



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

Station Information

Station Number: S-620	River Basin: Kennebec
Waterbody: Kennedy Brook - Station 620	HUC8 Name: Lower Kennebec
Town: Augusta	Latitude: 44 18 9.07 N
Directions: DOWNSTREAM OF RT 11/27 AND UPSTREAM OF TREATMENT PLANT	Longitude: 69 46 50.94 W
	Stream Order: 1

Sample Information

Log Number: 2576	Type of Sample: ROCK BAG	Date Deployed: 7/20/2017
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/17/2017

Classification Attainment

Statutory Class: B	Final Determination: C	Date: 4/26/2018
Model Result with P \geq 0.6: C	Reason for Determination: Model	
Date Last Calculated: 4/26/2018	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.00	Class A, B, or C	0.72
Class B	0.02	Non-Attainment	0.28
		<u>A Model</u>	
<u>B or Better Model</u>		Class A	0.00
Class A or B	0.00	Class B or C or Non-Attainment	1.00
Class C or Non-Attainment	1.00		

Model Variables

01 Total Mean Abundance	159.67	18 Relative Abundance Ephemeroptera	0.02
02 Generic Richness	48.00	19 EPT Generic Richness	7.00
03 Plecoptera Mean Abundance	0.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	8.60
04 Ephemeroptera Mean Abundance	2.67	23 Relative Generic Richness- Plecoptera	0.00
05 Shannon-Wiener Generic Diversity	4.34	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	8.25
06 Hilsenhoff Biotic Index	5.41	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	0.00
07 Relative Abundance - Chironomidae	0.54	28 EP Generic Richness/14	0.07
08 Relative Generic Richness Diptera	0.54	30 Presence of Class A Indicator Taxa/7	0.00
09 <i>Hydropsyche</i> Abundance	4.00		
11 <i>Cheumatopsyche</i> Abundance	1.00		
12 EPT Generic Richness/ Diptera Generic Richness	0.27		
13 Relative Abundance - Oligochaeta	0.08		
15 Perlidae Mean Abundance (Family Functional Group)	0.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	18.99		
17 Chironomini Abundance (Family Functional Group)	1.38		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Parametriocnemus</i>	15.14
2	<i>Physa</i>	14.41
3	<i>Rheotanytarsus</i>	12.98
4	<i>Conchapelopia</i>	6.92
5	<i>Micropsectra</i>	4.76



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Station Number: S-620 Town: Augusta Date Deployed: 7/20/2017
Log Number: 2576 Waterbody: Kennedy Brook - Station 620 Date Retrieved: 8/17/2017

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment

Temperature: 19.5 deg C
Dissolved Oxygen: 10.46 mg/l
Dissolved Oxygen Saturation: 112.8 %
Specific Conductance: 824 uS/cm
Velocity: 12.2 cm/s
pH: 8.35
Wetted Width: 1.4 m
Bankfull Width: 5.3 m
Depth: 30 cm

Waterbody Information - Retrieval

Temperature: 15 deg C
Dissolved Oxygen: 11.44 mg/l
Dissolved Oxygen Saturation: 112 %
Specific Conductance: 730 uS/cm
Velocity: 3 cm/s
pH: 8.15
Wetted Width: 1.3 m
Bankfull Width: 5.3 m
Depth: 25 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Upland Hardwood	Dense	Rolling	
Urban			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Altered Habitat	Below Road Crossing	Boulder	30 %
Urban Runoff	Below Urban NPS	Gravel	15 %
		Rubble/Cobble	30 %
		Sand	20 %
		Silt	5 %

Landcover Summary - 2004 Data

Total Area (ac)	770	High Int. Dev. %	20.2	Water %	0.0	Non-vegetated %	0.0
		Med Int. Dev. %	7.7	Wetland %	0.8	Tilled Agriculture %	2.1
		Low Int. Dev. %	12.2	Upland Woody %	35.5	Grassland %	0.9
		Development %	40.1	Natural %	36.7	Human Altered %	63.3
						Impervious %	29.8

Sample Comments

7/20/17: BANKS BLOWN OUT.
BAG 3 PARTIALLY DRY.



**Maine Department of Environmental Protection
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Aquatic Life Taxonomic Inventory Report**

Station Number: S-620

Waterbody: Kennedy Brook - Station 620

Town: Augusta

Log Number: 2576

Subsample Factor: X1

Replicates: 3

Calculated: 4/26/2018

Taxon	Maine Taxonomic Code	Count		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		(Mean of Samplers)				Actual	Adjusted
		Actual	Adjusted				
Tricladida	030101	5.33	5.33		--	3.3	3.3
Nematoda	05	0.33	0.33		--	0.2	0.2
Enchytraeidae	08020201	0.33	0.33		--	0.2	0.2
Naididae	08020202	6.00			--	3.8	
<i>Aulodrilus</i>	08020202018		4.80		--		3.0
<i>Aulodrilus pluriseta</i>	08020202018004	2.33			--	1.5	
<i>Limnodrilus</i>	08020202022		6.86		CG		4.3
<i>Limnodrilus hoffmeisteri</i>	08020202022003	3.33			--	2.1	
Lumbricidae	08020205	1.33	1.33		--	0.8	0.8
<i>Helobdella</i>	08030101005		1.00		--		0.6
<i>Helobdella modesta</i>	08030101005004	1.00			--	0.6	
<i>Erpobdella</i>	08030203002	0.33	0.33		--	0.2	0.2
<i>Caecidotea</i>	09010101001	1.67	2.67	8	SH	1.0	1.7
<i>Caecidotea communis</i>	09010101001001	1.00			--	0.6	
<i>Boyeria</i>	09020301004		0.67	2	PR		0.4
<i>Boyeria vinosa</i>	09020301004012	0.67			--	0.4	
<i>Baetis</i>	09020401001	1.00	2.67	4	CG	0.6	1.7
<i>Baetis flavistriga</i>	09020401001004	1.33			--	0.8	
<i>Baetis pluto</i>	09020401001009	0.33			--	0.2	
<i>Microvelia</i>	09020510025	0.33	0.33		PR	0.2	0.2
<i>Diplectrona</i>	09020604014		1.67	0	CF		1.0
<i>Diplectrona modesta</i>	09020604014025	1.67			--	1.0	
<i>Cheumatopsyche</i>	09020604015	1.00	1.00	5	CF	0.6	0.6
<i>Hydropsyche</i>	09020604016	1.00	4.00	4	CF	0.6	2.5
<i>Hydropsyche bronta</i>	09020604016029	0.33			--	0.2	
<i>Hydropsyche depravata group</i>	09020604016041	2.67			CF	1.7	
<i>Rhyacophila</i>	09020605019		0.33	2	PR		0.2
<i>Rhyacophila fuscula</i>	09020605019060	0.33			PR	0.2	
Hydroptilidae	09020607				--		
<i>Hydroptila</i>	09020607026	0.33	0.33	6	P	0.2	0.2
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.2	0.2
<i>Tipula</i>	09021001002	0.33	0.33	4	SH	0.2	0.2
<i>Antocha</i>	09021001004	0.33	0.33	3	CG	0.2	0.2
Chironomidae	09021011	3.00			--	1.9	
<i>Conchapelopia</i>	09021011004	10.67	11.05	6	PR	6.7	6.9
<i>Meropelopia</i>	09021011010	2.67	2.76		--	1.7	1.7
<i>Natarsia</i>	09021011011	0.67	0.69	8	PR	0.4	0.4



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Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nilotanytus</i>	09021011012		1.04	6	PR		0.6
<i>Nilotanytus fimbriatus</i>	09021011012027	1.00			--	0.6	
<i>Paramerina</i>	09021011013	0.67	0.69		--	0.4	0.4
<i>Trissopelopia</i>	09021011021		1.73		PR		1.1
<i>Trissopelopia ogemawi</i>	09021011021042	1.67			--	1.0	
<i>Zavrelimyia</i>	09021011022		1.04	8	PR		0.6
<i>Zavrelimyia thryptica group</i>	09021011022045	1.00			PR	0.6	
<i>Diamesa</i>	09021011024	0.33	0.35	5	CG	0.2	0.2
<i>Pagastia</i>	09021011025		2.42	1	--		1.5
<i>Pagastia orthogonia</i>	09021011025001	2.33			--	1.5	
<i>Prodiamesa</i>	09021011031		2.07	3	CG		1.3
<i>Prodiamesa olivacea</i>	09021011031048	2.00			--	1.3	
<i>Brillia</i>	09021011033	0.67	0.69	5	SH	0.4	0.4
<i>Chaetocladius</i>	09021011035	0.33	0.35	6	CG	0.2	0.2
<i>Corynoneura</i>	09021011036	0.33	0.35	7	CG	0.2	0.2
<i>Eukiefferiella</i>	09021011041	0.33	0.35	8	CG	0.2	0.2
<i>Parametriocnemus</i>	09021011053	23.33	24.17	5	CG	14.6	15.1
<i>Tvetenia paucunca</i>	09021011065114				--		
<i>Micropsectra</i>	09021011070	7.33	7.60	7	CG	4.6	4.8
<i>Rheotanytarsus</i>	09021011072		20.72	6	CF		13.0
<i>Rheotanytarsus exiguus group</i>	09021011072127	19.33			CF	12.1	
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.67			CF	0.4	
<i>Tanytarsus</i>	09021011076	7.00	7.25	6	CF	4.4	4.5
<i>Paracladopelma</i>	09021011098		0.35	7	--		0.2
<i>Paracladopelma undine</i>	09021011098177	0.33			--	0.2	
<i>Paratendipes</i>	09021011100		0.69	8	CG		0.4
<i>Paratendipes albimanus group</i>	09021011100176	0.67			--	0.4	
<i>Phaenopsectra</i>	09021011101		0.35	7	SC		0.2
<i>Phaenopsectra flavipes</i>	09021011101179	0.33			SC	0.2	
<i>Hemerodromia</i>	09021016057	0.33	0.33	3	PR	0.2	0.2
<i>Roederiodes</i>	09021016058	0.33	0.33	3	PR	0.2	0.2
<i>Neoplasta</i>	09021016064	0.33	0.33		PR	0.2	0.2
<i>Neoporus</i>	09021103033	0.33	0.33		--	0.2	0.2
Hydrachnidia	09030101	4.00	4.00		--	2.5	2.5
Basommatophora	100102	4.67	4.67		--	2.9	2.9
<i>Lymnaea</i>	10010201022		5.00		SC		3.1
<i>Lymnaea humilis</i>	10010201022040	5.00			--	3.1	
<i>Physa</i>	10010202027	23.00	23.00		SC	14.4	14.4