



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

Station Information

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

Sample Information

Log Number: 2499	Type of Sample: ROCK BAG	Date Deployed: 7/25/2016
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/22/2016

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 4/7/2017
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 4/4/2017	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.58	Class A, B, or C	1.00
Class B	0.40	Non-Attainment	0.00
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.92
Class A or B	1.00	Class B or C or Non-Attainment	0.08
Class C or Non-Attainment	0.00		

Model Variables

01 Total Mean Abundance	224.00	18 Relative Abundance Ephemeroptera	0.18
02 Generic Richness	56.00	19 EPT Generic Richness	25.00
03 Plecoptera Mean Abundance	7.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	4.33
04 Ephemeroptera Mean Abundance	40.67	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	4.47	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	25.67
06 Hilsenhoff Biotic Index	5.43	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	25.00
07 Relative Abundance - Chironomidae	0.26	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.30	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	9.33		
11 <i>Cheumatopsyche</i> Abundance	11.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.47		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	7.33		
16 Tanypodinae Mean Abundance (Family Functional Group)	8.67		
17 Chironomini Abundance (Family Functional Group)	16.33		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Oecetis</i>	22.62
2	<i>Maccaffertium</i>	8.78
3	<i>Rheotanytarsus</i>	6.55
4	<i>Microtendipes</i>	6.10
5	<i>Cheumatopsyche</i>	4.91
6	<i>Apatania</i>	4.91



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Station Number: S-508 Town: Corinth Date Deployed: 7/25/2016
Log Number: 2499 Waterbody: Kenduskeag Stream - Station 508 Date Retrieved: 8/22/2016

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: ECOANALYSTS IDAHO

Waterbody Information - Deployment

Temperature: 21.7 deg C
 Dissolved Oxygen: 10.28 mg/l
 Dissolved Oxygen Saturation: 117.6 %
 Specific Conductance: 176.2 uS/cm
 Velocity: 12.2 cm/s
 pH: 8.02
 Wetted Width: 8 m
 Bankfull Width: 13.8 m
 Depth: 30 cm

Waterbody Information - Retrieval

Temperature: 19.8 deg C
 Dissolved Oxygen: 10.07 mg/l
 Dissolved Oxygen Saturation: 111.5 %
 Specific Conductance: 171.7 uS/cm
 Velocity: 27.4 cm/s
 pH: 7.91
 Wetted Width: 9.1 m
 Bankfull Width: 13.8 m
 Depth: 32 cm

Water Chemistry - 8/22/2016

Nitrate+nitrite As N	0.97 mg/l	Total Phosphorus	12 ug/l
Total Kjeldahl Nitrogen	0.1 mg/l	Total Suspended Solids	2.6 mg/l
Dissolved Organic Carbon	2.1 mg/l	Dissolved Organic Carbon	2.1 mg/l
Total Dissolved Solids	93 mg/l	Orthophosphate As Phosphorus	2 ug/l

Summary of Habitat Characteristics

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

7/25/2016: POTENTIAL DAM FOR IRRIGATION? BOULDERS SEEM UNNATURAL; FISH PRESENT.
 8/22/2016: 1 IN. OF RAIN IN THE MORNING; SILTY BOTTOM; FISH PRESENT.



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

Station Number: S-508
Log Number: 2499

Waterbody: Kenduskeag Stream - Station 508
Subsample Factor: X1

Town: Corinth
Calculated: 4/4/2017

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
Rhabditophora	0301	1.00	1.00		--	0.4	0.4
<i>Acroneuria</i>	09020209042	3.33	5.33	0	PR	1.5	2.4
<i>Acroneuria abnormis</i>	09020209042121	2.00		0	PR	0.9	
<i>Neoperla</i>	09020209048	0.33	0.33	1	PR	0.1	0.1
<i>Agnatina</i>	09020209050		1.67	2	PR		0.7
<i>Agnatina capitata</i>	09020209050152	1.67		2	PR	0.7	
<i>Boyeria</i>	09020301004	1.33	2.33	2	PR	0.6	1.0
<i>Boyeria vinosa</i>	09020301004012	1.00			--	0.4	
Gomphidae	09020302	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	0.33	0.33		--	0.1	0.1
<i>Calopteryx</i>	09020307043	5.00	5.00	5	PR	2.2	2.2
<i>Argia</i>	09020309048	0.33	0.33	7	PR	0.1	0.1
<i>Baetis</i>	09020401001		0.33	4	CG		0.1
<i>Baetis flavistriga</i>	09020401001004	0.33			--	0.1	
<i>Acerpenna</i>	09020401007		8.33	5	CG		3.7
<i>Acerpenna pygmaea</i>	09020401007011	8.33			--	3.7	
<i>Procladius</i>	09020401010	3.00	3.00		CG	1.3	1.3
<i>Plautidius</i>	09020401012	0.67	0.67		CG	0.3	0.3
<i>Leucrocuta</i>	09020402011	2.33	2.33	1	SC	1.0	1.0
<i>Stenacron</i>	09020402014	1.00	1.00	7	SC	0.4	0.4
<i>Maccaffertium</i>	09020402015	19.67	19.67	4	SC	8.8	8.8
Leptophlebiidae	09020406	1.00	1.00		--	0.4	0.4
<i>Ephemerella</i>	09020410035	2.67	2.67	1	CG	1.2	1.2
<i>Tricorythodes</i>	09020411038	1.33	1.33	4	CG	0.6	0.6
<i>Caenis</i>	09020412040	0.33	0.33	7	CG	0.1	0.1
<i>Polycentropus</i>	09020603010	3.33	3.33	6	PR	1.5	1.5
<i>Cheumatopsyche</i>	09020604015	11.00	11.00	5	CF	4.9	4.9
<i>Hydropsyche</i>	09020604016	5.33	9.33	4	CF	2.4	4.2
<i>Hydropsyche morosa</i>	09020604016030	4.00			--	1.8	
<i>Hydroptila</i>	09020607026	0.67	0.67	6	P	0.3	0.3
<i>Oxyethira</i>	09020607028			3	P		
<i>Pycnopsyche</i>	09020610049	0.33	0.33	4	SH	0.1	0.1
<i>Lepidostoma</i>	09020611064	2.00	2.00	1	SH	0.9	0.9
<i>Psilotreta</i>	09020614068	0.67	0.67	0	SC	0.3	0.3
<i>Helicopsyche</i>	09020616070		7.00	3	SC		3.1
<i>Helicopsyche borealis</i>	09020616070137	7.00			--	3.1	
Leptoceridae	09020618	0.33			--	0.1	



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Station Number: S-508

Waterbody: Kenduskeag Stream - Station 508

Town: Corinth

Log Number: 2499

Subsample Factor: X1

Replicates: 3

Calculated: 4/4/2017

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Mystacides</i>	09020618075		0.67	4	CG		0.3
<i>Mystacides sepulchralis</i>	09020618075147	0.67			--	0.3	
<i>Oecetis</i>	09020618078		50.66	8	PR		22.6
<i>Oecetis avara</i>	09020618078153	50.33			--	22.5	
<i>Apatania</i>	09020619061	11.00	11.00		SC	4.9	4.9
<i>Nigronia</i>	09020701003		1.33	0	PR		0.6
<i>Nigronia serricornis</i>	09020701003003	1.33			--	0.6	
<i>Petrophila</i>	09020901004	0.33	0.33	5	SC	0.1	0.1
<i>Ablabesmyia</i>	09021011001		1.33	8	PR		0.6
<i>Ablabesmyia mallochi</i>	09021011001004	1.33			--	0.6	
<i>Labrundinia</i>	09021011008	0.33	0.33	7	PR	0.1	0.1
<i>Thienemannimyia</i>	09021011020		6.00	3	PR		2.7
<i>Thienemannimyia group</i>	09021011020041	6.00			--	2.7	
<i>Zavreliomyia</i>	09021011022	1.00	1.00	8	PR	0.4	0.4
<i>Pagastia</i>	09021011025	0.33	0.33	1	--	0.1	0.1
<i>Cricotopus</i>	09021011037		3.67	7	SH		1.6
<i>Cricotopus bicinctus</i>	09021011037057	3.67			--	1.6	
<i>Nanocladius</i>	09021011049	0.33	0.33	3	CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057	0.67	0.67	6	CG	0.3	0.3
<i>Synorthocladius</i>	09021011061			2	CG		
<i>Micropsectra</i>	09021011070	3.33	3.33	7	CG	1.5	1.5
<i>Rheotanytarsus</i>	09021011072		14.67	6	CF		6.5
<i>Rheotanytarsus exiguus group</i>	09021011072127	10.67			CF	4.8	
<i>Rheotanytarsus pellucidus</i>	09021011072128	4.00			CF	1.8	
<i>Stempellinella</i>	09021011074			2	--		
<i>Tanytarsus</i>	09021011076	9.67	9.67	6	CF	4.3	4.3
<i>Dicrotendipes</i>	09021011085		1.00	8	CG		0.4
<i>Dicrotendipes neomodestus</i>	09021011085152	1.00			--	0.4	
<i>Microtendipes</i>	09021011094		13.67	6	CF		6.1
<i>Microtendipes pedellus group</i>	09021011094166	3.67			--	1.6	
<i>Microtendipes rydalensis group</i>	09021011094168	10.00			--	4.5	
<i>Nilothauma</i>	09021011095	0.33	0.33	2	--	0.1	0.1
<i>Phaenopsectra</i>	09021011101	0.33	0.33	7	SC	0.1	0.1
<i>Polypedilum</i>	09021011102		1.00	6	SH		0.4
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.4	
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.3	0.3
<i>Dubiraphia</i>	09021113064	6.33	6.33	6	--	2.8	2.8
<i>Macronychus</i>	09021113065		0.33	4	--		0.1



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<i>Macronychus glabratus</i>	09021113065040	0.33			--	0.1	
<i>Optioservus</i>	09021113067		1.33	3	SC		0.6
<i>Optioservus ovalis</i>	09021113067046	1.33			--	0.6	
<i>Promoresia</i>	09021113069		0.33		--		0.1
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.1	
<i>Stenelmis</i>	09021113070	1.33	1.33	5	SC	0.6	0.6
<i>Physa</i>	10010202027	0.33	0.33		SC	0.1	0.1