, or C	1.00
Non-Attainment	0.00

A Model

Class A	0.78
Class B or C or Non-Attainment	0.22

Model Variables

01 Total Mean Abundance	324.00	18 Relative Abundance Ephemeroptera	0.17																					
02 Generic Richness	35.00	19 EPT Generic Richness	20.00																					
03 Plecoptera Mean Abundance	7.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00																					
04 Ephemeroptera Mean Abundance	54.67	23 Relative Generic Richness- Plecoptera	0.11																					
05 Shannon-Wiener Generic Diversity	2.68	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	57.67																					
06 Hilsenhoff Biotic Index	4.11	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	3.67																					
07 Relative Abundance - Chironomidae	0.03	28 EP Generic Richness/14	0.71																					
08 Relative Generic Richness Diptera	0.20	30 Presence of Class A Indicator Taxa/7	0.29																					
09 <i>Hydropsyche</i> Abundance	157.33	<table><tr><th colspan="3">Five Most Dominant Taxa</th></tr><tr><th>Rank</th><th>Taxon Name</th><th>Percent</th></tr><tr><td>1</td><td><i>Hydropsyche</i></td><td>48.56</td></tr><tr><td>2</td><td><i>Cheumatopsyche</i></td><td>17.70</td></tr><tr><td>3</td><td><i>Baetis</i></td><td>12.96</td></tr><tr><td>4</td><td><i>Neureclipsis</i></td><td>2.37</td></tr><tr><td>5</td><td>Physidae</td><td>2.37</td></tr></table>		Five Most Dominant Taxa			Rank	Taxon Name	Percent	1	<i>Hydropsyche</i>	48.56	2	<i>Cheumatopsyche</i>	17.70	3	<i>Baetis</i>	12.96	4	<i>Neureclipsis</i>	2.37	5	Physidae	2.37
Five Most Dominant Taxa																								
Rank	Taxon Name	Percent																						
1	<i>Hydropsyche</i>	48.56																						
2	<i>Cheumatopsyche</i>	17.70																						
3	<i>Baetis</i>	12.96																						
4	<i>Neureclipsis</i>	2.37																						
5	Physidae	2.37																						
11 <i>Cheumatopsyche</i> Abundance	57.33																							
12 EPT Generic Richness/ Diptera Generic Richness	2.86																							
13 Relative Abundance - Oligochaeta	0.00																							
15 Perlidae Mean Abundance (Family Functional Group)	6.67																							
16 Tanypodinae Mean Abundance (Family Functional Group)	1.00																							
17 Chironomini Abundance (Family Functional Group)	7.67																							



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature:	22.3 deg C
Dissolved Oxygen:	9.52 mg/l
Dissolved Oxygen Saturation:	109.9 %
Specific Conductance:	29 uS/cm
Velocity:	39.6 cm/s
pH:	7.21
Wetted Width:	9.4 m
Bankfull Width:	13.1 m
Depth:	45 cm

Waterbody Information - Retrieval

Temperature:	22.1 deg C
Dissolved Oxygen:	9.8 mg/l
Dissolved Oxygen Saturation:	112.1 %
Specific Conductance:	29 uS/cm
Velocity:	51.816 cm/s
pH:	7.15
Wetted Width:	9.5 m
Bankfull Width:	13.1 m
Depth:	40 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Conifer	Partly Open	Rolling
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Lake Outlet	Above Fish Hatchery	Boulder 20 %
	Lake Outlet	Gravel 10 %
		Rubble/Cobble 65 %
		Sand 5 %

Landcover Summary - 2004 Data

Total Land (ac)	13556	High Int. Dev. %	0.1	Water %	N/A	Non-vegetated %	N/A
		Med Int. Dev. %	0.1	Wetland %	2.2	Tilled Agriculture %	0.4
		Low Int. Dev. %	2.3	Upland Woody %	94.6	Grassland %	0.3
		Development %	2.5	Natural %	96.8	Human Altered %	3.2
						Impervious %	1.4

Sample Comments

APPROXIMATELY 200,000 FISH GO THROUGH THE HATCHERY EACH YEAR.



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

Station Number: S-482	Waterbody: Cold Stream - Station 482			Town: Enfield			
Log Number: 2488	Subsample Factor: X1	Replicates: 3		Calculated: 8/30/2017			
Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Hydra</i>	02010101001	0.33	0.33		PR	0.1	0.1
<i>Girardia</i>	03010102002	0.33	0.33		--	0.1	0.1
<i>Leuctra</i>	09020204020	0.33	0.33	0	SH	0.1	0.1
Perlodidae	09020207	0.33	0.33		--	0.1	0.1
<i>Acroneuria</i>	09020209042	2.33	3.33	0	PR	0.7	1.0
<i>Acroneuria abnormis</i>	09020209042121	1.00		0	PR	0.3	
<i>Paragnetina</i>	09020209049		3.33	1	PR		1.0
<i>Paragnetina immarginata</i>	09020209049149	3.33			--	1.0	
<i>Baetis</i>	09020401001		42.00	4	CG		13.0
<i>Baetis flavistriga</i>	09020401001004	4.00			--	1.2	
<i>Baetis pluto</i>	09020401001009	37.67			--	11.6	
<i>Baetis tricaudatus</i>	09020401001012	0.33			--	0.1	
<i>Epeorus</i>	09020402009		4.33	0	SC		1.3
<i>Epeorus vitreus</i>	09020402009033	4.33			--	1.3	
<i>Maccaffertium</i>	09020402015	0.33	0.33	4	SC	0.1	0.1
<i>Ephemerella</i>	09020410035	5.33	5.33	1	CG	1.6	1.6
<i>Serratella</i>	09020410037		2.00	2	CG		0.6
<i>Teloganopsis deficiens</i>	09020410041001	2.00			--	0.6	
<i>Caenis</i>	09020412040	0.67	0.67	7	CG	0.2	0.2
<i>Chimarra</i>	09020601003		1.67	2	CF		0.5
<i>Chimarra obscura</i>	09020601003003	1.67			--	0.5	
<i>Neureclipsis</i>	09020603008	7.67	7.67	7	CF	2.4	2.4
Hydropsychidae	09020604				--		
<i>Cheumatopsyche</i>	09020604015	57.33	57.33	5	CF	17.7	17.7
<i>Hydropsyche</i>	09020604016	58.00	157.33	4	CF	17.9	48.6
<i>Hydropsyche morosa</i>	09020604016030	48.33			--	14.9	
<i>Hydropsyche sparna</i>	09020604016032	0.33			--	0.1	
<i>Hydropsyche betteni</i>	09020604016037	50.67			--	15.6	
<i>Macrostemum</i>	09020604018	1.67	1.67	3	CF	0.5	0.5
<i>Rhyacophila</i>	09020605019		2.00	2	PR		0.6
<i>Rhyacophila fuscula</i>	09020605019060	2.00			PR	0.6	
<i>Oxyethira</i>	09020607028	0.33	0.33	3	P	0.1	0.1
<i>Micrasema</i>	09020609044			2	SH		
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Lepidostoma</i>	09020611064	0.33	0.33	1	SH	0.1	0.1
<i>Oecetis</i>	09020618078		1.67	8	PR		0.5
<i>Oecetis persimilis</i>	09020618078157	1.67			--	0.5	



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<i>Thienemannimyia</i>	09021011020		1.00	3	PR		0.3
<i>Thienemannimyia group</i>	09021011020041	1.00			--	0.3	
<i>Cricotopus</i>	09021011037	0.33	0.33	7	SH	0.1	0.1
<i>Orthocladus</i>	09021011050		0.33	6	CG		0.1
<i>Orthocladus dubitatus</i>	09021011050103	0.33			--	0.1	
<i>Tvetenia</i>	09021011065		0.33	5	CG		0.1
<i>Tvetenia paucunca</i>	09021011065114	0.33			--	0.1	
<i>Microtendipes</i>	09021011094		0.33	6	CF		0.1
<i>Microtendipes rydalsensis group</i>	09021011094168	0.33			--	0.1	
<i>Polypedilum</i>	09021011102		7.33	6	SH		2.3
<i>Polypedilum flavum</i>	09021011102182	7.33			--	2.3	
<i>Simulium</i>	09021012047	4.67	4.67	4	CF	1.4	1.4
<i>Psephenus</i>	09021108058		0.33	4	SC		0.1
<i>Psephenus herricki</i>	09021108058028	0.33			--	0.1	
<i>Microcylloepus</i>	09021113066		0.33	3	--		0.1
<i>Microcylloepus pusillus</i>	09021113066041	0.33			--	0.1	
<i>Optioservus elegans</i>	09021113067051	0.67			--	0.2	
<i>Promoresia</i>	09021113069		0.67		--		0.2
<i>Amnicola</i>	10010104013		5.67		SC		1.7
<i>Amnicola limosus</i>	10010104013018	5.67			--	1.7	
Physidae	10010202	7.67	7.67		SC	2.4	2.4
<i>Ferrissia</i>	10010204035	2.00	2.00		SC	0.6	0.6