



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

Station Information

Station Number: S-869	River Basin: Kennebec
Waterbody: Burnham Brook - Station 869	HUC8 Name: Upper Kennebec
Town: Big Moose Twp	Latitude: 45 32 36.59 N
Directions: 45 METERS BELOW BRIDGE CROSSING	Longitude: 69 45 19.38 W
	Stream Order: 1

Sample Information

Log Number: 2586	Type of Sample: ROCK BAG	Date Deployed: 7/26/2017
Subsample Factor: X1	Replicates: 3	Date Retrieved: 8/23/2017

Classification Attainment

Statutory Class: A	Final Determination: A	Date: 3/16/2018
Model Result with $P \geq 0.6$: A	Reason for Determination: Model	
Date Last Calculated: 3/15/2018	Comments:	

Model Probabilities

<u>First Stage Model</u>		<u>C or Better Model</u>	
Class A	0.90	Class A, B, or C	1.00
Class B	0.10	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	137.33	18 Relative Abundance Ephemeroptera	0.35
02 Generic Richness	58.00	19 EPT Generic Richness	26.00
03 Plecoptera Mean Abundance	4.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.34
04 Ephemeroptera Mean Abundance	47.67	23 Relative Generic Richness- Plecoptera	0.03
05 Shannon-Wiener Generic Diversity	4.69	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	15.53
06 Hilsenhoff Biotic Index	4.13	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	11.33
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	1.00
08 Relative Generic Richness Diptera	0.36	30 Presence of Class A Indicator Taxa/7	0.29
09 <i>Hydropsyche</i> Abundance	0.00		
11 <i>Cheumatopsyche</i> Abundance	0.00		
12 EPT Generic Richness/ Diptera Generic Richness	1.24		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	3.67		
16 Tanypodinae Mean Abundance (Family Functional Group)	5.40		
17 Chironomini Abundance (Family Functional Group)	2.03		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Paraleptophlebia</i>	18.20
2	<i>Gyraulus</i>	8.25
3	<i>Dubiraphia</i>	7.52
4	<i>Cricotopus</i>	6.64
5	<i>Maccaffertium</i>	5.58



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

Station Number: S-869
Log Number: 2586

Town: Big Moose Twp
Waterbody: Burnham Brook - Station 869

Date Deployed: 7/26/2017
Date Retrieved: 8/23/2017

Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT

Taxonomist: MICHAEL COLE

Waterbody Information - Deployment

Temperature: 18.6 deg C
Dissolved Oxygen: 10.13 mg/l
Dissolved Oxygen Saturation: 110 %
Specific Conductance: 81 uS/cm
Velocity: 12.2 cm/s
pH: 7.85
Wetted Width: 5.6 m
Bankfull Width: 6.6 m
Depth: 32 cm

Waterbody Information - Retrieval

Temperature: 22.3 deg C
Dissolved Oxygen: 9.57 mg/l
Dissolved Oxygen Saturation: 113.6 %
Specific Conductance: 81.6 uS/cm
Velocity: 6.1 cm/s
pH: 7.6
Wetted Width: 5.5 m
Bankfull Width: 6.6 m
Depth: 32 cm

Water Chemistry

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Swamp Hardwood	Open	Rolling	
Upland Conifer			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Lake Outlet	Below Road Crossing	Boulder	10 %
	Lake Outlet	Gravel	10 %
		Rubble/Cobble	70 %
		Sand	10 %

Landcover Summary - 2004 Data

Total Area (ac)	5515	High Int. Dev. %	0.0	Water %	7.6	Non-vegetated %	0.3
		Med Int. Dev. %	0.0	Wetland %	6.5	Tilled Agriculture %	0.0
		Low Int. Dev. %	0.6	Upland Woody %	85.2	Grassland %	0.0
		Development %	0.6	Natural %	91.7	Human Altered %	0.7
						Impervious %	0.4

Sample Comments

7/26/17: FISH AND FROGS PRESENT.
8/23/17: SILTY, FISH PRESENT.



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

Station Number: S-869	Waterbody: Burnham Brook - Station 869	Town: Big Moose Twp
Log Number: 2586	Subsample Factor: X1	Replicates: 3
		Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Nais</i>	08020202009	0.33	0.33		CG	0.2	0.2
Leuctridae	09020204	0.33	0.33		--	0.2	0.2
<i>Acroneuria</i>	09020209042	3.00	3.67	0	PR	2.2	2.7
<i>Acroneuria arenosa</i>	09020209042122	0.67			--	0.5	
<i>Boyeria</i>	09020301004		4.33	2	PR		3.2
<i>Boyeria grafiana</i>	09020301004011	4.33			--	3.2	
Gomphidae	09020302	0.33	0.33		--	0.2	0.2
<i>Calopteryx</i>	09020307043	1.67	1.67	5	PR	1.2	1.2
<i>Centropilum</i>	09020401003	0.33	0.33	2	CG	0.2	0.2
<i>Acerpenna</i>	09020401007		1.67	5	CG		1.2
<i>Acerpenna macdunnoughi</i>	09020401007001	1.67			--	1.2	
<i>Procloeon</i>	09020401010	2.00	2.00		CG	1.5	1.5
<i>Leucrocuta</i>	09020402011	1.00	1.00	1	SC	0.7	0.7
<i>Maccaffertium</i>	09020402015	5.67	7.67	4	SC	4.1	5.6
<i>Maccaffertium vicarium</i>	09020402015055	2.00			--	1.5	
<i>Habrophlebia</i>	09020406023		3.33		--		2.4
<i>Habrophlebia vibrans</i>	09020406023072	3.33			--	2.4	
<i>Paraleptophlebia</i>	09020406026	25.00	25.00	1	CG	18.2	18.2
<i>Ephemera</i>	09020407027	0.33	0.33	1	CG	0.2	0.2
<i>Ephemerella</i>	09020410035	1.00	1.00	1	CG	0.7	0.7
<i>Eurylophella</i>	09020410036	1.33	1.33	3	CG	1.0	1.0
<i>Tricorythodes</i>	09020411038	2.67	2.67	4	CG	1.9	1.9
<i>Caenis</i>	09020412040	1.33	1.33	7	CG	1.0	1.0
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.2	0.2
<i>Rhyacophila</i>	09020605019	0.33	0.33	2	PR	0.2	0.2
<i>Hydroptila</i>	09020607026	7.33	7.33	6	P	5.3	5.3
<i>Oxyethira</i>	09020607028	1.00	1.00	3	P	0.7	0.7
Phryganeidae	09020608	0.67	0.67		--	0.5	0.5
<i>Oligostomis</i>	09020608039	0.33	0.33	2	PR	0.2	0.2
<i>Pycnopsyche</i>	09020610049			4	SH		
<i>Lepidostoma</i>	09020611064	0.67	0.67	1	SH	0.5	0.5
<i>Molanna</i>	09020615069	3.33	3.33	6	SC	2.4	2.4
<i>Helicopsyche</i>	09020616070	0.33	0.33	3	SC	0.2	0.2
Leptoceridae	09020618				--		
<i>Ceraclea</i>	09020618072	0.33	0.33	3	CG	0.2	0.2
<i>Mystacides</i>	09020618075		3.00	4	CG		2.2
<i>Mystacides sepulchralis</i>	09020618075147	3.00			--	2.2	



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

Station Number: S-869 Waterbody: Burnham Brook - Station 869 Town: Big Moose Twp
Log Number: 2586 Subsample Factor: X1 Replicates: 3 Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
		<i>Oecetis</i>	09020618078			6.00	6.00
<i>Bezzia/palpomyia</i>	09021010043	1.00	1.00	6	PR	0.7	0.7
Chironomidae	09021011	0.33			--	0.2	
<i>Ablabesmyia</i>	09021011001	0.33	0.34	8	PR	0.2	0.2
<i>Paramerina</i>	09021011013	0.67	0.68		--	0.5	0.5
<i>Thienemannimyia</i>	09021011020		3.38	3	PR		2.5
<i>Thienemannimyia group</i>	09021011020041	3.33			--	2.4	
<i>Trissopelopia</i>	09021011021	0.33	0.34		PR	0.2	0.2
<i>Zavrelimyia</i>	09021011022	0.67	0.68	8	PR	0.5	0.5
<i>Cricotopus</i>	09021011037	1.67	9.11	7	SH	1.2	6.6
<i>Cricotopus bicinctus</i>	09021011037057	7.33			--	5.3	
<i>Orthocladius</i>	09021011050		0.34	6	CG		0.2
<i>Orthocladius annectens</i>	09021011050092	0.33			--	0.2	
<i>Parakiefferiella</i>	09021011052	0.33	0.34		CG	0.2	0.2
<i>Parametriocnemus</i>	09021011053	0.67	0.68	5	CG	0.5	0.5
<i>Psectrocladius</i>	09021011056	0.67	0.68	8	CG	0.5	0.5
<i>Tvetenia</i>	09021011065		0.34	5	CG		0.2
<i>Tvetenia paucunca</i>	09021011065114	0.33			--	0.2	
<i>Micropsectra</i>	09021011070	0.33	0.34	7	CG	0.2	0.2
<i>Paratanytarsus</i>	09021011071	0.33	0.34	6	--	0.2	0.2
<i>Rheotanytarsus</i>	09021011072		0.68	6	CF		0.5
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.67			CF	0.5	
<i>Stempellinella</i>	09021011074	0.33	0.34	2	--	0.2	0.2
<i>Tanytarsus</i>	09021011076	6.00	6.08	6	CF	4.4	4.4
<i>Microtendipes</i>	09021011094		0.68	6	CF		0.5
<i>Microtendipes rydalensis group</i>	09021011094168	0.67			--	0.5	
<i>Phaenopsectra</i>	09021011101	0.33	0.34	7	SC	0.2	0.2
<i>Polypedilum</i>	09021011102		1.01	6	SH		0.7
<i>Polypedilum aviceps</i>	09021011102181	1.00			--	0.7	
<i>Hemerodromia</i>	09021016057	0.67	0.67	3	PR	0.5	0.5
<i>Dubiraphia</i>	09021113064	10.33	10.33	6	--	7.5	7.5
<i>Macronychus</i>	09021113065		2.00	4	--		1.5
<i>Macronychus glabratus</i>	09021113065040	2.00			--	1.5	
<i>Promoresia</i>	09021113069		0.33		--		0.2
<i>Promoresia tardella</i>	09021113069052	0.33			--	0.2	
<i>Sperchonopsis</i>	09030107002	0.33	0.33		--	0.2	0.2
<i>Gyraulus</i>	10010203029	11.33	11.33		SC	8.3	8.3
<i>Helisoma</i>	10010203030		1.33		SC		1.0



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

Station Number: S-869 Waterbody: Burnham Brook - Station 869 Town: Big Moose Twp
Log Number: 2586 Subsample Factor: X1 Replicates: 3 Calculated: 3/15/2018

Taxon	Maine Taxonomic Code	Count (Mean of Samplers)		Hilsenhoff Biotic Index	Functional Feeding Group	Relative Abundance %	
		Actual	Adjusted			Actual	Adjusted
<i>Helisoma anceps</i>	10010203030058	1.33			--	1.0	
<i>Ferrissia</i>	10010204035		1.33		SC		1.0
<i>Ferrissia rivularis</i>	10010204035066	1.33			--	1.0	