



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

Station Information

Station Number: S-270
Waterbody: Kennebunk River - Station 270
Town: Kennebunk
Directions: BARTLETT MILLS - 15 M ABOVE RT 1 BRIDGE
DEP Drainage: Piscataqua - Presumpscot - Saco
HUC8: 01060003
HUC8 Name: Piscataqua-Salmon Falls
Latitude: 43 24 12.59 N
Longitude: 70 31 36.89 W
Stream Order: 3

Sample Information

Log Number: 1974
Subsample Factor: X4
Type of Sample: ROCK BASKET
Replicates: 3
Date Deployed: 7/28/2010
Date Retrieved: 8/31/2010

Classification Attainment

Statutory Class: B
Model Result with P>.6: B
Date Last Calculated: 3/28/2011
Final Determination: B
Reason for Determination: Model
Comments:

Model Probabilities

First Stage Model		C or Better Model	
Class A	0.07	Class A, B, or C	1.00
Class B	0.66	Non-Attainment	0.00
B or Better Model		A Model	
Class A or B	0.97	Class A	0.05
Class C or Non-Attainment	0.03	Class B or C or Non-Attainment	0.95

Model Variables

01 Total Mean Abundance	1330.67	18 Relative Abundance Ephemeroptera	0.10
02 Generic Richness	38.00	19 EPT Generic Richness	24.00
03 Plecoptera Mean Abundance	4.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	132.00	23 Relative Generic Richness- Plecoptera	0.05
05 Shannon-Wiener Generic Diversity	3.16	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	22.90
06 Hilsenhoff Biotic Index	4.74	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	14.17
07 Relative Abundance - Chironomidae	0.40	28 EP Generic Richness/14	0.79
08 Relative Generic Richness Diptera	0.34	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	439.81		
11 <i>Cheumatopsyche</i> Abundance	21.52		
12 EPT Generic Richness/ Diptera Generic Richness	1.85		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	4.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.77		
17 Chironomini Abundance (Family Functional Group)	196.67		

Five Most Dominant Taxa		
Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	33.05
2	<i>Rheotanytarsus</i>	23.00
3	<i>Polypedilum</i>	14.16
4	<i>Chimarra</i>	4.71
5	<i>Baetis</i>	3.47
6	<i>Iswaeon</i>	3.47



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Date Retrieved: 8/31/2010

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 24.6 deg C
Dissolved Oxygen: 10 mg/l
Specific Conductance: 85 uS/cm
Velocity: 62 cm/s
pH: 8.03
Wetted Width: 13.6 m
Bankfull Width: 21.2 m
Depth: 40 cm

Waterbody Information - Retrieval

Temperature: 22.5 deg C
Dissolved Oxygen: 9.4 mg/l
Specific Conductance: 95 uS/cm
Velocity: 38 cm/s
pH: 7.43
Wetted Width: 12.4 m
Bankfull Width: 21.2 m
Depth: 40 cm

Water Chemistry - 8/10/2010

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	4 ug/l
Nitrate+nitrite As N	0.03 mg/l	Total Phosphorus	0.034 mg/l
Total Kjeldahl Nitrogen	0.4 mg/l	Total Suspended Solids	3.1 mg/l
Dissolved Organic Carbon	5.8 mg/l	Total Dissolved Solids	73 mg/l

Summary of Habitat Characteristics

Landuse Name

Upland Hardwood
Urban

Canopy Cover

Open

Terrain

Rolling

Potential Stressor

Location

Above Road Crossing

Substrate

Bedrock	40 %
Boulder	40 %
Gravel	10 %
Rubble/Cobble	10 %

Landcover Summary - 2004 Data

Total Area (ac)	27180	High Int. Dev. %	0.7	Water %	1.0	Non-vegetated %	0.5
		Med Int. Dev. %	0.6	Wetland %	6.4	Tilled Agriculture %	1.4
		Low Int. Dev. %	3.8	Upland Woody %	73.7	Grassland %	10.3
		Development %	5.0	Natural %	80.1	Human Altered %	18.9
						Impervious %	4.8

Sample Comments

8/31/2010 TWO RIVER OTTERS ON FAR SHORE; ODOR OBSERVED; WATER IS CLOUDY WITH GREYISH TINT.



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Aquatic Life Taxonomic Inventory Report

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Subsample Factor: X4

Replicates: 3

Calculated: 3/28/2011

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Perlidae	09020209	2.67	2.67		--	0.2	0.2
<i>Acroneuria</i>	09020209042	1.33	1.33	0	PR	0.1	0.1
Baetidae	09020401	20.00			--	1.5	
<i>Baetis</i>	09020401001	18.67	46.22	4	CG	1.4	3.5
<i>Baetis flavistriga</i>	09020401001004	17.33			--	1.3	
<i>Baetis intercalaris</i>	09020401001008	1.33			--	0.1	
<i>Heterocloeon</i>	09020401005	1.33	1.65	2	SC	0.1	0.1
<i>Acerpenna</i>	09020401007	5.33	9.90	5	CG	0.4	0.7
<i>Acerpenna pygmaea</i>	09020401007011	2.67			--	0.2	
<i>Iswaeon</i>	09020401015		46.22		--		3.5
<i>Iswaeon anoka</i>	09020401015001	37.33			--	2.8	
Heptageniidae	09020402	4.00			--	0.3	
<i>Epeorus</i>	09020402009	1.33	1.83	0	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	5.33	12.83	4	SC	0.4	1.0
<i>Maccaffertium luteum</i>	09020402015049	4.00			--	0.3	
<i>Ephemerella</i>	09020410035	2.67	2.67	1	CG	0.2	0.2
<i>Serratella</i>	09020410037		4.00	2	CG		0.3
<i>Serratella (Teloganopsis) deficiens</i>	09020410037121	4.00			--	0.3	
<i>Tricorythodes</i>	09020411038	6.67	6.67	4	CG	0.5	0.5
<i>Chimarra</i>	09020601003	62.67	62.67	2	CF	4.7	4.7
<i>Psychomyia</i>	09020602005	1.33	1.33	2	CG	0.1	0.1
Polycentropodidae	09020603	4.00			--	0.3	
<i>Cernotina</i>	09020603006	2.67	2.87		PR	0.2	0.2
<i>Neureclipsis</i>	09020603008	40.00	43.00	7	CF	3.0	3.2
<i>Polycentropus</i>	09020603010	10.67	11.47	6	PR	0.8	0.9
Hydropsychidae	09020604	4.00			--	0.3	
<i>Cheumatopsyche</i>	09020604015	21.33	21.52	5	CF	1.6	1.6
<i>Hydropsyche</i>	09020604016	146.67	439.81	4	CF	11.0	33.1
<i>Hydropsyche morosa</i>	09020604016030	125.33			--	9.4	
<i>Hydropsyche sparna</i>	09020604016032	150.67			--	11.3	
<i>Hydropsyche depravata complex</i>	09020604016041	13.33			CF	1.0	
<i>Rhyacophila</i>	09020605019	1.33	2.67	2	PR	0.1	0.2
<i>Rhyacophila fuscula</i>	09020605019060	1.33			PR	0.1	
<i>Hydroptila</i>	09020607026	2.67	2.67	6	P	0.2	0.2
<i>Micrasema</i>	09020609044		1.33	2	SH		0.1
<i>Micrasema wataga</i>	09020609044101	1.33			--	0.1	
<i>Lepidostoma</i>	09020611064	37.33	37.33	1	SH	2.8	2.8
<i>Helicopsyche</i>	09020616070		12.00	3	SC		0.9



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		Actual	Adjusted			Actual	Adjusted
<i>Helicopsyche borealis</i>	09020616070137	12.00			--	0.9	
<i>Oecetis</i>	09020618078		4.00	8	PR		0.3
<i>Oecetis persimilis</i>	09020618078157	4.00			--	0.3	
Chironomidae	09021011	20.00			--	1.5	
<i>Ablabesmyia</i>	09021011001			8	PR		
<i>Meropelopia</i>	09021011010				--		
<i>Nilotanyus</i>	09021011012		2.77	6	PR		0.2
<i>Nilotanyus fimbriatus</i>	09021011012027	2.67			--	0.2	
<i>Cricotopus</i>	09021011037			7	SH		
<i>Nanocladius</i>	09021011049	5.33	8.31	3	CG	0.4	0.6
<i>Nanocladius spinipennis</i>	09021011049090	1.33			--	0.1	
<i>Nanocladius branchicollis</i>	09021011049091	1.33			--	0.1	
<i>Rheocricotopus</i>	09021011057		1.39	6	CG		0.1
<i>Rheocricotopus robacki</i>	09021011057105	1.33			--	0.1	
<i>Thienemanniella</i>	09021011062		1.39	6	CG		0.1
<i>Thienemanniella lobapodema</i>	09021011062114	1.33			--	0.1	
<i>Tvetenia</i>	09021011065		15.24	5	CG		1.1
<i>Tvetenia vitracies</i>	09021011065113	14.67			--	1.1	
<i>Rheotanytarsus</i>	09021011072	294.67	306.09	6	CF	22.1	23.0
<i>Tanytarsus</i>	09021011076	1.33	1.39	6	CF	0.1	0.1
<i>Microtendipes</i>	09021011094		8.31	6	CF		0.6
<i>Microtendipes rydalsensis</i> group	09021011094168	8.00			--	0.6	
<i>Polypedilum</i>	09021011102		188.36	6	SH		14.2
<i>Polypedilum flavum</i>	09021011102182	180.00			--	13.5	
<i>Polypedilum scalaenum</i> group	09021011102189	1.33			--	0.1	
<i>Helopelopia</i>	09021011114	2.67	2.77	6	PR	0.2	0.2
<i>Simulium</i>	09021012047	4.00	9.33	4	CF	0.3	0.7
<i>Simulium fibrinflatum</i>	09021012047059	2.67			--	0.2	
<i>Simulium jenningsi</i> complex	09021012047070	2.67			CF	0.2	
<i>Atherix</i>	09021015055	1.33	1.33	2	PR	0.1	0.1
<i>Roederiodes</i>	09021016058	2.67	2.67	3	PR	0.2	0.2
Sphaeriidae	10020201	2.67	2.67		CF	0.2	0.2