



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

Station Information

Station Number: S-486	River Basin: Kennebec
Waterbody: East Branch Wesserunsett Stream - Station 486	HUC8 Name: Lower Kennebec
Town: Athens	Latitude: 44 57 24.29 N
Directions: (WES1) ABOVE RTE 150 NEAR REST AREA	Longitude: 69 38 39.25 W
	Stream Order: 3

Sample Information

Log Number: 2344	Type of Sample: ROCK BAG	Date Deployed: 7/7/2015
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/4/2015

Classification Attainment

Statutory Class: B	Final Determination: A	Date: 10/23/2015
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 10/22/2015	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.81	Class C	0.00
Class B	0.19	NA	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	405.33	18 Relative Abundance Ephemeroptera	0.16
02 Generic Richness	58.00	19 EPT Generic Richness	27.00
03 Plecoptera Mean Abundance	23.33	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.34
04 Ephemeroptera Mean Abundance	66.33	23 Relative Generic Richness- Plecoptera	0.07
05 Shannon-Wiener Generic Diversity	3.83	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	20.05
06 Hilsenhoff Biotic Index	4.00	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	22.91
07 Relative Abundance - Chironomidae	0.32	28 EP Generic Richness/14	1.21
08 Relative Generic Richness Diptera	0.34	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	120.69		
11 <i>Cheumatopsyche</i> Abundance	5.65		
12 EPT Generic Richness/ Diptera Generic Richness	1.35		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	19.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.36		
17 Chironomini Abundance (Family Functional Group)	41.88		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Hydropsyche</i>	29.77
2	<i>Rheotanytarsus</i>	11.32
3	<i>Polypedilum</i>	9.18
4	<i>Brachycentrus</i>	8.96
5	<i>Baetis</i>	6.73



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Log Number: 2344 Waterbody: East Branch Wesserunsett Stream - Station 486 Date Retrieved: 8/4/2015

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT
 Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 20 deg C
 Dissolved Oxygen: 8.95 mg/l
 Specific Conductance: 61.3 uS/cm
 Velocity: 27.4 cm/s
 pH: 7.84
 Wetted Width: 9 m
 Bankfull Width: 15 m
 Depth: 45 cm

Waterbody Information - Retrieval

Temperature: 20.4 deg C
 Dissolved Oxygen: 9.32 mg/l
 Specific Conductance: 66.9 uS/cm
 Velocity: 24.4 cm/s
 pH: 8.13
 Wetted Width: 8 m
 Bankfull Width: 15 m
 Depth: 36 cm

Water Chemistry - 8/4/2015

Nitrate+nitrite As N	0.03 mg/l	Total Phosphorus	8 ug/l
Total Kjeldahl Nitrogen	0.3 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	2.6 mg/l	Total Dissolved Solids	51 mg/l
Orthophosphate As Phosphorus	1 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Upland Conifer	Partly Open	Rolling
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
	Above Road Crossing	Bedrock 5 %
		Boulder 75 %
		Gravel 5 %
		Rubble/Cobble 15 %

Landcover Summary - 2004 Data

Total Area (ac)	11673	High Int. Dev. %	0.0	Water %	1.4	Non-vegetated %	0.0
		Med Int. Dev. %	0.1	Wetland %	2.1	Tilled Agriculture %	1.2
		Low Int. Dev. %	3.0	Upland Woody %	91.7	Grassland %	0.6
		Development %	3.0	Natural %	93.8	Human Altered %	4.8
						Impervious %	0.9

Sample Comments

7/7/2015 - 99.5 % DO. FISH PRESENT.
 8/4/2015 - 105.3% DO.



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Replicates: 3

Calculated: 10/22/2015

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>Pteronarcys</i>	09020205023		3.67	0	SH		0.9
<i>Pteronarcys biloba</i>	09020205023061	3.67			--	0.9	
Perlidae	09020209	11.67			--	2.9	
<i>Acroneuria</i>	09020209042	0.33	17.21	0	PR	0.1	4.2
<i>Acroneuria abnormis</i>	09020209042121	1.33		0	PR	0.3	
<i>Acroneuria internata</i>	09020209042124	1.33			--	0.3	
<i>Acroneuria lycorias</i>	09020209042125	4.00			--	1.0	
<i>Perlesta</i>	09020209046		0.82	5	PR		0.2
<i>Perlesta decipiens</i>	09020209046141	0.33			--	0.1	
<i>Paragnetina</i>	09020209049	0.67	1.64	1	PR	0.2	0.4
Aeshnidae	09020301	0.33	0.33		--	0.1	0.1
<i>Boyeria</i>	09020301004		0.33	2	PR		0.1
<i>Boyeria vinosa</i>	09020301004012	0.33			--	0.1	
<i>Calopteryx</i>	09020307043		0.67	5	PR		0.2
<i>Calopteryx aequabilis</i>	09020307043085	0.67			--	0.2	
Baetidae	09020401	0.33			--	0.1	
<i>Baetis</i>	09020401001	10.00	27.27	4	CG	2.5	6.7
<i>Baetis flavistriga</i>	09020401001004	2.00			--	0.5	
<i>Baetis intercalaris</i>	09020401001008	12.67			--	3.1	
<i>Baetis pluto</i>	09020401001009	2.33			--	0.6	
<i>Acerpenna</i>	09020401007	1.33	4.04	5	CG	0.3	1.0
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.3	
<i>Acerpenna pygmaea</i>	09020401007011	1.33			--	0.3	
<i>Proclleon</i>	09020401010	0.33	0.34		CG	0.1	0.1
<i>Plauditus</i>	09020401012	1.00	1.01		CG	0.2	0.2
<i>Dipheter</i>	09020401013		1.01		--		0.2
<i>Dipheter hageni</i>	09020401013001	1.00			--	0.2	
Heptageniidae	09020402	1.33			--	0.3	
<i>Epeorus</i>	09020402009	1.00	1.22	0	SC	0.2	0.3
<i>Leucrocota</i>	09020402011	0.33	0.41	1	SC	0.1	0.1
<i>Maccaffertium</i>	09020402015	2.33	5.70	4	SC	0.6	1.4
<i>Maccaffertium luteum</i>	09020402015049	2.33			--	0.6	
<i>Isonychia</i>	09020404018	1.00	1.00	2	CF	0.2	0.2
Leptophlebiidae	09020406	0.33	0.33		--	0.1	0.1
<i>Ephemerella</i>	09020410035	1.33	1.33	1	CG	0.3	0.3
<i>Serratella</i>	09020410037		5.67	2	CG		1.4
<i>Serratella serratoides</i>	09020410037124	5.67			--	1.4	



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		Actual	Adjusted			Actual	Adjusted
<i>Tricorythodes</i>	09020411038	17.00	17.00	4	CG	4.2	4.2
<i>Chimarra</i>	09020601003	1.33	1.67	2	CF	0.3	0.4
<i>Chimarra socia</i>	09020601003004	0.33			--	0.1	
<i>Neureclipsis</i>	09020603008	2.67	2.67	7	CF	0.7	0.7
Hydropsychidae	09020604	7.00			--	1.7	
<i>Cheumatopsyche</i>	09020604015	5.33	5.65	5	CF	1.3	1.4
<i>Hydropsyche</i>	09020604016	91.33	120.69	4	CF	22.5	29.8
<i>Hydropsyche bronta</i>	09020604016029	12.67			--	3.1	
<i>Hydropsyche morosa</i>	09020604016030	5.33			--	1.3	
<i>Hydropsyche sparna</i>	09020604016032	4.67			--	1.2	
<i>Hydroptila</i>	09020607026	0.67	0.67	6	P	0.2	0.2
<i>Brachycentrus</i>	09020609043		36.33	0	CF		9.0
<i>Brachycentrus appalachia</i>	09020609043096	36.33			--	9.0	
<i>Micrasema</i>	09020609044		0.67	2	SH		0.2
<i>Micrasema rusticum group</i>	09020609044100	0.33			--	0.1	
<i>Micrasema wataga</i>	09020609044101	0.33			--	0.1	
<i>Helicopsyche</i>	09020616070		0.33	3	SC		0.1
<i>Helicopsyche borealis</i>	09020616070137	0.33			--	0.1	
Leptoceridae	09020618	0.33			--	0.1	
<i>Ceraclea</i>	09020618072	0.33	0.50	3	CG	0.1	0.1
<i>Oecetis</i>	09020618078	0.33	0.50	8	PR	0.1	0.1
Chironomidae	09021011	0.67			--	0.2	
<i>Nilotanytus</i>	09021011012		1.01	6	PR		0.2
<i>Nilotanytus fimbriatus</i>	09021011012027	1.00			--	0.2	
<i>Rheopelopia</i>	09021011017	1.67	3.35		PR	0.4	0.8
<i>Rheopelopia acra group</i>	09021011017036	1.67			--	0.4	
<i>Pagastia</i>	09021011025		0.34	1	--		0.1
<i>Pagastia orthogonia</i>	09021011025001	0.33			--	0.1	
<i>Sympothastia</i>	09021011029	0.33	0.34	2	CG	0.1	0.1
<i>Corynoneura</i>	09021011036	0.33	0.34	7	CG	0.1	0.1
<i>Cricotopus</i>	09021011037		13.74	7	SH		3.4
<i>Cricotopus bicinctus</i>	09021011037057	8.33			--	2.1	
<i>Cricotopus vierriensis</i>	09021011037071	3.00			--	0.7	
<i>Cricotopus luciae</i>	09021011037073	0.33			--	0.1	
<i>Cricotopus patens</i>	09021011037075	0.67			--	0.2	
<i>Cricotopus triannulatus/infuscatus</i>	09021011037078	1.33			SH	0.3	
<i>Nanocladius</i>	09021011049		3.02	3	CG		0.7
<i>Nanocladius branchicolus</i>	09021011049091	0.33			--	0.1	



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<i>Nanocladius downesi</i>	09021011049092	2.67			--	0.7	
<i>Parakiefferiella sp. E</i>	09021011052001				--		
<i>Parametriocnemus</i>	09021011053	0.33	0.34	5	CG	0.1	0.1
<i>Tvetenia</i>	09021011065		18.43	5	CG		4.5
<i>Tvetenia vitracies</i>	09021011065113	18.33			--	4.5	
<i>Micropsectra</i>	09021011070	0.33	0.34	7	CG	0.1	0.1
<i>Rheotanytarsus</i>	09021011072		45.90	6	CF		11.3
<i>Rheotanytarsus exiguus group</i>	09021011072127	37.33			CF	9.2	
<i>Rheotanytarsus pellucidus</i>	09021011072128	8.33			CF	2.1	
<i>Stempellinella</i>	09021011074		0.34	2	--		0.1
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.1	
<i>Sublettea</i>	09021011075		0.34		--		0.1
<i>Sublettea coffmani</i>	09021011075131	0.33			--	0.1	
<i>Tanytarsus</i>	09021011076	0.67	0.67	6	CF	0.2	0.2
<i>Microtendipes</i>	09021011094		4.02	6	CF		1.0
<i>Microtendipes rydalensis group</i>	09021011094168	4.00			--	1.0	
<i>Phaenopsectra</i>	09021011101		0.67	7	SC		0.2
<i>Phaenopsectra obediens</i>	09021011101182	0.67			SC	0.2	
<i>Polypedilum</i>	09021011102		37.19	6	SH		9.2
<i>Polypedilum aviceps</i>	09021011102181	32.33			--	8.0	
<i>Polypedilum flavum</i>	09021011102182	4.67			--	1.2	
<i>Simulium</i>	09021012047		4.00	4	CF		1.0
<i>Simulium tuberosum</i>	09021012047067	3.67			--	0.9	
<i>Simulium jenningsi species group</i>	09021012047070	0.33			CF	0.1	
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.1	0.1
<i>Roederiodes</i>	09021016058	1.00	1.00	3	PR	0.2	0.2
<i>Psephenus</i>	09021108058		0.67	4	SC		0.2
<i>Psephenus herricki</i>	09021108058028	0.67			--	0.2	
<i>Ectopria</i>	09021109059	0.67	0.67	5	SC	0.2	0.2
<i>Dubiraphia</i>	09021113064		1.67	6	--		0.4
<i>Dubiraphia minima</i>	09021113064036	1.33			--	0.3	
<i>Dubiraphia quadrinotata</i>	09021113064037	0.33			--	0.1	
<i>Promoresia</i>	09021113069		4.67		--		1.2
<i>Promoresia elegans</i>	09021113069051	3.00			--	0.7	
<i>Promoresia tardella</i>	09021113069052	1.67			--	0.4	
<i>Stenelmis</i>	09021113070		0.33	5	SC		0.1
<i>Stenelmis crenata</i>	09021113070055	0.33			--	0.1	
Acariformes	090301	0.33	0.33		--	0.1	0.1



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<i>Ferrissia</i>	10010204035		0.33		SC		0.1
<i>Ferrissia rivularis</i>	10010204035066	0.33			--	0.1	