



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

Station Information

Station Number: S-16
Waterbody: Carrabassett River - Station 16
Town: Kingfield
Directions: 0.9 KM BELOW RT. 16 BRIDGE CROSSING

DEP Drainage: Kennebec
HUC8: 01030003
HUC8 Name: Lower Kennebec
Latitude: 44 57 9.64 N
Longitude: 70 8 51.08 W
Stream Order: 4

Sample Information

Log Number: 2117
Subsample Factor: X4

Type of Sample: ROCK BAG
Replicates: 3

Date Deployed: 7/24/2012
Date Retrieved: 8/20/2012

Classification Attainment

Statutory Class: A
Model Result with P>.6: A
Date Last Calculated: 3/7/2013

Final Determination: A
Reason for Determination: Model
Comments:

Date: 3/7/2013

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.77	Class A, B, or C	1.00
Class B	0.23	Non-Attainment	0.00

<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	1.00	Class A	1.00
Class C or Non-Attainment	0.00	Class B or C or Non-Attainment	0.00

Model Variables

01 Total Mean Abundance	712.00	18 Relative Abundance Ephemeroptera	0.55
02 Generic Richness	45.00	19 EPT Generic Richness	27.00
03 Plecoptera Mean Abundance	10.67	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	394.67	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	3.73	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	30.62
06 Hilsenhoff Biotic Index	3.21	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	66.00
07 Relative Abundance - Chironomidae	0.20	28 EP Generic Richness/14	1.07
08 Relative Generic Richness Diptera	0.31	30 Presence of Class A Indicator Taxa/7	0.71
09 <i>Hydropsyche</i> Abundance	77.58		
11 <i>Cheumatopsyche</i> Abundance	19.75		
12 EPT Generic Richness/ Diptera Generic Richness	1.93		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	10.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	10.87		
17 Chironomini Abundance (Family Functional Group)	31.26		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Ephemerella</i>	33.51
2	<i>Hydropsyche</i>	10.90
3	<i>Rheotanytarsus</i>	9.35
4	<i>Maccaffertium</i>	8.90
5	<i>Tricorythodes</i>	5.62



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 23.8 deg C
Dissolved Oxygen: 7.9 mg/l
Specific Conductance: 78 uS/cm
Velocity: 13.7 cm/s
pH: 7.26
Wetted Width: 42 m
Bankfull Width: 45 m
Depth: 48 cm

Waterbody Information - Retrieval

Temperature: 18.3 deg C
Dissolved Oxygen: 9.2 mg/l
Specific Conductance: 75 uS/cm
Velocity: 31.7 cm/s
pH: 7.58
Wetted Width: 44 m
Bankfull Width: 45 m
Depth: 55 cm

Water Chemistry - 8/20/2012

Ammonia As Nitrogen	<0.01 mg/l	Soluble Reactive Phosphorus	2 ug/l
Nitrate+nitrite As N	0.04 mg/l	Total Phosphorus	0.005 mg/l
Total Kjeldahl Nitrogen	0.2 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	4 mg/l	Total Dissolved Solids	44 mg/l

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Pasture	Open	Rolling
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Nutrients	Below POTW	Boulder 15 %
	Below Town	Gravel 30 %
		Rubble/Cobble 40 %
		Sand 15 %

Landcover Summary - 2004 Data

Total Area (ac)	108109	High Int. Dev. %	0.2	Water %	0.4	Non-vegetated %	0.4
		Med Int. Dev. %	0.2	Wetland %	2.2	Tilled Agriculture %	0.2
		Low Int. Dev. %	0.8	Upland Woody %	93.7	Grassland %	1.7
		Development %	1.1	Natural %	96.7	Human Altered %	2.9
						Impervious %	0.8

Sample Comments

7/24/12: FISH OBSERVED.



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Town: Kingfield
Calculated: 3/7/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
Nematoda	05	1.33	1.33		--	0.2	0.2
<i>Acroneuria</i>	09020209042		2.67	0	PR		0.4
<i>Acroneuria abnormis</i>	09020209042121	2.67		0	PR	0.4	
<i>Agnetina</i>	09020209050		8.00	2	PR		1.1
<i>Agnetina capitata</i>	09020209050152	8.00		2	PR	1.1	
Gomphidae	09020302	2.67	2.67		--	0.4	0.4
Baetidae	09020401	2.67			--	0.4	
<i>Baetis</i>	09020401001		1.50	4	CG		0.2
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.2	
<i>Acerpenna</i>	09020401007	5.33	13.50	5	CG	0.7	1.9
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.2	
<i>Acerpenna pygmaea</i>	09020401007011	5.33			--	0.7	
<i>Plauditus</i>	09020401012	8.00	9.00		CG	1.1	1.3
Heptageniidae	09020402	28.00			--	3.9	
<i>Epeorus</i>	09020402009	1.33	2.11	0	SC	0.2	0.3
<i>Leucrocuta</i>	09020402011	6.67	10.56	1	SC	0.9	1.5
<i>Maccaffertium</i>	09020402015	21.33	63.33	4	SC	3.0	8.9
<i>Maccaffertium luteum</i>	09020402015049	18.67			--	2.6	
<i>Isonychia</i>	09020404018	10.67	10.67	2	CF	1.5	1.5
<i>Ameletus</i>	09020405019	1.33	1.33	0	CG	0.2	0.2
Leptophlebiidae	09020406	1.33	1.33		--	0.2	0.2
Ephemerellidae	09020410	8.00			--	1.1	
<i>Ephemerella</i>	09020410035	230.67	238.58	1	CG	32.4	33.5
<i>Eurylophella</i>	09020410036	1.33	1.38	3	CG	0.2	0.2
<i>Serratella</i>	09020410037		1.38	2	CG		0.2
<i>Serratella serratoides</i>	09020410037124	1.33			--	0.2	
<i>Tricorythodes</i>	09020411038	40.00	40.00	4	CG	5.6	5.6
<i>Chimarra</i>	09020601003	1.33	2.67	2	CF	0.2	0.4
<i>Chimarra obscura</i>	09020601003003	1.33			--	0.2	
<i>Neureclipsis</i>	09020603008	18.67	18.67	7	CF	2.6	2.6
<i>Polycentropus</i>	09020603010	1.33	1.33	6	PR	0.2	0.2
Hydropsychidae	09020604	5.33			--	0.7	
<i>Cheumatopsyche</i>	09020604015	18.67	19.75	5	CF	2.6	2.8
<i>Hydropsyche</i>	09020604016	45.33	77.58	4	CF	6.4	10.9
<i>Hydropsyche bronta</i>	09020604016029	20.00			--	2.8	
<i>Hydropsyche morosa</i>	09020604016030	8.00			--	1.1	
<i>Rhyacophila</i>	09020605019		1.33	2	PR		0.2
<i>Rhyacophila minor</i>	09020605019063	1.33			PR	0.2	



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		Actual	Adjusted			Actual	Adjusted
<i>Hydroptila</i>	09020607026	1.33	1.33	6	P	0.2	0.2
<i>Brachycentrus</i>	09020609043		9.33	0	CF		1.3
<i>Brachycentrus appalachia</i>	09020609043096	9.33			--	1.3	
<i>Lepidostoma</i>	09020611064	17.33	17.33	1	SH	2.4	2.4
<i>Psilotreta</i>	09020614068		1.33	0	SC		0.2
<i>Psilotreta labida</i>	09020614068133	1.33			--	0.2	
<i>Helicopsyche</i>	09020616070		1.33	3	SC		0.2
<i>Helicopsyche borealis</i>	09020616070137	1.33			--	0.2	
<i>Oecetis</i>	09020618078		1.33	8	PR		0.2
<i>Oecetis persimilis</i>	09020618078157	1.33			--	0.2	
<i>Antocha</i>	09021001004	1.33	1.33	3	CG	0.2	0.2
Chironomidae	09021011	2.67			--	0.4	
<i>Pentaneura</i>	09021011014		6.79	6	PR		1.0
<i>Pentaneura inconspicua</i>	09021011014028	6.67			--	0.9	
<i>Rheopelopia</i>	09021011017	2.67	4.08		PR	0.4	0.6
<i>Rheopelopia acra group</i>	09021011017036	1.33			--	0.2	
<i>Corynoneura</i>	09021011036	2.67	2.72	7	CG	0.4	0.4
<i>Cricotopus</i>	09021011037		9.51	7	SH		1.3
<i>Cricotopus bicinctus</i>	09021011037057	9.33			--	1.3	
<i>Rheocricotopus</i>	09021011057		1.36	6	CG		0.2
<i>Rheocricotopus robacki</i>	09021011057105	1.33			--	0.2	
<i>Thienemanniella</i>	09021011062		2.72	6	CG		0.4
<i>Thienemanniella xena</i>	09021011062110	2.67			--	0.4	
<i>Tvetenia</i>	09021011065		14.95	5	CG		2.1
<i>Tvetenia vitracies</i>	09021011065113	14.67			--	2.1	
<i>Rheotanytarsus</i>	09021011072	65.33	66.59	6	CF	9.2	9.4
<i>Tanytarsus</i>	09021011076	1.33	1.36	6	CF	0.2	0.2
<i>Microtendipes</i>	09021011094		8.15	6	CF		1.1
<i>Microtendipes rydalensis group</i>	09021011094168	8.00			--	1.1	
<i>Polypedilum</i>	09021011102		23.10	6	SH		3.2
<i>Polypedilum aviceps</i>	09021011102181	20.00			--	2.8	
<i>Polypedilum flavum</i>	09021011102182	2.67			--	0.4	
<i>Simulium</i>	09021012047		2.67	4	CF		0.4
<i>Simulium jenningsi</i>	09021012047060				--		
<i>Simulium tuberosum</i>	09021012047067	2.67			--	0.4	
<i>Atherix</i>	09021015055	1.33	1.33	2	PR	0.2	0.2
<i>Dubiraphia</i>	09021113064		1.33	6	--		0.2
<i>Dubiraphia minima</i>	09021113064036	1.33			--	0.2	



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<i>Promoresia</i>	09021113069		1.33		--		0.2
<i>Promoresia tardella</i>	09021113069052	1.33			--	0.2	