



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

**Station Information**

<b>Station Number:</b> S-839	DEP Drainage: Kennebec
Waterbody: Carlton Stream - Station 839	HUC8: 01030003
Town: Troy	HUC8 Name: Lower Kennebec
Directions: 45 METERS DOWNSTREAM OF ROUTE 220 CROSSING; BELOW CARLTON BOG	Latitude: 44 41 41.93 N
	Longitude: 69 17 2.49 W
	Stream Order: 4

**Sample Information**

<b>Log Number:</b> 2124	Type of Sample: ROCK BAG	Date Deployed: 7/19/2012
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/22/2012

**Classification Attainment**

<b>Statutory Class:</b> B	<b>Final Determination:</b> C	Date: 4/23/2013
Model Result with P>.6: NA	<b>Reason for Determination: Best Professional Judgement</b>	
Date Last Calculated: 4/23/2013	Comments: Lake Outlet Effect. Raised finding from NA to class C.	

**Model Probabilities**

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.03
Class B	0.01	Non-Attainment	0.97
<u>B or Better Model</u>		<u>A Model</u>	
Class A or B	0.00	Class A	0.01
Class C or Non-Attainment	1.00	Class B or C or Non-Attainment	0.99

**Model Variables**

01 Total Mean Abundance	312.33	18 Relative Abundance Ephemeroptera	0.00
02 Generic Richness	49.00	19 EPT Generic Richness	9.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	1.42
04 Ephemeroptera Mean Abundance	1.33	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.19	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	74.26
06 Hilsenhoff Biotic Index	5.83	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	1.00
07 Relative Abundance - Chironomidae	0.39	28 EP Generic Richness/14	0.14
08 Relative Generic Richness Diptera	0.33	30 Presence of Class A Indicator Taxa/7	0.14
09 <i>Hydropsyche</i> Abundance	19.86		
11 <i>Cheumatopsyche</i> Abundance	26.48		
12 EPT Generic Richness/ Diptera Generic Richness	0.56		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	2.83		
17 Chironomini Abundance (Family Functional Group)	3.89		

**Five Most Dominant Taxa**

Rank	Taxon Name	Percent
1	<i>Oecetis</i>	16.33
2	<i>Cricotopus</i>	13.26
3	<i>Orthocladius</i>	12.69
4	<i>Cheumatopsyche</i>	8.48
5	<i>Hydropsyche</i>	6.36



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

**Station Number: S-839**

Town: Troy

Date Deployed: 7/19/2012

**Log Number: 2124**

Waterbody: Carlton Stream - Station 839

Date Retrieved: 8/22/2012

**Sample Collection and Processing Information**

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL WINNELL

**Waterbody Information - Deployment**

Temperature: 25.7 deg C  
Dissolved Oxygen: 7.1 mg/l  
Specific Conductance: 68 uS/cm  
Velocity: 23 cm/s  
pH: 6.85  
Wetted Width: 7 m  
Bankfull Width: 10 m  
Depth: 53 cm

**Waterbody Information - Retrieval**

Temperature: 24.6 deg C  
Dissolved Oxygen: 8.1 mg/l  
Specific Conductance: 75 uS/cm  
Velocity:  
pH: 7.48  
Wetted Width: 7 m  
Bankfull Width: 10 m  
Depth: 40 cm

**Water Chemistry - 8/22/2012**

Ammonia As Nitrogen	0.01 mg/l	Soluble Reactive Phosphorus	3 ug/l
Nitrate+nitrite As N	0.02 mg/l	Total Phosphorus	0.015 mg/l
Total Kjeldahl Nitrogen	0.6 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	10 mg/l	Total Dissolved Solids	62 mg/l

**Summary of Habitat Characteristics**

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>
Swamp Hardwood	Partly Open	Flat
Upland Hardwood		
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>
Wetland Headwaters	Below Road Crossing	Boulder 5 %
	Below Wetland	Gravel 15 %
		Rubble/Cobble 75 %
		Sand 5 %

**Landcover Summary - 2004 Data**

Total Area (ac)	13840	High Int. Dev. %	0.0	Water %	2.1	Non-vegetated %	0.5
		Med Int. Dev. %	0.1	Wetland %	17.4	Tilled Agriculture %	2.5
		Low Int. Dev. %	1.7	Upland Woody %	72.7	Grassland %	3.5
		Development %	1.8	Natural %	90.1	Human Altered %	7.7
						Impervious %	1.6

**Sample Comments**

8/22/12: VISIBLE FLOW. 8/22/12: FISH OBSERVED.



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

**Station Number: S-839**

Waterbody: Carlton Stream - Station 839

Town: Troy

**Log Number: 2124**

Subsample Factor: X1

Replicates: 3

Calculated: 4/23/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Prostoma</i>	04010101001	17.33	17.33		--	5.5	5.5
<i>Nais</i>	08020202009		0.33		CG		0.1
<i>Nais behningi</i>	08020202009003	0.33			--	0.1	
<i>Hyaella</i>	09010203006	0.33	0.33	8	CG	0.1	0.1
<i>Orconectes</i>	09010301008	0.33	0.67		CG	0.1	0.2
<i>Orconectes limosus</i>	09010301008013	0.33			--	0.1	
<i>Boyeria</i>	09020301004		3.00	2	PR		1.0
<i>Boyeria vinosa</i>	09020301004012	3.00			--	1.0	
Gomphidae	09020302	1.00	1.00		--	0.3	0.3
<i>Hagenius</i>	09020302008		0.67	1	PR		0.2
<i>Hagenius brevistylus</i>	09020302008015	0.67			PR	0.2	
<i>Neurocordulia</i>	09020305026	0.67	1.33	2	PR	0.2	0.4
<i>Neurocordulia obsoleta</i>	09020305026051	0.67			--	0.2	
<i>Calopteryx</i>	09020307043	4.00	5.67	5	PR	1.3	1.8
<i>Calopteryx maculata</i>	09020307043088	1.67			--	0.5	
Coenagrionidae	09020309	1.33	1.33		--	0.4	0.4
<i>Argia</i>	09020309048	4.33	4.67	7	PR	1.4	1.5
<i>Argia apicalis</i>	09020309048103	0.33			--	0.1	
<i>Maccaffertium</i>	09020402015	1.00	1.00	4	SC	0.3	0.3
<i>Tricorythodes</i>	09020411038	0.33	0.33	4	CG	0.1	0.1
<i>Chimarra</i>	09020601003		5.00	2	CF		1.6
<i>Chimarra obscura</i>	09020601003003	5.00			--	1.6	
Hydropsychidae	09020604	4.33			--	1.4	
<i>Cheumatopsyche</i>	09020604015	24.00	26.48	5	CF	7.7	8.5
<i>Hydropsyche</i>	09020604016	1.00	19.86	4	CF	0.3	6.4
<i>Hydropsyche depravata complex</i>	09020604016041	17.00			CF	5.4	
<i>Oxyethira</i>	09020607028	9.00	9.00	3	P	2.9	2.9
<i>Brachycentrus</i>	09020609043		0.33	0	CF		0.1
<i>Brachycentrus americanus</i>	09020609043095	0.33			--	0.1	
<i>Pycnopsyche</i>	09020610049	0.67	0.67	4	SH	0.2	0.2
<i>Oecetis</i>	09020618078	26.00	51.00	8	PR	8.3	16.3
<i>Oecetis persimilis</i>	09020618078157	25.00			--	8.0	
Chironomidae	09021011	7.00			--	2.2	
<i>Ablabesmyia</i>	09021011001		2.12	8	PR		0.7
<i>Ablabesmyia mallochi</i>	09021011001004	2.00			--	0.6	
<i>Pentaneura</i>	09021011014		0.71	6	PR		0.2
<i>Pentaneura inconspicua</i>	09021011014028	0.67			--	0.2	
<i>Cricotopus</i>	09021011037	8.67	41.41	7	SH	2.8	13.3



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

**Station Number: S-839**

Waterbody: Carlton Stream - Station 839

Town: Troy

**Log Number: 2124**

Subsample Factor: X1

Replicates: 3

Calculated: 4/23/2013

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Cricotopus bicinctus</i>	09021011037057	10.33			--	3.3	
<i>Cricotopus vierriensis</i>	09021011037071	20.00			--	6.4	
<i>Nanocladius</i>	09021011049	5.33	5.66	3	CG	1.7	1.8
<i>Nanocladius rectinervis</i>	09021011049089				--		
<i>Orthocladius</i>	09021011050		39.64	6	CG		12.7
<i>Orthocladius carlatus</i>	09021011050093	37.33			--	12.0	
<i>Parakiefferiella</i>	09021011052	0.67	0.71		CG	0.2	0.2
<i>Psectrocladius</i>	09021011056	4.67	4.95	8	CG	1.5	1.6
<i>Paratanytarsus</i>	09021011071	0.33	0.35	6	--	0.1	0.1
<i>Rheotanytarsus</i>	09021011072	15.67	16.63	6	CF	5.0	5.3
<i>Tanytarsus</i>	09021011076	4.00	4.25	6	CF	1.3	1.4
<i>Cryptochironomus</i>	09021011082	0.33	0.35	8	PR	0.1	0.1
<i>Microtendipes</i>	09021011094		1.06	6	CF		0.3
<i>Microtendipes rydalensis group</i>	09021011094168	1.00			--	0.3	
<i>Parachironomus</i>	09021011097	1.33	1.42	10	PR	0.4	0.5
<i>Polypedilum</i>	09021011102		0.35	6	SH		0.1
<i>Polypedilum aviceps</i>	09021011102181	0.33			--	0.1	
<i>Xenochironomus</i>	09021011108		0.71	0	PR		0.2
<i>Xenochironomus xenolabis</i>	09021011108200	0.67			--	0.2	
<i>Hemerodromia</i>	09021016057	14.67	14.67	3	PR	4.7	4.7
<i>Dubiraphia</i>	09021113064		1.33	6	--		0.4
<i>Dubiraphia minima</i>	09021113064036	0.67			--	0.2	
<i>Dubiraphia quadrinotata</i>	09021113064037	0.67			--	0.2	
<i>Macronychus</i>	09021113065		0.67	4	--		0.2
<i>Macronychus glabratus</i>	09021113065040	0.67			--	0.2	
<i>Microcylloepus</i>	09021113066	0.67	0.67	3	--	0.2	0.2
<i>Promoresia</i>	09021113069		0.67		--		0.2
<i>Promoresia tardella</i>	09021113069052	0.67			--	0.2	
<i>Stenelmis</i>	09021113070	0.67	1.00	5	SC	0.2	0.3
<i>Stenelmis crenata</i>	09021113070055	0.33			--	0.1	
<i>Lebertia</i>	09030105001	6.33	6.33		--	2.0	2.0
<i>Sperchon</i>	09030107001	1.33	1.33		--	0.4	0.4
<i>Hydrozetes</i>	09030115001	6.00	6.00		--	1.9	1.9
<i>Helisoma</i>	10010203030		0.33		SC		0.1
<i>Helisoma anceps</i>	10010203030058	0.33			--	0.1	
<i>Menetus</i>	10010203031		0.33		--		0.1
<i>Menetus dilatatus</i>	10010203031059	0.33			--	0.1	
<i>Ferrissia</i>	10010204035		2.00		SC		0.6



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

<b>Station Number: S-839</b>		Waterbody: Carlton Stream - Station 839			Town: Troy		
<b>Log Number: 2124</b>		Subsample Factor: X1		Replicates: 3	Calculated: 4/23/2013		
Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance	
		Actual	Adjusted			Actual	Adjusted
<i>Ferrissia rivularis</i>	10010204035066	2.00			--	0.6	
Unionidae	10020102	0.33	0.33		CF	0.1	0.1
Sphaeriidae	10020201	6.33	6.33		CF	2.0	2.0