



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

Station Information

Station Number: S-508	DEP Drainage: Penobscot
Waterbody: Kenduskeag Stream - Station 508	HUC8: 01020005
Town: Corinth	HUC8 Name: Lower Penobscot
Directions: ABOVE RTE 11/43	Latitude: 44 59 37.08 N
	Longitude: 69 4 20.98 W
	Stream Order: 3

Sample Information

Log Number: 2042	Type of Sample: ROCK BAG	Date Deployed: 7/14/2011
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/16/2011

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 9/5/2012
Model Result with P>.6: A	Reason for Determination: Model	
Date Last Calculated: 6/29/2012	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.68	Class A, B, or C	1.00
Class B	0.29	Non-Attainment	0.00
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	0.91
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.09

Model Variables

01 Total Mean Abundance	135.00	18 Relative Abundance Ephemeroptera	0.63
02 Generic Richness	43.00	19 EPT Generic Richness	19.00
03 Plecoptera Mean Abundance	1.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.38
04 Ephemeroptera Mean Abundance	84.67	23 Relative Generic Richness- Plecoptera	0.02
05 Shannon-Wiener Generic Diversity	3.63	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	5.62
06 Hilsenhoff Biotic Index	4.31	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	57.22
07 Relative Abundance - Chironomidae	0.10	28 EP Generic Richness/14	0.86
08 Relative Generic Richness Diptera	0.30	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	3.00		
11 <i>Cheumatopsyche</i> Abundance	0.67		
12 EPT Generic Richness/ Diptera	1.46		
Generic Richness			
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family	0.00		
Functional Group)			
16 Tanypodinae Mean Abundance	0.38		
(Family Functional Group)			
17 Chironomini Abundance (Family	3.43		
Functional Group)			

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Maccaffertium</i>	42.38
2	<i>Dubiraphia</i>	9.14
3	<i>Leucrocuta</i>	6.43
4	<i>Stenacron</i>	5.26
5	Calopterygidae	3.21



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Log Number: 2042	Waterbody: Kenduskeag Stream - Station 508	Date Retrieved: 8/16/2011

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature:	20.7 deg C
Dissolved Oxygen:	8.2 mg/l
Specific Conductance:	110 uS/cm
Velocity:	23 cm/s
pH:	7.47
Wetted Width:	12.2 m
Bankfull Width:	13.3 m
Depth:	40 cm

Waterbody Information - Retrieval

Temperature:	18.4 deg C
Dissolved Oxygen:	8.1 mg/l
Specific Conductance:	108 uS/cm
Velocity:	44 cm/s
pH:	7.58
Wetted Width:	12.3 m
Bankfull Width:	13.3 m
Depth:	45 cm

Water Chemistry - 8/16/2011

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	2 ug/l
Nitrate+nitrite As N	0.85 mg/l	Total Phosphorus	0.029 mg/l
Total Kjeldahl Nitrogen	0.4 mg/l	Total Suspended Solids	4.5 mg/l
Dissolved Organic Carbon	4.3 mg/l	Total Dissolved Solids	80 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Cultivated	Partly Open	Flat

Pasture
Swamp Hardwood
Upland Hardwood

<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Agricultural Runoff	Above Road Crossing	Boulder 10 %
	Below Agriculture NPS	Gravel 50 %
		Rubble/Cobble 20 %
		Sand 20 %

Landcover Summary - 2004 Data

Total Area (ac)	16540	High Int. Dev. %	0.0	Water %	1.0	Non-vegetated %	0.0
		Med Int. Dev. %	0.1	Wetland %	6.4	Tilled Agriculture %	8.1
		Low Int. Dev. %	5.6	Upland Woody %	73.5	Grassland %	4.9
		Development %	5.7	Natural %	80.0	Human Altered %	19.1
						Impervious %	2.8

Sample Comments

SOME UNDERCUTTING/EROSION OF BANKS. 7/14/11: FISH OBSERVED.
8/16/11: FISH OBSERVED.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-508

Waterbody: Kenduskeag Stream - Station 508

Town: Corinth

Log Number: 2042

Subsample Factor: X1

Replicates: 3

Calculated: 6/29/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Lumbriculus</i>	08020101002	0.33	0.33		CG	0.2	0.2
<i>Pteronarcys</i>	09020205023		1.00	0	SH		0.7
<i>Pteronarcys biloba</i>	09020205023061	1.00			--	0.7	
<i>Boyeria</i>	09020301004		1.33	2	PR		1.0
<i>Boyeria vinosa</i>	09020301004012	1.33			--	1.0	
Gomphidae	09020302	0.33	0.33		--	0.2	0.2
Calopterygidae	09020307	4.33	4.33		--	3.2	3.2
<i>Baetis</i>	09020401001		0.33	4	CG		0.2
<i>Baetis flavistriga</i>	09020401001004	0.33			--	0.2	
<i>Acerpenna</i>	09020401007	1.67	2.00	5	CG	1.2	1.5
<i>Acerpenna pygmaea</i>	09020401007011	0.33			--	0.2	
<i>Procloeon</i>	09020401010	2.67	2.67		CG	2.0	2.0
<i>Plauditus</i>	09020401012	0.67	0.67		CG	0.5	0.5
Heptageniidae	09020402	11.33			--	8.4	
<i>Leucrocuta</i>	09020402011	7.33	8.68	1	SC	5.4	6.4
<i>Stenacron</i>	09020402014	4.67	7.10	7	SC	3.5	5.3
<i>Stenacron interpunctatum</i>	09020402014045	1.33			--	1.0	
<i>Maccaffertium</i>	09020402015	8.67	57.22	4	SC	6.4	42.4
<i>Maccaffertium luteum</i>	09020402015049	39.33			--	29.1	
<i>Maccaffertium modestum</i>	09020402015051	0.33			--	0.2	
Leptophlebiidae	09020406	1.33	1.33		--	1.0	1.0
<i>Ephemerella</i>	09020410035	2.00	2.00	1	CG	1.5	1.5
<i>Tricorythodes</i>	09020411038	2.33	2.33	4	CG	1.7	1.7
<i>Caenis</i>	09020412040	0.33	0.33	7	CG	0.2	0.2
<i>Nyctiophylax</i>	09020603009		0.33	5	PR		0.2
<i>Nyctiophylax moestus</i>	09020603009013	0.33			--	0.2	
<i>Polycentropus</i>	09020603010	2.00	2.00	6	PR	1.5	1.5
<i>Cheumatopsyche</i>	09020604015	0.67	0.67	5	CF	0.5	0.5
<i>Hydropsyche</i>	09020604016	1.00	3.00	4	CF	0.7	2.2
<i>Hydropsyche bronta</i>	09020604016029	1.33			--	1.0	
<i>Hydropsyche depravata complex</i>	09020604016041	0.33			CF	0.2	
<i>Hydropsyche placoda</i>	09020604016059	0.33			--	0.2	
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.2	0.2
<i>Apatania</i>	09020610061	1.00	1.00		SC	0.7	0.7
<i>Oecetis</i>	09020618078		1.00	8	PR		0.7
<i>Oecetis avara</i>	09020618078153	1.00			--	0.7	
<i>Nigronia</i>	09020701003		2.33	0	PR		1.7
<i>Nigronia serricornis</i>	09020701003003	2.33			--	1.7	



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Calculated: 6/29/2012

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.2	0.2
Chironomidae	09021011	1.67			--	1.2	
<i>Paramerina</i>	09021011013	0.33	0.38		--	0.2	0.3
<i>Pagastia</i>	09021011025		0.38	1	--		0.3
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.2	
<i>Cricotopus</i>	09021011037		3.43	7	SH		2.5
<i>Cricotopus bicinctus</i>	09021011037057	2.00			--	1.5	
<i>Cricotopus politus</i>	09021011037077	0.67			--	0.5	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	0.33			SH	0.2	
<i>Micropsectra</i>	09021011070	0.33	0.38	7	CG	0.2	0.3
<i>Rheotanytarsus</i>	09021011072	3.33	3.81	6	CF	2.5	2.8
<i>Tanytarsus</i>	09021011076	1.33	1.52	6	CF	1.0	1.1
<i>Microtendipes</i>	09021011094		1.90	6	CF		1.4
<i>Microtendipes pedellus group</i>	09021011094166	1.67			--	1.2	
<i>Nilothauma</i>	09021011095	0.33	0.38	2	--	0.2	0.3
<i>Phaenopsectra</i>	09021011101		0.38	7	SC		0.3
<i>Phaenopsectra flavipes</i>	09021011101179	0.33			SC	0.2	
<i>Polypedilum</i>	09021011102		0.76	6	SH		0.6
<i>Polypedilum aviceps</i>	09021011102181	0.33			--	0.2	
<i>Polypedilum flavum</i>	09021011102182	0.33			--	0.2	
<i>Atherix</i>	09021015055	0.67	0.67	2	PR	0.5	0.5
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.5	0.5
<i>Helichus</i>	09021112062		1.00	5	SH		0.7
<i>Helichus basalis</i>	09021112062031	1.00			--	0.7	
<i>Ancyronyx</i>	09021113063		0.67	6	--		0.5
<i>Ancyronyx variegatus</i>	09021113063034	0.67			CG	0.5	
<i>Dubiraphia</i>	09021113064	12.33	12.33	6	--	9.1	9.1
<i>Macronychus</i>	09021113065		1.33	4	--		1.0
<i>Macronychus glabratus</i>	09021113065040	1.33			--	1.0	
<i>Promoresia</i>	09021113069		0.67		--		0.5
<i>Promoresia elegans</i>	09021113069051	0.67			--	0.5	
<i>Stenelmis</i>	09021113070		1.33	5	SC		1.0
<i>Stenelmis crenata</i>	09021113070055	1.33			--	1.0	