



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

Station Information

Station Number: S-268	River Basin:	Maine Coastal
Waterbody: West Branch Sheepscot River - Station 268	HUC8 Name:	St. George-Sheepscot
Town: China	Latitude:	44 22 4.48 N
Directions: WEEKS MILLS - 100 FT UPSTREAM OF DIRIGO RD CROSSING	Longitude:	69 31 52.65 W
	Stream Order:	3

Sample Information

Log Number: 2342	Type of Sample:	ROCK BAG	Date Deployed:	7/6/2015	
Subsample Factor:	X1	Replicates:	3	Date Retrieved:	8/3/2015

Classification Attainment

Statutory Class: AA	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	0.90	Class C	0.00
Class B	0.10	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	255.67	18 Relative Abundance Ephemeroptera	0.56
02 Generic Richness	67.00	19 EPT Generic Richness	27.00
03 Plecoptera Mean Abundance	10.00	21 Sum of Abundances: <i>Dicrotendipes</i> , <i>Micropsectra</i> , <i>Parachironomus</i> , <i>Helobdella</i>	0.00
04 Ephemeroptera Mean Abundance	142.67	23 Relative Generic Richness- Plecoptera	0.04
05 Shannon-Wiener Generic Diversity	4.28	25 Sum of Abundances: <i>Cheumatopsyche</i> , <i>Cricotopus</i> , <i>Tanytarsus</i> , <i>Ablabesmyia</i>	10.41
06 Hilsenhoff Biotic Index	4.17	26 Sum of Abundances: <i>Acroneuria</i> , <i>Maccaffertium</i> , <i>Stenonema</i>	37.42
07 Relative Abundance - Chironomidae	0.19	28 EP Generic Richness/14	1.29
08 Relative Generic Richness Diptera	0.33	30 Presence of Class A Indicator Taxa/7	0.57
09 <i>Hydropsyche</i> Abundance	3.33		
11 <i>Cheumatopsyche</i> Abundance	0.33		
12 EPT Generic Richness/ Diptera Generic Richness	1.23		
13 Relative Abundance - Oligochaeta	0.00		
15 Perlidae Mean Abundance (Family Functional Group)	9.00		
16 Tanypodinae Mean Abundance (Family Functional Group)	4.52		
17 Chironomini Abundance (Family Functional Group)	17.73		

Five Most Dominant Taxa

Rank	Taxon Name	Percent
1	<i>Tricorythodes</i>	32.33
2	<i>Maccaffertium</i>	11.25
3	<i>Mystacides</i>	5.18
4	<i>Rheotanytarsus</i>	4.08
5	<i>Microtendipes</i>	4.08



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Sample Collection and Processing Information

Sampling Organization: BIOMONITORING UNIT
 Taxonomist: MICHAEL WINNELL

Waterbody Information - Deployment		Waterbody Information - Retrieval	
Temperature:	22.4 deg C	Temperature:	19.6 deg C
Dissolved Oxygen:	8.62 mg/l	Dissolved Oxygen:	8.69 mg/l
Specific Conductance:	70.1 uS/cm	Specific Conductance:	94.9 uS/cm
Velocity:	24.4 cm/s	Velocity:	12.2 cm/s
pH:	7.67	pH:	7.77
Wetted Width:	4.4 m	Wetted Width:	5.4 m
Bankfull Width:	5.4 m	Bankfull Width:	5.4 m
Depth:	30 cm	Depth:	28 cm

Water Chemistry - 8/3/2015

Nitrate+nitrite As N	0.06 mg/l	Total Phosphorus	9 ug/l
Total Kjeldahl Nitrogen	0.6 mg/l	Total Suspended Solids	<2 mg/l
Dissolved Organic Carbon	2.9 mg/l	Total Dissolved Solids	68 mg/l
Orthophosphate As Phosphorus	1 ug/l		

Summary of Habitat Characteristics

<u>Landuse Name</u>	<u>Canopy Cover</u>	<u>Terrain</u>	
Pasture	Partly Open	Rolling	
Swamp Hardwood			
<u>Potential Stressor</u>	<u>Location</u>	<u>Substrate</u>	
Agricultural Runoff	Above Road Crossing	Boulder	30 %
		Gravel	20 %
		Rubble/Cobble	35 %
		Sand	10 %
		Silt	5 %

Landcover Summary - 2004 Data

Total Area (ac)	9414	High Int. Dev. %	0.1	Water %	3.6	Non-vegetated %	0.4
		Med Int. Dev. %	0.3	Wetland %	8.4	Tilled Agriculture %	2.6
		Low Int. Dev. %	3.9	Upland Woody %	74.9	Grassland %	5.8
		Development %	4.3	Natural %	82.6	Human Altered %	13.8
						Impervious %	3.3

Sample Comments

7/6/2015: FISH PRESENT.



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Log Number: 2342 Subsample Factor: X1 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>Leuctra</i>	09020204020		1.00	0	SH		0.4
<i>Leuctra tenella</i>	09020204020055	1.00			--	0.4	
Perlidae	09020209	0.33			--	0.1	
<i>Acroneuria</i>	09020209042	0.67	8.65	0	PR	0.3	3.4
<i>Acroneuria lycorias</i>	09020209042125	7.67			--	3.0	
<i>Perlesta</i>	09020209046		0.35	5	PR		0.1
<i>Perlesta decipiens</i>	09020209046141	0.33			--	0.1	
<i>Boyeria</i>	09020301004		3.00	2	PR		1.2
<i>Boyeria vinosa</i>	09020301004012	3.00			--	1.2	
Gomphidae	09020302	1.33	1.33		--	0.5	0.5
<i>Macromia</i>	09020304021	0.33	0.33	2	PR	0.1	0.1
Corduliidae	09020305	0.33	0.33		--	0.1	0.1
Calopterygidae	09020307	0.67	0.67		--	0.3	0.3
<i>Calopteryx</i>	09020307043	0.33	2.00	5	PR	0.1	0.8
<i>Calopteryx maculata</i>	09020307043088	1.67			--	0.7	
<i>Argia</i>	09020309048	0.33	0.33	7	PR	0.1	0.1
<i>Baetis</i>	09020401001		0.67	4	CG		0.3
<i>Baetis intercalaris</i>	09020401001008	0.33			--	0.1	
<i>Baetis pluto</i>	09020401001009	0.33			--	0.1	
<i>Acerpenna</i>	09020401007	2.67	8.00	5	CG	1.0	3.1
<i>Acerpenna macdunnoughi</i>	09020401007001	1.33			--	0.5	
<i>Acerpenna pygmaea</i>	09020401007011	4.00			--	1.6	
<i>Procloeon</i>	09020401010	2.67	2.67		CG	1.0	1.0
<i>Dipheter</i>	09020401013		3.33		--		1.3
<i>Dipheter hageni</i>	09020401013001	3.33			--	1.3	
<i>Neocloeon (Centroptilum)</i>	09020401017	1.00	1.00	2	CG	0.4	0.4
Heptageniidae	09020402	3.67			--	1.4	
<i>Epeorus</i>	09020402009	0.33	0.37	0	SC	0.1	0.1
<i>Leucrocuta</i>	09020402011	4.33	4.86	1	SC	1.7	1.9
<i>Maccaffertium</i>	09020402015	23.67	28.77	4	SC	9.3	11.3
<i>Maccaffertium luteum</i>	09020402015049	0.33			--	0.1	
<i>Maccaffertium mediopunctatum</i>	09020402015050	0.33			--	0.1	
<i>Maccaffertium modestum</i>	09020402015051	1.33			--	0.5	
<i>Isonychia</i>	09020404018	0.33	0.33	2	CF	0.1	0.1
Leptophlebiidae	09020406	3.00	3.00		--	1.2	1.2
Ephemerellidae	09020410	0.33			--	0.1	
<i>Ephemerella</i>	09020410035	3.67	3.86	1	CG	1.4	1.5
<i>Eurylophella</i>	09020410036	0.33	0.35	3	CG	0.1	0.1



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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>Serratella</i>	09020410037		2.46	2	CG		1.0
<i>Serratella deficiens (Teloganopsis deficiens)</i>	09020410037121	1.33			--	0.5	
<i>Serratella serratoides</i>	09020410037124	1.00			--	0.4	
<i>Tricorythodes</i>	09020411038	82.67	82.67	4	CG	32.3	32.3
<i>Caenis</i>	09020412040	0.33	0.33	7	CG	0.1	0.1
<i>Polycentropus</i>	09020603010	0.33	0.33	6	PR	0.1	0.1
<i>Cheumatopsyche</i>	09020604015	0.33	0.33	5	CF	0.1	0.1
<i>Hydropsyche</i>	09020604016	1.00	3.33	4	CF	0.4	1.3
<i>Hydropsyche morosa</i>	09020604016030	0.33			--	0.1	
<i>Hydropsyche slossonae</i>	09020604016031	0.67			--	0.3	
<i>Hydropsyche sparna</i>	09020604016032	1.00			--	0.4	
<i>Hydropsyche depravata species group</i>	09020604016041	0.33			CF	0.1	
<i>Glossosoma</i>	09020606020		0.67	0	SC		0.3
<i>Glossosoma nigrrior</i>	09020606020068	0.67			SC	0.3	
<i>Hydroptila</i>	09020607026	5.00	5.00	6	P	2.0	2.0
<i>Pycnopsyche</i>	09020610049	1.67	1.67	4	SH	0.7	0.7
<i>Helicopsyche</i>	09020616070		0.67	3	SC		0.3
<i>Helicopsyche borealis</i>	09020616070137	0.67			--	0.3	
Leptoceridae	09020618	0.33			--	0.1	
<i>Mystacides</i>	09020618075		13.25	4	CG		5.2
<i>Mystacides sepulchralis</i>	09020618075147	13.00			--	5.1	
<i>Oecetis</i>	09020618078	3.33	4.75	8	PR	1.3	1.9
<i>Oecetis avara</i>	09020618078153	0.33			--	0.1	
<i>Oecetis persimilis</i>	09020618078157	1.00			--	0.4	
<i>Nigronia</i>	09020701003		2.00	0	PR		0.8
<i>Nigronia serricornis</i>	09020701003003	2.00			--	0.8	
Chironomidae	09021011	2.00			--	0.8	
<i>Ablabesmyia</i>	09021011001		0.35	8	PR		0.1
<i>Ablabesmyia mallochii</i>	09021011001004	0.33			--	0.1	
<i>Conchapelopia</i>	09021011004	0.67	0.70	6	PR	0.3	0.3
<i>Paramerina</i>	09021011013	0.67	0.70		--	0.3	0.3
<i>Rheopelopia</i>	09021011017		2.09		PR		0.8
<i>Rheopelopia acra group</i>	09021011017036	2.00			--	0.8	
<i>Trissopelopia</i>	09021011021		0.70		PR		0.3
<i>Trissopelopia ogemawi</i>	09021011021042	0.67			--	0.3	
<i>Cricotopus</i>	09021011037		5.21	7	SH		2.0



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<i>Cricotopus bicinctus</i>	09021011037057	3.33			--	1.3	
<i>Cricotopus patens</i>	09021011037075	1.67			--	0.7	
<i>Nanocladius</i>	09021011049		3.13	3	CG		1.2
<i>Nanocladius downesi</i>	09021011049092	3.00			--	1.2	
<i>Orthocladius</i>	09021011050	0.33	0.35	6	CG	0.1	0.1
<i>Parakiefferiella</i>	09021011052	0.33	0.35		CG	0.1	0.1
<i>Rheocricotopus</i>	09021011057		0.35	6	CG		0.1
<i>Rheocricotopus robacki</i>	09021011057105	0.33			--	0.1	
<i>Paratanytarsus</i>	09021011071		1.04	6	--		0.4
<i>Paratanytarsus dissimilis</i>	09021011071125	0.33			--	0.1	
<i>Paratanytarsus longistylus</i>	09021011071126	0.67		6	--	0.3	
<i>Rheotanytarsus</i>	09021011072		10.43	6	CF		4.1
<i>Rheotanytarsus exiguus group</i>	09021011072127	9.33			CF	3.7	
<i>Rheotanytarsus pellucidus</i>	09021011072128	0.67			CF	0.3	
<i>Stempellinella</i>	09021011074		1.04	2	--		0.4
<i>Stempellinella leptocelloides</i>	09021011074001	0.67			--	0.3	
<i>Stempellinella fimbriata</i>	09021011074002	0.33			--	0.1	
<i>Tanytarsus</i>	09021011076	1.33	4.52	6	CF	0.5	1.8
<i>Tanytarsus buckleyi</i>	09021011076139	1.33			CF	0.5	
<i>Tanytarsus sepp</i>	09021011076141	1.67			--	0.7	
<i>Lauterborniella</i>	09021011092		1.04		CG		0.4
<i>Lauterborniella agrayloides</i>	09021011092001	1.00			--	0.4	
<i>Microtendipes</i>	09021011094		10.43	6	CF		4.1
<i>Microtendipes pedellus group</i>	09021011094166	5.33			--	2.1	
<i>Microtendipes rydalensis group</i>	09021011094168	4.67			--	1.8	
<i>Nilothauma</i>	09021011095	0.67	0.70	2	--	0.3	0.3
<i>Paracladopelma</i>	09021011098	0.33	0.35	7	--	0.1	0.1
<i>Paratendipes</i>	09021011100		0.35	8	CG		0.1
<i>Paratendipes albimanus group</i>	09021011100176	0.33			--	0.1	
<i>Phaenopsectra</i>	09021011101		2.43	7	SC		1.0
<i>Phaenopsectra obediens</i>	09021011101182	2.00			SC	0.8	
<i>Phaenopsectra punctipes</i>	09021011101183	0.33			SC	0.1	
<i>Polypedilum</i>	09021011102		2.43	6	SH		1.0
<i>Polypedilum aviceps</i>	09021011102181	2.33			--	0.9	
<i>Atherix</i>	09021015055	0.33	0.33	2	PR	0.1	0.1
<i>Hemerodromia</i>	09021016057			3	PR		
<i>Gyrinus</i>	09021104033	0.33	0.33	2	PR	0.1	0.1
<i>Psephenus</i>	09021108058		1.67	4	SC		0.7



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Log Number: 2342

Subsample Factor: X1

Replicates: 3

Calculated: 10/22/2015

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		Actual	Adjusted			Actual	Adjusted
<i>Psephenus herricki</i>	09021108058028	1.67			--	0.7	
<i>Ectopria</i>	09021109059	0.33	0.33	5	SC	0.1	0.1
<i>Dubiraphia</i>	09021113064		4.33	6	--		1.7
<i>Dubiraphia minima</i>	09021113064036	4.33			--	1.7	
<i>Macronychus</i>	09021113065		1.33	4	--		0.5
<i>Macronychus glabratus</i>	09021113065040	1.33			--	0.5	
<i>Optioservus</i>	09021113067	0.33	0.67	3	SC	0.1	0.3
<i>Optioservus ovalis</i>	09021113067046	0.33			--	0.1	
<i>Promoresia</i>	09021113069		1.00		--		0.4
<i>Promoresia tardella</i>	09021113069052	1.00			--	0.4	
<i>Stenelmis</i>	09021113070	2.33	3.67	5	SC	0.9	1.4
<i>Stenelmis crenata</i>	09021113070055	1.33			--	0.5	
<i>Clathrosperchon</i>	09030118001	0.33	0.33		--	0.1	0.1
<i>Physa</i>	10010202027	0.33	0.33		SC	0.1	0.1